Clivia
Club

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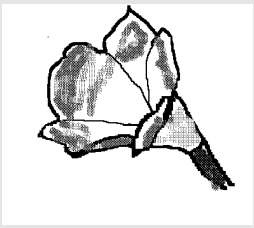

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CLIVIA CLUB TOUR TO THE EASTERN AND NORTHERN TRANSVAAL

In November 1994 a group of clivia enthusiasts from the Clivia Club explored some areas of the Eastern and Northern Transvaal to examine sites of prolific Clivia caulescens populations. After an early start on the morning of Saturday 19th November we rendezvoused at the Ngodwana pulp and paper mill in the Eastern Transvaal. `We' being Des Andersson from Pietermaritzburg, James and Connie Abel and Frikkie Potgieter from Pretoria and James and Adri Haxton and Meg Hart from Johannesburg. We ascended into the hills of the SAPPI Groot Geluk forest via Clivia pass. Most of the area is under pine plantation but some of the slopes still have indigenous forest. We inspected some of the kloofs where Clivia caulescens are located. The plants were numerous and lush in dappled shade but with only a few flowering. James Haxton, who is an instrument fanatic, measured the temperature and relative humidity of the air, moisture content and pH of the soil and took ambient light readings. The day started sunny and clear but became cloudy and muggier as it advanced.

From Ngodwana we proceeded to Graskop for lunch and from there to God's Window on the edge of the escarpment. From here there are wonderful views of the lowveld. There are Clivia caulescens in profusion, mainly situated under a canopy of trees, many of which are yellowwoods. Here the pH of the soil is neutral. In places clivia were the dominant ground flora among the rocks and trees, some growing on leaf mould on rocks and some in the ground. All these appeared to be old plants and some had very long stems. We saw a sunbird gathering nectar from a clivia flower. Is it possible that they contribute to pollination? We tried to estimate the percentage which were flowering, but this was difficult because in some places were clivia with flowers on nearly every plant while in other places plants had none. We estimated the flowering plants to be less than 20 percent of the population. There were also clivia in flower on the Pinnacle, and even on the hotter west side although these were much smaller in size. Back at Graskop we relaxed at `Treetops', the house hired for the night, and listened to the Boks trouncing the Scots at rugby. That evening Frikkie braved the rainy weather to braai (barbecue) the meat while the rest of the party took refuge in the garage.

The following morning, after a hearty breakfast prepared by James Abel, we left Graskop on the escarpment and drove along the scenic route next to the Blyde River Canyon, down through the Strydom tunnel, descending some 3000 feet to the bush country of the lowveld. From here we had the Transvaal Drakensberg to the west of us as we drove northwest to Lekgalameetse, a nature reserve situated approximately 60 kilometers southwest of Tzaneen. Lekgalameetse is the native word for the area, `lekgala' being ashes and `metse' being water, and is a description of the dry lowveld and the well watered escarpment. Lekgalameetse is one of three areas in the world where the Samango monkey is found, and the Malta estate within the reserve is reputed to be the best butterfly area in the world.

We made our way to the garden of Margo McNeil situated within the reserve. The four kilometres of dirt track to Margo's garden, leaves much to be desired as it is narrow, rocky and not suited to a saloon car.

Margo prefers to keep it that way to deter unwanted visitors. However, once one reaches her garden, the stones and potholes of the road are forgotten as this is a clivia oasis in the middle of nowhere. The garden is situated at the base of a mountain gorge within the reserve. Two streams cascade down the mountainside into a pool, and tall indigenous trees provide dappled shade for terrace upon terrace of Clivia miniata. Most of the collection are Clivia miniata or Clivia miniata hybrids which have all been introduced to the area. Some came from Miss Blackbeard near Grahamstown whose farm was expropriated some twenty eight years ago and who offered her clivia collection to Gordon McNeil (Margo's late husband). The development of this clivia garden and the hybridising of clivia was his life's work and this is being continued by Margo. Although the land was expropriated several years ago for the nature reserve, Margo is permitted to look after the garden. Its future remains uncertain but it would be a pity to lose this clivia enclave because of its beauty and the richness of its genetic pool.

Margo emerged from the mountain pool where she had been bathing and made us feel most welcome with cool drinks, tea and freshly baked shortbread. Frikkie was delighted to discover that this was the place where he had purchased two clivia from Gordon McNeil many years previously. We were then given a guided tour of the property. Only a few Clivia miniata were in flower and these were smaller than the average miniata and were highly scented. It would be interesting to see whether this particular type always flowers at this time of the year. Margo says that Clivia caulescens grow wild at the top of the kloofs and along the escarpment. She wonders whether they are found only on the eastern aspect and at certain altitudes. We were very sad to leave this tranquil and lovely spot to negotiate the road again.

A magnificent tarred road (leading from nowhere to nowhere), took us via the Orrie Baragwanath pass to the top of the escarpment to an area which was known as The Downs before it was also expropriated. Here we inspected a forest with particularly large trees but there were no clivias to be found. James Abel then showed us where he was brought up when his parents farmed in the area. That night was spent at the Makhutsi huts in the reserve. These are two and five bedded log cabins nestled in a broadleaf forest at the base of the mountain. A mountain stream with numerous pools in which one can bathe flows past the huts. All amenities are provided and we had to take only our food and drinks. As it rained again we had to abandon our braaiing in favour of the kitchen stove.

Des Andersson left us on Monday morning and we travelled to Magoebaskloof some 80 kilometres to the north. Here we made for De Hoek Forest Station which is 22 kilometres from Tzaneen in the Northern Transvaal Forest Region. We drove along Forest Drive looking for clivias and found them in both dry and wet water courses, mainly situated on east facing slopes. Some were growing in soil, others in leaf mould on rocks or in trees. Many were in flower. The highlight was a forest walk along an east facing slope of the escarpment where for three kilometres, as far as the eye could see, Clivia caulescens grew in all directions. Here there were plants of all sizes, unlike those at God's Window which only appeared to be mature plants. There were clivias growing in the soil, on rocks, on trees and in the forks of trees. We only saw three plants with ripe seeds which indicate that they mature more quickly than those of Clivia miniata, which often have pods on them when the next flowering occurs. The forest canopy was not very high or very dense and provided dappled shade. Although the flower is not as spectacular as Clivia miniata, Clivia caulescens can be very attractive *en masse*.

Thus ended our expedition. We feel that there is much scope for research. At what altitude is Clivia caulescens found? What is the rainfall in the areas where they are found? Is mist common to all areas? Are they only found on east facing slopes? What is the gradient of these slopes? Is there a particular soil type in which they are found? What trees form the canopy? What other ground vegetation is found where they are growing? What is the exact flowering period? Do the plants flower each year? When does the seed ripen? Do they suffer from any diseases or predators? Why were there no young plants at God's Window? These and many other questions need to be answered. Perhaps some of the readers already know the answers and can add to our knowledge. We hope that there will be other club members on future excursions, not only to see clivia but to enjoy the beauty of the environment.

Meg Hart

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Beste Nick,

Ek was bevoorreg om die naweek van 19de November, 1994, 'n toer saam met 'n groep van ses ander lede van die Clivia Club na Oos Transvaal mee te maak. Drie van ons lede het die Saterdag oggend vanaf Pretoria vertrek tot by die SAPPI papier meule in Oos Transvaal waar ons die ander vier lede ontmoet het. Ons is met spesiale vergunning van SAPPI die bosbouplantasie in waar ons Clivia caulescens in sy natuurlike habitat in die klofies gesien het.

Vandaar is ons oor Sabie en Graskop na `God's Window" waar ek al voorheen 'n keer of wat was, maar nog nooit in die blom seisoen nie. Dit was 'n wonderlike gesig om so veel clivias in blom te sien, net jammer dat so min van die volwasse plante in blom was.

Die Sondag is ons oor Orighstad en die Strydom tonnel na Ofcalaco naby Tzaneen. Hier het ons aangedoen by die Legolomeetse Natuurreservaat waar ons Mev. McNeil besoek het. Dit is hier waar ek ongeveer 18 jaar gelede my eerste `wilde" clivias by Gordon McNeil gekoop het. Ek is nou nog in besit van dié twee plante, 'n caulescens soos die by `God's Window", en 'n plant amper dieselfde as die caulescens, maar met 'n rooier blom, waarvan ek nie die naam ken nie. Ek glo dit is seker een van die grootste aangeplante versamelings in ons land wat ons daar teëgekom het.

Die Maandag is ons oor Tzaneen na Houtbos by Magoebaskloof waar ons die bosbou plantasie clivias gesien het wat oral op die rotse en die takke van bome gegroei het. Baie van die plante was hier ook in blom. Dit was 'n ondervinding om die toer mee te maak, en te weet dat daar nog so baie clivias in die natuurlike habitat voorkom. Ek sien uit daarna om die volgende twee toere, dié na Natal, en dié na die Kaap ook mee te maak.

Frikkie Potgieter.

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During the tour of Clivia caulescens in their natural habitat from 19-21 Nov.1994, James Haxton took the following readings-

Place	Clivia Gorge	God's Window	Woodbush	Inst.
Sky	Clear	Partly cloudy	Clear	
Time	10.20	15.00	11.30	
Air temp.	30EC	30EC	26EC	1
Rel.Humidity	35%	55%	40%	1
Ph of soil	7.0	7.0	6.0	2
Soil Moisture	10/10	7\10	10/10	2
Light in shadow	300	100	400	2
Altitude	1950m	1800m	1680m	

The instruments used were: 1) Brannan thermometer/hygrometer from Lifestyle Garden Centre, 2) Combi-tester "save-your-plant" from Rivonia Produce and Hardware, 3) Hiker's Altimeter from Camp and Climb.

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Dear Nick,

I was extremely pleased to receive the Most Meritorious Photo Award. It was good of Keith Hammett to bring it over to me. Keith stayed with me for a few days at the end of his trip, and the discussion regarding Clivia was stimulating, as always. By all accounts the Clivia Conference was a very successful venture.

Keith and I drove up to see Bill and Noreen Morris, and we discussed the results of Bill's work on yellows. Some very interesting points about colour breeding were raised, and talked about at length. Keith and I have similar interests in plants and we got on very well together.

My shadehouse was a riot of colour this season, impressing the visitors over the two week school holiday period that I was at home. I have now erected new framework to double my shadehouse size, and as usual, I am busy filling it up with newly potted seedlings. How was your move? Do you have your shadehouse up and going yet?

Thanks to Yoshikazu, I was able to get a "feel" of the Clivia habitat. A photo album arrived after Keith left. Some very good pictures, but unfortunately, no captions. I eagerly await the account of the Clivia Show in the next newsletter, Nick.

Regards
Ken Smith

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Dear Nick,

Thank you for all you did to make me feel welcome, and my visit to South Africa so special. I'll never forget any of my South African friends and will treasure my memories...but don't rest too easy because I will return. You should all pat yourselves on the back for a job well done.
Even though this girl took nearly 400 photos I didn't take any of the show. Slap my wrist but I was too busy talking and listening. Adri & James gave me some photos, but I've had a few requests and was wondering if someone could send me negatives which I will return.

Nick, I've been thinking(please no smart comments). I'd like to start a project which really interests me and may help growers now and in the future. We have members all over the world, and in each country the climate is different, or sometimes similar. I'd like to hear from all members to know what their climate is like. Temperatures summer and winter? Snow, frost or drought? Soil type clay or sand? How they grow their clivia, in pots or in the ground? In full sun or shade? Any special treatment they had to give their clivia? Do they have successful flowering seasons, seed set or anything else of interest?

Why? It is written in the Clivia Club constitution that members must always try to assist each other. First, to do this we must get the plants growing healthily. We can do this by working together to solve any problems. A friend grew his clivia in a hothouse for winter protection but in summer it was too hot and the clivia rotted. Another friend grows his clivia in nylon covered tunnel houses for winter protection but in summer, the sides are lifted for ventilation. There's the problem and the solution, but how can we help each other unless this information is collected and recorded.

My plants are all grown in pots under fibreglass to regulate watering, and either open or shadecloth sides for ventilation. We have a winter rainfall of 700mm, frosts and temperatures from 2EC to 15EC in winter, and 27EC to 46,5EC in summer. Clivia will grow in shade in both Wanneroo sand and coastal beach sand with no damage from salt air. Our sand lacks nitrogen and trace elements so we have to fertilise regularly. In summer I water in the mornings so that the water caught in the leaves has all day to disperse, but in the winter early morning dew causes rot. Then I must remove all the rotting leaves and place the pot on its side so that the water will drain from the leaf interstices. I leave the pot like this for a few weeks otherwise the rotting continues.

An interesting observation- my best variegated clivia started to rot. I removed the rotting leaves, placed the pot on its side and a few days later noticed the slaters eating the rotted section, leaving the base free from rot. Have the slaters become my friends after all these years? The clivia is now showing signs of recovery.

I have no problem getting my clivia to flower. They put on a flowering spectacular each year, and this year it started in autumn and the odd one is still flowering. Some plants I have problems with setting seed, but this is mainly because they are at the end of their line so I pollinate them on with new genes. This has been successful. My three-year- old yellows flowered this year, which makes it all worthwhile.

I learn by listening and trial. Yoshikazu has helped me with his books, I have read the pictures many times, and have found the newsletters interesting, but by sharing this information we can learn so much from each other. Thanks again Nick, I really appreciate everything you and all the others did for me.

Pen Henry

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Dear Nick

I flew in last Saturday from an anxious sojourn in Tampa, Florida. My mother, 78, went into the hospital presumably to have her carotid arteries scraped and ended up having a triple coronary by-pass. She is doing well. I went down on the sixth and returned this past Saturday - feel a little out of touch. Most of my mail found its way to me and some was read to me over the telephone, There were two very nice letters from Bill Morris and Pen Henry. I telephoned Bill Morris and ordered thirty of his 100% yellow seed from this year's crop and asked him to save seed for me from his Aureas ripening next year. It was a hurried and slightly flustered conversation on my part, however, he was unhurried and very polite to this American. The first thing he had to do was to straighten out my assumptions as to what he had and what he did not have for sale. He had very little of this year's crop left, and the thirty seeds I ended up ordering was an ideal order for him as well as for me, as I did not relish sending that amount of cash through the mail. It takes ten days to two weeks for mail to reach Australia from here. It is a direct flight from the USA. How many days can mail be in the air? I'm looking forward to these additions to my gene pool.

After this letter to you I will write and perhaps telephone Pen Henry. The AT&T telephone company here has a long distance international service that I've heard allows week-end calls to Australia for $0.78 per minute. That is affordable.

Yes, we will need slides. The slides can be taken to a professional photo lab and they will put them on a compact disc. From the CD they can be entered into the computer and otherwise manipulated. With fifty or more slides the price per slide is $1.89. I feel this is a good price. If it seems a bit high to you let me know. Content, format, and the updating of content is the thing to be worked out, and of course, distribution.

Then we can look out for storms of controversy. Bill Morris's conjecture that there are no hybrids, only selections and refinement of selections is certain to stir up comment.

Dr. Hammett's letter in the last newsletter is the kind of article I enjoy. A tour of an interesting yet familiar subject as practised in foreign and exotic lands. Not that growing and breeding clivias is a common activity in these parts. Some day when my own business is no longer as demanding, I hope to be able to visit South Africa, Australia, New Zealand and Japan. To understand what is involved in the day to day of a "Clivia Breeding Plantation".

Colman Rutkin.

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EXTRACT FROM THE NEW YORK TIMES THURSDAY DECEMBER 8 1994

$950 LILIES, but One to a Customer, Please!
By Anne Raver

It is one thing to pay $83.5 million for a van Gogh, or even $18,150 for Madonna's corset(she sang "Express Yourself" in it, in Barcelona)- but almost $1000 for a yellow lily? Well, not just any yellow lily.

White Flower Farm, that elegant and expensive nursery in Litchfield Conn., is offering the lily, Clivia Sir John Thouron, for 950 in its spring catalogue, which will be out soon. There are only about 45 of the plants available, which increases the feeling that of course you must have one.

They are descendants of an unusual yellow clivia native to South Africa that was brought from Britain to Philadelphia in the 1950;s by Sir John Thouron, a Scotsman and
esteemed plantsman, whose private gardens and four green houses, in the Brandywine Valley, constitute one of the finest collections of rare and unusual plants in the country.

No one knows for sure where Sir John got the plant. (Sir John in his eighties is very private, and declined to be interviewed.) Even Jock Christie, the superintendent of Sir John's gardens, leaves it as a mystery. " I have no idea, " he said. " It was here when I came 31 years ago."

It's a gorgeous plant: big, dark green straplike leaves and sturdy stems that bloom, if you don't give it too much sun, with a ball of buttery yellow flowers early in spring. It looks much like its common cousin, the orange clivia. Only it is yellow, which is rare. And it is Sir John's yellow, which is rarer still.

"It has a pretty flower, but the only reason it is so popular is that it is unavailable," Mr. Christie said. " Sir John only gave it to a few friends."

The lily sends whispers throughout the Philadelphia Flower Show whenever it - or one of its descendants- is entered in the amateur competition. And it invariably wins a blue.

" It won first for the whole show when I was a judge eight years ago," said Steven Frowine, the director of horticultural research at White Flower Farm. " Whenever that yellow clivia is brought in, the hush goes around: ' Did you see that yellow lily?' There are very few yellows anywhere, but Sir John's is distinctive."

It's the plant that inspired the Delaware Center for Horticulture's first rare plant auction, in 1981, shortly after Sir John donated one to the centre. (The auction, a sort of Sotheby's to the plant world, raised about $85,000 last year for community gardens, tree plantings and education.)

That first year, Sir John's clivia sold for $1,700 - to MacRae Parker Jr., a New York real estate executive.

"I begged for two weeks to come to that auction," Mr. Parker said. " I had been raising orange clivias for fifty years, but *Oh*, to have a yellow one!"

At first he was rebuffed, politely. "The lady said <Oh, its our first auction, just a small gathering of members at the Natural History Museum and it's a sit-down dinner,= and all that, but I said: "But I really *want* to come. Maybe there'll be a cancellation."

He called every day for two weeks. At the eleventh hour, there *was* a cancellation. And Mr. Parker zoomed down to Wilmington.

"The first person I met was a Mrs. du Pont," Mr. Parker said, unable to remember which Mrs. du Pont. "And I said, <Do you think I can buy that for $500?= And she said: < Not on your life! There are men in Wilmington who'd trade their wives for that plant!="

The bidding began. Mr. Parker kept his hand up until Sir John's yellow clivia hit $1000. When he lowered his hand, a woman leaned over and said, "I thought you came to buy that plant." Mr. Parker said: "I did! But $!000 for a potted plant?" "Better put your hand back up," she said.

"So I closed my eyes and kept my hand up until it was over," Mr. Parker continued. "And someone said, <Mr. Parker, thank you for your generous donation.="

He's never regretted it. "That plant has given me so much pleasure," he said. "I have three huge pots of it now, and when the flower bud rises above these big strap leaves, I'll bet it is waist high. I get 9 or 10 flower heads from three big plants. And they always get $1,000 or more when I donate one to the auction.

Mr. Parker has reproduced his original lily by planting offshoots, dividing its fleshy roots and even growing them from seed- and he donates many of these young clivias to the Delaware Center for Horticulture. It usually takes about eight years, though, for a seedling to reach bloom size, which is another reason that the yellow clivia costs so much.

Mr. Frowine, from White Flower Farm, who courts plants the way some men court women, paid two visits to Sir John.

And Mr. Frowine trod lightly. "When you talk to someone about their treasure, " he said, " You try not to be too abrasive. I'd say it was spectacular, but that of course I would not expect to get it."

Eventually, Mr. Frowine found that the University of Pennsylvania was almost as close to Sir John's heart as his clivias, and he offered to give some profit from a future White Flower sale of the plants for scholarships at the school

Sir John then agreed to donate some plants to Longwood Gardens, which carefully divided them into about 90 new plants and grew them to bloom size before shipping half to White Flower Farm. Longwood, by the way, named them after Sir John.

"He's the one who's carried the torch for it all these years," said Fred Roberts, the director of Longwood, in Kennet Square, Pa., "And he's been very good at giving plants to Longwood and to other institutions and in making his garden available to garden clubs and professional groups. I thought it would be nice to give him some recognition."

Mr. Roberts also wanted to see the plant more widely available. "It's a prize plant that has been in the hands of only a few people, " he said.

But this slow grower still has a pretty price. When Mr. Frowine visited a clivia plantation in Japan, seeds were selling for $150 each. (he was given some), and plants for $850.
As for the $950 lilies at White Flower Farm, Mr. Frowine is a little worried about a possible deluge of calls before his catalogue is even out.

" I guess we will have to make some sort of list, " he said, "and save some for our regular customers."

Since there are only 45 or so, the limit is one to a customer, and they are too valuable to be shipped, so send your Rolls to pick yours up.

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Dear Nick,

A few comments re our last newsletter:-

Joe Pretorius was also a winner with his plant exhibited at the show.

A How does one set about cultivating a multi-stemmed clivia as suggested?

A What constitutes" a better shaped flower, wider petals, and neater umbel? Bearing in mind that as far as I know the Lutea's petals are never close together. Is this correct?

A Bruce Knight refers to the "common Australian miniata". How does this differ from what we have? Any photos to compare?

A According to the proposed schedule for meetings in 1995, it would appear that the AGM,

A Show, sales, and garden tours are to take place all on one day. Isn't this a bit crowded?

A Also, there does not seem to be any planned ordinary general informal meetings for club members. Several members feel that it would be preferable to have one approximately every two to three months. A lot of exchange of information, news about pollen and seed available, etc. would be appreciated- especially by "new" members who may be greenhorns about the rituals for clivia- in spite of the poor showing at the last open meeting.

Thanks again for all your effort with the newsletter, etc., it is appreciated.

Toy Jennings

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Mea culpa. I did not take notes at the show, and relied on my failing memory and a phone call to Connie to check who the winners were. Indeed, if I get it right this time, Joe had a "Special Award". This was awarded by the judges for an unusual and attractive clivia. The colour pattern gave it a distinctive look. Sorry Joe!

It is easy enough to get many flower stems on one plant. Time will see to it. I do not mean twin stems from one division, but a mature plant that has three or four flowering size offsets in the pot.

A better shaped flower, wider petals, and a neater umbel is surely self-explanatory, but here goes-...The flower should be approximately symmetrical, with the three inner petals alike, as with the outer petals. Technically it should be ***Tepals****,When sepals and petals cannot be differentiated then they should both be referred to as tepals, which is of course an anagram of petals. Wider tepals are required in most yellows. There is a case for a star shaped yellow to be developed, but I feel that the mainstream yellow should be of as good a shape as any of the oranges. There are far too many around with excessively narrow outer petals. A neater umbel? Some plants have a naturally rounded umbel whilst others have higgledy piggledy ones. Poor cultural methods also help or hinder, depending how you view it. I have little time for untidy umbels. And what pray, is a "Lutea"? Please re-read the last newsletter. The letter to Mrs. Mauve stated clearly that the correct Botanical name for the yellow is Clivia miniata var. citrina. Thus citrinas and not luteas please.*

Australian "common" appears to me to be a smallish-flowered clivia, where the yellow eye is not readily noticeable. This gives it an almost mousy look. But this is only my opinion, let us hear from the Australians.

Yes, I messed up on the schedule also, a slightly improved version appears elsewhere in this number. I wonder what James and Connie will say if the next open meeting is not a sell-out. Please bring a folding chair and a bit of refreshment with you, for it will be at the Abels hospitable home again.

Editor.

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Gardenii Week-end: **13-14 May 1995**

The club has held several week-end outings to see clivia flowering in their natural habitat, and in gardens. We have visited gardenii in the Natal midlands, and caulescens in the Eastern Transvaal.

It is certainly a privilege to see our favourite plant in the wild where it has developed over the millennia, and to observe its natural environment. It will soon be gardenii's turn again.

The preliminary program is to meet at the Pietermaritzburg Botanic Gardens at 10.00 on Saturday the 13th of May. After tea and informal discussions, there will be a mini show, and everyone is urged to bring along any plants that would be of interest to others. For example, Connie Abel hopes to be able to show a clone with pale green/yellow flowers. The collection in the Gardens will then be viewed, followed by a light lunch.

During the afternoon private garden visits will be arranged, and on Sunday the 14th May, there will be field trips.

Convenor for the week-end will be Des Andersson who lives at 177 Chase Valley Road, in Pietermaritzburg. His telephone number is (27) (331) 471407, and his postal address is PO Box 13311, Cascades, 3202. Members wishing to participate must inform Des before the 30th of April. He will advise on accommodation, and co-ordinate lifts offered/wanted.

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Revised Schedule

1st April 1995.....Committee meeting followed by Open Meeting at 14.30
Venue: 89 Brampton Road, Lynwood Ridge, PTA Φ(012) 47-6406.(Chairs etc.)
Toy Jennings and Nick Primich will discuss their personal seed planting and potting up methods. We would like some indication of how many will attend, and will appreciate calls from those intending to come. The (011) people can telephone Adri @ (011) 802-7985.)
There is a possibility that lifts could be arranged.

13-14th May 1995.....Gardenii Tour plus Mini Show as above.

15th July 1995..... Open Meeting Probably at a Johannesburg venue. We hope to demonstrate pollinating to those who want to know. Details in the next newsletter.

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Dear Friends,

We have a fair mixture in this, our first letter of the year. and a very good clivia year to all of you! Colman Rutkin sent me the cutting of the delightful article on Connecticut Clivia. A thousand dollars is about R3 500.00 at the moment, so it is a good thing that we do not all have access to these closed markets.

Pen has sent an interesting letter. I was sorely tempted to answer it myself, but I have left that to you good people out there. Let us hear what you make of it. For non-Ozzies, slaters are wood lice. I was told by an entomologist that these beasties live off rotting vegetation, hence their prolification in old buildings and compost heaps! They do not eat growing vegetation, although I do remember seeing some scuttling off in a hurry one night when I visited my gladiolus seedlings.

Meg has sent in a thorough account of their caulescens tour, and congratulations to Pottie on giving the first Afrikaans report in our newsletter. I have not put a translation in for our overseas people, as Meg has given all the details in English.

The club is considering taking on the responsibilities of becoming the international registering body for clivia. We will need a Registrar. This person should be fairly fluent in botanical and horticultural matters, and will have to become familiar with the International Code of Nomenclature for Cultivated Plants. One would not have to live in RSA, but would need easy access to a library of suitable range. Not a job to be taken on lightly.

Your current editor will not be seeking office in September's elections, so we will be pleased to hear from some worthy and interested person who would like to take over the reins then. The new incumbent would get as much or as little help from me as he or she desires. I will still write an article or two, but I want some time to stop and smell the clivias.

REGARDS
Nick Primich (ed.)

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Adri Haxton is our Archivist, or Librarian whichever you prefer, and she needs your support in the collecting of paraphernalia dealing with Clivia. Now Colman Rutkin sent the cutting from the New York Times which I am certain will bring pleasure to, and excite interest in most of our members. Please, whenever you see something that has to do with clivia, please contact Adri on (011) 802-7985, or at PO Box 977, Gallo Manor, 2057.

In the years to come, such memorabilia will prove invaluable to the following generations who care about clivia. If you contact Adri before you send the item, it would save possible duplication, but if you are certain that you have a one-off item then just send it along. Thanks!

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EXHIBITION FLOWERS

In nature one seldom sees a perfect flower, but if you really look around, every now and then you see one that locks in your memory. Man, because he can control the conditions a little more tightly for the specific flower, can produce these perfect flowers far more regularly. What then is an Exhibition Flower. Let us start to build up the basic standards to which we can relate when judging our plants in flower.

Standard Miniata
The plant would appear to be well-grown and established. One would hope for good even coloured leaves, arching regularly, and without major blemishes. The flower stem, or stems, would be straight and erect or very nearly so. The stem should be strong and sturdy. The disposition of the florets in the umbel should be such, that they do not entangle with each other. The florets could be disposed in a near sphere, a hemisphere, or even all canted in the one direction, as long as they did not appear to interfere with each other. The florets should appear comfortable and natural.

The individual florets would exhibit a uniformity of colour, size and texture. In the standard miniata one would look for well-shaped and rounded tepals. The flower should have a pleasing shape and the colours should be clear and noticeable. The tepals should not be excessively riffled or uneven. The stamens should

be normal with good anthers filled with pollen. The stigma should appear well-formed and active. Malformed anthers or stigmas should disqualify a plant.

A good perfume could score extra points for a plant, and in the end, a judge considering all the individual factors, will have to sum up the total impact of the plant.

Please read the above and consider it carefully, then if you care about clivia take a pen and paper and let us know what YOU would change, or add to in the above. Let us define our own standards for clivia.

*****

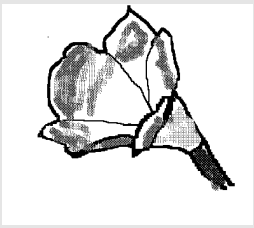
ON THE COMPOST HEAP

O yes, what one would do for a good bite of leaf uncluttered with carbamate, fenitrothion, and mercaptothion! It is becoming difficult to perform one's natural functions in life. However, this is fast becoming a dream . The reality is becoming a nightmare.
I shall have to take myself off on a tour of unsullied amaryllids. I remember my great-grandparents telling me how they mowed down hectares of crinum in the days before the houses came. At least the crinum grew up again, but the houses put paid to them and probably to most of us. An endangered species.

Lily Borer

Clivia
Club

PO Box 74868 Lynnwood Ridge 0040 South Africa



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Volume 4 Number Two April 1995

ADDRESS FROM THE CHAIRMAN

Dear Members,

It is with regret that I inform you of the resignation from the committee of Nick Primich, and of Renee and Michael Stevenson. Their contributions to the club, as founder and editor, and as committee and show stalwarts respectively, have been of immense value to us all. I am very pleased that they will be continuing their membership of the club.

The next AGM will be held in conjunction with the second show/sales on the 09.09.1995 at the Pretoria Botanic Gardens. Until the rising of that AGM,your committee will be:-

A James Abel, Chairman.
A Toy Jennings (012)9910843 will receive all club correspondence at our new address, **PO BOX 74868, LYNWOOD PARK, 0040 SOUTH AFRICA**, and insure its prompt and appropriate distribution.
A Koos Geldenhuys (012)3339548 is Treasurer.
A Adri Haxton (011)8027985 is librarian and archivist.
A Meg Hart (011)6469392 will understudy Nick to become editor in due course.
A Connie Abel (012)476406 Committee member.
A Wessel & Rudo Lötter (012)37203790. Committee members.
A Ammie Grobler (012)472722 Committee member.
A Frikkie Potgieter (012)3354590 has accepted the challenge of chairing the show committee.

The current plan is for acceptance of plants for showing and for sale to be from 06h30 to 0800 on 09.09.95. after this the public will be admitted. The AGM at 11h30 will consist of a review of activities to date, future plans, financial report, general matters and election of the new committee . Garden tours and a braai will be organised for Sunday.

Des Anderson (0331)471407 is co-ordinating the gardenii & miniata tours in Natal on the 03.06.95/04.06.95, and 19.08.95/20.08.95 respectively. For the gardenii week-end we apologise for the date changes but are advised from Natal that avoiding the Comrades Marathon and the World Cup Rugby, this would be a better choice than the May date.

Bobby Maxwell has kindly offered her home at Hilton for the morning; starting at 09h00 and featuring show plants, sales, discussions, and tea and snacks. This will be followed by a visit to Fern Valley Botanic Garden at 14h30, and other visits to be arranged for the following day.

Charl Malan (0461)29112w (0461)311086h is co-ordinating the nobilis tour in the Eastern Cape on 07.08.95/08.08.95.

The remaining open meetings to be held on 01.04.95, 15.07.95, & 21.10.95 will be reported in the newsletter in due course.

We are pleased to inform you that Nick Primich has accepted nomination as an Honarary Member of the Club, and as Emeritus Editor of the Newsletter. Pertinent comment from Lily Borer will continue to appear.

With all best wishes for your personal well-being, and the vigorous growth of your collections.

James Abel (012)476-406.

--*--

The following three articles have been garnered from the National Herbarium

STORY OF THE CREAM CLIVIA

Extract from "The Farmers' Weekly" February 5, 1964

For seventy years and three generations, a Natal family has faithfully tended its single specimen of one of the rarest lilies in South Africa, the delicate cream-coloured clivea which is actually a sport of the flame clivea found in abundance during Spring in Natal and the Eastern Cape. The story of this single specimen, from which offshoots are now flourishing at Kew and other botanical gardens, is a romantic one and, in the accompanying article R.V. Gooding, of Pietermaritzburg describes his own adventures with the lily.

It all began in the most trivial way. I was walking through the Pietermaritzburg Botanic Gardens when I met the curator, Mr. D. Leighton. It was spring and all the usual things were bursting into bloom. I seemed to remember that he had an unusual clivia, the flame-coloured lily that grows in thousands in the sheltered spots in the summer rainfall areas of South Africa. Only his I remembered, was not flame coloured ...but pale cream.

Mr Leighton, however, told me that his plant had finished flowering, but said that I should get in touch with Mrs M.M.K. Robinson in Pietermaritzburg.

I had to wait for a couple of weeks for her plant to blossom and then I got the first instalment of a remarkable story that had history and pioneering botany interwoven.

Mrs Robinson invited me to see and photograph her plant. It was growing in splendid isolation and protected from the hot sun with a hessian blind.

HISTORY

She told me the whole history of her plant. It was 1892 and the place was Eshowe in Zululand. Sir Melmoth Osborne was the resident Commissioner. He had a Zulu cook and following the practice of the times sent him out to collect firewood.

The cook went as far afield as Entumeni and there, he saw this surprising pale clivea flowering in the bush. He dug the whole thing up and brought it home.

Sir Melmoth was delighted and shared out the big plant with his friends. His assistant at the time was Sir Charles Saunders - Mrs Robinson's father - member of a well-known Natal pioneer family who have always lived at Tongaat.

Sir Charles got two bulbs and a flower. He sent one bulb and the flower to his mother, Mrs J H Saunders, of Tongaat, who was something of a pioneer botanist.

The only method of transport in those days was the post cart so that the flower was a little faded when it was received by Mrs Saunders. But she at once did an accurate drawing of the flower and coloured it with water colours.

Mrs. Saunders then sent her drawing and the bulb to the Royal Botanical Gardens at Kew. The bulb was planted there under glass and has flourished ever since. Notes were made of the drawing and it was returned to her. Mrs Robinson still has that drawing.

Mrs Saunders spent all her spare time in making accurate drawings of the wild flowers she found growing around her. One of them was named after her.

Sir Melmoth kept the rest of the bulbs brought by his cook and eventually gave most of them away.

The bulbs given to Sir Charles Saunders were in due course inherited by Sir Charles's daughter Mrs Robinson, who has continued the work and bulbs have been given by her to the Botanic Society and the museum of Eshowe.

OTHER SOURCES

Immediately a photograph of Mrs Robinson and her lily were published in a Durban newspaper, two men wrote to Mr. Leighton at the Botanic Gardens in Pietermaritzburg saying they had clumps of the cream-coloured bulb.

One, who lives at Hilton, said he had found his in the bush at Karkloof and the other, writing from Willard Beach on the Natal North Coast, said his had been found in Zululand.

A woman living near Pietermaritzburg, who is now in the eighties, allowed me to buy one of small store of the plants. No florist in South Africa that I havent been able to discover offers the cream-coloured plant for sale so nobody knows how many there are.

Mr Leighton is very interested in the plant. One curious fact about it is that it does not breed true to type. At least it has not done so far.

Seedlings from cream-coloured plants have invariably been flame coloured. Mr Leighton is now experimenting with bulb divisions in an effort to increase his stock vegetatively.

Another aspect of the history of this plant came to me when the party of world-famous botanists came to Pietermaritzburg on their tour of the Republic as part of the golden jubilee of Kirstenbosch.
Among the visitors was Mr Palmer, wife of the Hon. Lewis Palmer, President of the Royal Horticultural Society in England. Mrs Palmer was looking for somebody connected with Mrs Saunders because she had given her father, who was a well-known botanist, a cream clivia.

Mrs Palmer was put in touch with Mrs Robinson at the Botanic Gardens reception and they were able to compare notes. Mrs Palmer said her father had the lily growing in his garden.

Since the clivia is widespread in the Eastern Cape one wonders where new specimens of the unusual colour will crop up next. Mr Leighton of the Botanic Gardens, Pietermaritzburg, would like to know anyone who has more of this rare flower.

Incidentally, Mrs Robinson tells me the "i" is pronounced long as in Clive.

*****

An extract from a letter from W. L. Chiazzari,

Pietermaritzburg 14.07.65

"The Clivia was taken from a small patch of isolated swamp forest growing in dense masses beneath the trees. I first located this same group of Clivia in 1943 when I was serving with the S.A.A.F. during the last war and had been sent with No 29 Squadron to a landing strip named Lombazi approximately 1 mile from this patch of forest. A coloured sketch was prepared from a flowering head at the time, and is still in my possession. However about four years ago, I again visited the areas and brought back a number of plants, one of which I took to the Herbarium, Botanic Gardens, Durban, from where it was consigned to your Department in Pretoria for identification by a Miss Johnson. To this date I have not heard as to the identity of this species.

The main characteristic of this species is the procumbent or semi-procumbent stem more than 18" long and with leaves strap shaped, forming a plant on an average of well grown plants 4'0" - 5'0" height. The heads contained between 22-35 flowers each. From available literature, it does not appear to be C. gardenii which has from 10-14 flowers in an umbel nor is procumbent, as far as I am aware. This also applies to C. nobilis which is also diminutive by comparison. The description of C. caulescens nearest meets the description except for its locality and fewer flowers.

I have successfully grown and flowered plants in my plant houses at Richmond. I should be pleased to forward another plant to your Department should the original be mislaid or the species be of interest?

*****

27.08.85

Dear Mrs Mauve,

My friend Auriol Batten posted me an inflorescence and leaf of Clivia nobilis from East London which are a precise match of the Bot. Mag. plate you so kindly sent me - in Auriol's specimen, the leaf is

more markedly notched, but it is merely a matter of degree. I am beginning to have second thoughts about leaf tips! Auriol says one can always recognise C. nobilis by its notched leaves - and she is talking about the Cape plant. However, the slide of Venter 854 was indistinguishable on floral form from the East London plant. It is a nasty puzzle. I'll try to get the Natal plant that we call nobilis into cultivation together with this Cape plant and see if I can make anything of them.

Are you retiring from Botany? I hope not. But if you are, please accept my very best wishes, and thanks for much help in the past. I shall miss you.

Yours sincerely

Olive Hilliard

*****

05.08.1985

Mrs A Mauve

Botanical Research Institute

Private Bag X101

PRETORIA 0001

Dear Mrs Mauve

I too am much puzzled by Clivia and tried to sort out the use of the names. I am familiar with what I take to be C nobilis because it grew in the gorge of the Molweni river below my old home at Everton, and I grew it in my garden. Unfortunately you omitted to enclose the colour transparency you mention in your letter, but I enclose one that we received from Janet Gibson. This is that I call C nobilis and in the shape of the perianth it is a reasonable match of plate 2856 in Bot Mag (which we have only on microfiche).

I don't think that the shape of the leaf tip counts for much, and flower colour too is possibly unreliable, judging by the astonishing range in C miniata. It is the shape of the perianth that is important, and I therefore find dried specimens exceedingly difficult to place.

I also enclose a transparency of a plant growing in Edinburgh, taken when I was trying to sort out the names. This I now judge to be C gardenii, though the segments spread more than they do in Bot. Mag. plate 4895. Bill and I have since collected the plant on Laager Farm in the Noodsberg. We recorded the perianth tube as dull yellow flushed red, ovary and perianth lobes green. Killick 466 from Table

Mountan (not far as the crow flies from Laager Farm) recorded yellow perianth, green-tipped segments. We also have a specimen from Qudeni described as 'flower green below with yellow perianth'. Although Fl.Pl. Afr. plate 1641 show this colouring, it looks too narrow in the mouth for C.gardenii. Incidentally, 50mm of the original description

Of course, the nasty possibility exists that the plant I am calling C.nobilis is not the species at all, the Bot. Mag plate shows the flowers hanging straight down, not curving up and out. Lindley's plate also depicts pendulous flowers. And the umbel is dense in both plates, not rather scanty, as in the Natal plant. Again, the Natal plant grown in forest, the type of C nobilis was said to come from the Fish River scrub, which also rings a warning bell. And as I judge the plate you sent me to be what I am calling c.nobilis, there is naught for your comfort in my remarks! However, Batten & Bokelmann, Wild Flowers of the Eastern Cape, show as C nobilis a plant that I would take to be the same as that In Natal, and give Bathurst as its southernmost locality, a likely enough place for the original collection. Does Dr Dyer have any memory of Clivia in the Grahamstown areas, or can Mrs Brink help?

O. M. Hilliard

--*--

Dear Nick

Thanks for the very informative and interesting newsletters, I spent most of my holiday reading them. That is why I only now respond to your request for information.

There are quite a number of clivia populations in the Soutpansberg area that I am aware of. Though most of them are C. caulescens, I have come across two patches of C. miniata.

All of these are in forestry areas, either in RSA or in (the now defunct) Venda. I visited the one area last Saturday on one of my birding trips for BIRD (UCT), and was surprised to see that only one C. caulescens had flowered and set seed. We have been experiencing one of the worst droughts ever for the past three years. These plants grow on the southern slope of Mathiva's Kop in the Entabeni Forest Reserve, a conservation area. All the leaves were nibbled around the edges (I think it must

have been a beetle) and had yellow spots on the remaining surface indicating that some sucking insect was at work (a "lily sucker" related to lily borer?).

The other larger patch of C. caulescens is also in a declared conservation area in Venda and is adjacent to the Holy Forest. These plants are in a magnificently healthy condition, and more have flowered than in the Entabeni area.

The clivias in our area are attacked and destroyed by a "snout weevil". a very hard brownish creature (∀ 20mm long) with yellow bands on its legs. When touched it feigns death. These weevils bore into the crown of the plant.

Road maps for this area are, as you said, totally useless, this most probably being the " heart of darkness" in South Africa. I use 1:50 000 grid maps (2330AA & 2330AB) when I go out. I ask locals and do not follow their directions, pray a lot and swear much before I reach these outlying areas.

I have been growing clivias since I came to this area about ten years ago, but was never really tickled by them until I was given a yellow plant as well as a light apricot one. I do have about forty C. caulescens plants and about two to three hundred C. miniatas growing under medium to heavy shade in the garden. Then last year I bought some of the broad-leaved (so-called "hybrids") sports,and did some cross-pollinating. I am now anxiously awaiting the ripening of the seeds.

Should you or some club members come to this area, or wish to organise a trip, I will be more than willing to help you. In the meantime I shall pinpoint all the spots with clivias on my maps.

A N Bester

--*--

Dear Mr. Primich,

Thank you for your note. I would be glad to supply you with information regarding clivia in the Eshowe/Entumeni area. Let me start on the broader conservation issue. The Eshowe Conservancy (I take it most people know what that is) was the first in Zululand, established in 1983. It covers 7961 ha, the main crop being sugar cane, followed by timber. A natural asset inventory has just been completed which is a practical guide to responsible "conservation farming".

We boast 606ha coastal scarp forest, that excludes two Natal Parks Board nature reserves, 41ha wetlands, 62ha grasslands, 28ha dams, 9,5% of conservancy is natural habitat.

Now as to the clivia. Clivia miniata are abundant, growing mainly along the watercourses, and on rocks covered in debris. This I believe, is to avoid moles, as I have observed moles eating their bases.. In a garden the moles can cause terrible damage. It seems in the Eshowe area that one seldom sees masses of flowers on plants, even in heavy plant concentrations, and as a result pitifully few seeds. I understand from reports that there are "massed" displays of flowers in a large patch of "dry" forest in Entumeni.

Clivia gardenii are also common, but less so than the previous species. We have a fair concentration growing on our farm. The colony is in a marsh area under trees, with a number of plants growing in the trees.

Bushpigs do readily damage plants by eating out the centre. A trip to the local muti shop also revealed many Clivia gardenii stems for sale.

If my memory serves me correctly, Veld & Flora, in an issue about 1988, had an article on the yellow clivia, claiming that the first yellow was discovered in the Entumeni forest by an expedition in the 1800's. The Eshowe/Entumeni is blessed with a lot of intact forest that is well conserved. There are a number of hotels, guest houses, and chalets in the area that provide accommodation; and many wonderful walks through all the forests.

Eshowe is ∀ 12 hours drive north of Durban, and 1 hour south of Richard's Bay, slightly inland above the coastal plain.

Regards,

Charles Cadman.

--*--

BEGINNERS LUCK

Each issue, an article for beginners will be written for you! The experts can gloss over it as it will be very basic.

Clivia are forest dwellers, therefore they do like shade. However, if you go into a forest you will find most of the shade is dappled, and this is how the plants like it. If the shade is too heavy the flowering of the plants will fall off, and they will only grow lots of dark green leaves. If they get too much sun, the leaves get scorched and die. This sets the plant back.
The areas where clivia grow are mostly frost-free, and clivias cannot stand very much frost. The species Clivia caulescens cannot stand any frost at all and can even die when you do not detect any frost around, so if you have one keep it warm if the winter turns chilly.

The plants like a humid atmosphere which they enjoy in a forest as the trees raise the humidity, even though most of the forests where they grow are dry forests. If you went into one of these forests and examined the root system of the clivia, you would find that it does not grow down into the ground as most plants do. It is nearly always growing on sloping rockfaces or screes, and the roots grow in the debris which gathers around it. The debris is known as detritus. This is composed of crumbled rock and rotting trees. The drainage is very open, and the root system is often directly in the air.

Thus, when you plant your clivia at home you should try to imitate its natural style as closely as possible. A clivia is quite tough, and can withstand drought and conditions which it does not like, but it will still be best growing within the parameters for which it was designed.

--*--

Dear Mr. Primich,

Since the '94 Clivia Show my whole life started to metamorphose around these plants. Although I grew up with clivia, it was not until after I completed my first year of studies in Parks & Recreation, that I realised my future belonged in Horticulture. I'm glad to say that I have changed my course to N. Dip. Hort.

I should have joined the club earlier, but I believe it is never too late. Please accept my apology together with the twenty rand fee.

My first goal was to help my father improve the condition of his collection. I built a 72sq.m shadehouse with mist irrigation, and started to repot a considerable amount of plants. My second goal was to find a way to reproduce clivia asexually. Since I already had training in plant propagation, I knew what to look for. I decided to try two different techniques, root cuttings, and rootstock cuttings.

With the help of my mentor at Booysens Nursery, we placed these cuttings in the best possible medium on a hotbed under mist propagation.

To date the results are that the root cuttings failed horribly, but the rootstock cuttings are making excellent progress. This could provide a means of producing more genetically identical offspring in a shorter time.

If these experiments have already been done, I would like to hear about them, and if not I will keep the club informed.

Finally, I would like to thank my father in a special way; for he gave me a love for plants, a quest to seek knowledge, and a beautiful clivia collection.

Father, I will be honoured to continue your wonderful work - with your help of course!

Rudo Lötter.

Not too many fathers are able to have what you have Wessel! I wish the very best to both of you. As for the rootstock propagation, it has been done for some time to take a root cutting with a portion of the stem attached. This usually grows quite readily by the usual means. Ian Coates described the method in Vol 2 No3, July 1993. In any event do keep us informed of your progress. (Ed).

..*..

EDITORIAL

Dear Friends, the clivia is often described as being a tough plant. Yet, when my clivia get damaged by people, animals, frost or borers, I find it is a very unforgiving plant. Every time I have grown a plant up into a magnificent specimen, something happens to it. I had, still have, a 'Belgian' hybrid. (Sorry Bill Morris & Prof. Bester, I belong to the school that considers a hybrid as a plant bred from parents with somewhat different genes.) This has about six or seven offsets, and at least five of them were flowering size. I had it in one of those old concrete 'Grecian Urns'.

When it flowered it was a sight to see. I had a gardenii crossed miniata, which grew in the ground against the wall of the house, it too was a magnificent bloomer. I had another clone which gives multiple petals. This too was not lazy to flower.

These plants got damaged in the black frost last June. They were further damaged by builders at the Nursery School, they were even more dilapidated by our friend below. The lily borer went to town on them. They have picked up a rust or two, and I hate to use benlate out of the glasshouse. It is going to take two or three years to get these plants back to their former glory. One has to take good care of the plants, else they will just fade away before your eyes.

At last we have some field reports coming in from our members. Prof. Bester, and Charles Cadman have two very different styles, but I found their articles enjoyable and informative. We are beginning to get a picture of the situation out there.

What of the miniata populations in the Levubu area? Have they been brought in by outside influence? If not, why are they so isolated from the other groups. Jo Onderstal reports miniata in the Barberton region in her guide on the Eastern Transvaal flora.

Now what about the Eastern Cape members? I hope we get some activity there. When the nobilis trip comes off later in the year I will make an effort to get down there again. The flora is fabulous in this region. Even when there is not a flower in sight it is rewarding to be able to walk over a bit of natural veld in this area. The variety of the plants can be dazzling.

I have been getting some stick for not attending to the beginners. I thought there were quite a lot of articles in back numbers, but if that is what you want that is what you will get. I shall see to it that

we have at least one basic article every time for those who are starting off. The way my memory is going these days I shall have to sit in with the beginners and get primed up again.

Then we have Rudo Lötter's letter. It is so heart-warming when a son can take over from a father who has been doing a great job. I just hope that Rudo does not give away all his exciting new lines the way that his father used to. Strength to both of you!

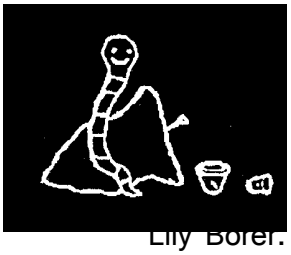
I will be starting to hand the reins over to Meg, but far from it that I will be moving away from clivia. Indeed, now I will be able to get a little time to start doing some of those wonderful things that I have been dreaming of doing, and when I get some of them right I will let you know all about it. MAYCAT!

Nick Primich.

..*..

ON THE COMPOST HEAP

Whilst the chairman is so busy handing out portfolios, why does he not make me minister of Agriculture and Farming! I would know what crops to plant, and how to harvest them.



Lily Borer.

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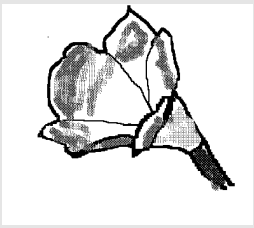
Clivia
Club

PO Box 74868 Lynnwood Ridge 0040 South Africa



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Volume 4 Number Three June 1995

BEGINNERS LUCK

Beginners are often bemused by pollination, and consider it a magical task that only a few initiated can perform. It is of course, quite simple and easy to do once you know what to do. It has also been found that pollination is far more successful when carried out under certain conditions.

If we look into our miniata flower we can quite easily see six stamens with the anthers on top supported by the slender filament which is affixed to the base of the petals. The seventh little stem in the flower divides into three at the top, and this is the style which grows out of the ovary and on the triple tip it carries the stigma. This stem projects a little further out of the flower than the others. In our case the stigma is on the ends of the three divisions. When the flower first opens the three divisions of the stigma are not fully opened, but in a day or two they extend out, and you can see sticky exudate on them. At the same time the anthers open up and the pollen is clearly visible.

All one needs to do is to transfer pollen from the ripe anther to the ready stigma and fertilisation can take place. Of course if you do it on the same plant, then you would have self-pollinated or "selfed" the plant. Broadly speaking, there are two types of breeding that you can go in for. Inbreeding, and outbreeding. In inbreeding you use self-pollination, or closely related pollen. For example, you may have three or four plants from the same stock. If you cross-pollinated with these plants this would be

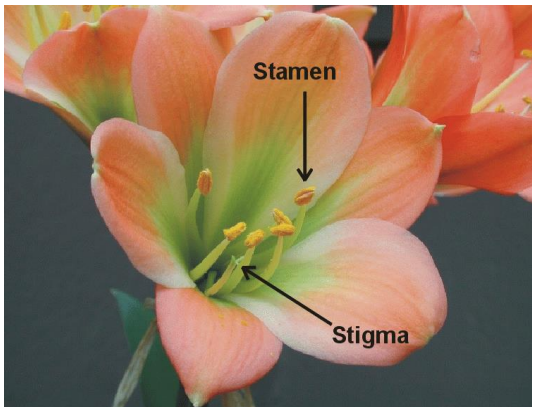
inbreeding. If you got pollen from an outside source and applied it to your plants, this would be outbreeding.

Pollen is destroyed by warm temperatures, and loses its viability in warm weather. Thus it is recommended that pollination should take place when it is cool, as in the early morning. One could snap the filament of a stamen off and carry it between two fingers, and apply it to the mother plant. You could take a small paint brush, and scoop up some pollen with this and apply it to the plant you wish to fertilise. Of course you would avoid contaminants such as water, chemicals and foreign bodies.

You may need to transport the pollen, and it could be knocked off the anthers into a vial or capsule which you can get at the chemist. You can store the pollen for over a year in the refrigerator or the freezer. However, it must be kept dry. It is also best removed from the anthers, as these can rot and the pollen will suffer.

So you have become a plant breeder, and will need to keep records to have accurate accounts of your breeding achievements. It is best to keep a record in a book. One could have a column for the date, one for the mother plants number, one for the pollen-parent's number and a column that records the amount of seed produced. If this line was numbered A1 because it was the first line in the first book, these seeds could be identified in further breeding records as being A1 seeds or plants. It would then be possible to trace back in a simple manner some twenty years and twenty books later, how you arrived at some of your show winners.

POLLINATING CLIVIAS



In an early newsletter our editor described how to pollinate clivias using a small brush. As I have a large number of plants and do quite a lot of pollinating I have found the brush method slow. It also suffers from the difficulty of having to clean the brush of pollen if one wants to make a different cross. This also takes time.

So for many years I have simply used my fingers. Lightly

pinching an anther, the portion of the sexual apparatus of the flower which carries the pollen, will transfer quite a lot of pollen to the surface of the index finger and thumb. Brushing this surface across the end of the stigma of the flower transfers the pollen to this female receptive part of the flower. It is best not to do this as soon as the flower opens as the stigma may not be fully developed at that stage. I like to repeat my pollinations a number of times with intervals of a complete day between pollinations to ensure that some are done when the stigma is most receptive.

In pollinating my yellows, where I use pollen from my best couple of plants on most of the other yellows, I have now found it easier and quicker to simply pinch the stigma very gently with both of my pollen covered fingers and slightly roll the stigma between them. Once you get used to it, it is very easy to do. Again I repeat the pollination a number of times over the period the flowers are out. It is important not to pinch tight enough to damage the stigma. I have found this method very successful, and it is about as fast as anyone can manage.

It is much easier to clean one's fingers than a brush. I simply wipe them hard on my own garden clothing a number of times. Occasional pollen grains may remain trapped in the skin ridges and valleys, but very few, and they are overwhelmed by the millions of pollen grains from the next anther that supplies the pollen to be used next.

Bill Morris.

*****

PERSONALITY PARADE

We have decided for a matter of interest to have in each issue, one of our members featured with a thumb-nail sketch of what he or she is about. What better place to start than up at the top with our chairman and his good wife - James and Connie Abel.

Connie (1941-4) was born in the Orange Free State, and lived there until she had completed her secondary education. She then decided to do her nursing training in Pietermaritzburg. James (1938-4) was born in the Northern Transvaal where he stayed until he decided to do his tertiary education in this selfsame town. They met when James was a patient in Grey's Hospital while Connie was doing her final year of training. They were married at the end of 1964.

James had qualified as an agronomist, and had supplemented this with extra-mural studies in economics and management. His career has had three phases in various sectors in agriculture, each of approximately ten years. The first was in sugar in Natal, followed by poultry and then fertilizer in the Transvaal, With the changes that are occurring politically and economically in Southern Africa, border barriers are dropping fast, and since 1992 he has been developing markets north of the Limpopo. Initially the concentration was on Zambia, where the company currently has seven permanent employees, and now in Zimbabwe where activities are just commencing.

They have lived in Pretoria for nearly twenty years, and have been blessed with four children, all now adult.

In 1970 Connie was given some miniata plants, which had originated in a nearby forest, by a friend on a farm near Ixopo in Natal. The bug bit, and she still has some of the original plants, now at least thirty years old. James was also given a few caulescens from the Northern Transvaal which had been "in the family" for many years, but that was the limit of their knowledge of the genus until the happy day some three years ago when they heard of, and joined, the Club.

Connie now has a collection of several thousand clivias, including the best known forms, and, having taken over most of the garden, the collection is still expanding. They also particularly enjoy opportunities to ramble in the escarpment areas where the species originate, and seeing other members' collections.

James in his own right, was once a collector of indigenous epiphytic orchids, and had a good assortment of the same. However, at the last viewing I had seen a clivia outbreak in the small shadehouse allotted to James.

..*..

Dear Ken,

Thank you for your correspondence and patience with the problems regarding your subscriptions, etc. We sincerely apologise for the hassles, and, although we might plead growth pains for the club and for our organisation, the problems should not have occurred. Toy Jennings has been in contact with you, and will be sorting them out.

Many thanks for the other points that you raise. I think it would be great if you folks in Australia (and elsewhere including the other provinces in South Africa), were to organise a local chapter. Although fully part of the club, you would organise your own local activities, and report on them in the newsletter. These would include, as you suggest, combined collection and transfer of subscriptions, for there is no sense in enriching the banks with multiple transfers.

Your offer to exchange seeds is welcome, and is another area where chapters can co-operate for the benefit of their members. You say that yours will be from a number of crosses which you are developing but do not say what they are or what particularly interests you in return (specific seeds or even payment). We will have to work out the mechanics, but please send what you have available care of Toy at the above address, with as much detail as possible regarding the crosses and of what we can return if available.

This letter will be published in the newsletter, and I request that all members who are interested should let Toy know. She will let you know how much money you should send for different items, plus postage. If you send seed these will be swopped with Ken's, otherwise I am sure that seed from ordinary species but of known and specified habitat origin will also be particularly welcomed.

With all best wishes, and may Australia and New Zealand have a good tussle in coming a good second in the World Cup.

James Abel

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Dear Fellow Clivia enthusiasts,

I have chosen this almost perfect highveld weekend (May 13 - 14 1995), partly because the weather takes one into the garden, but also because I am now enjoying watching the large number of clivia seeds planted four years ago come to maturity.

Two years ago I requested through the pages of our newsletter seeds from any of our clivia club members who may have had an abundance. What a wonderful response, and what wonderful generosity I enjoyed when seeds and plants came from near and far. In particular I would like to thank Wendy Allison, Nick Primich, Laila van Heerden, and Fred Gibello.

As a novice at that time I keenly coveted any gems of wisdom which came to me through conversations, correspondence and reading. My son put together an inexpensive and rudimentary greenhouse made from corrugated fibre glass on a brick paved floor. I am convinced that the microclimate it creates with the almost tropical humidity are the key to the remarkably successful levels of germination I have achieved - far more so than the seeds I was growing in the garden.

One other factor which has contributed to the success I have enjoyed is the potting medium which I have used (one part garden soil, one part sand and one part compost). Initially the compost was derived from decomposed leaves, twigs and branches of a largely coniferous forest at my home. However, as time has passed I have achieved better results by using pure oak compost or better still, the leaf mould from under large white stinkwoods on the Parktown ridge. To save funds (which I would rather use for buying yellow clivias) I use every conceivable empty container I can find for potting the year old seedlings. Amongst these are the usual discarded plastic flower pots, black plastic bags, polystyrene cooler boxes and used plastic containers - rectangular one litre milk bottles, yoghurt, Jik and HTH containers, and even an old baby bath. I drill holes into the bottoms of the containers and line them with pieces of broken roof tiles to allow for adequate drainage.

I now have, largely thanks to my friends in the Clivia Club and others, about 3000 plants in various stages of development. Happily, our garden has two parts, the lower piece devoted to lawns and herbaceous borders, and the upper piece on the north facing Parktown ridge an acre of forested hill side. I will follow the example of Margo McNeil of Lekgalameetse fame (North Eastern Transvaal

escarpment) and over the forthcoming years will terrace the ground and move the clivias from the greenhouse to the open setting. When Nick visited here last year I could see he was very sceptical about the whole venture. Well Nick, you will have to attend the next clivia meeting at our house in July to see the progress! This is certainly going to be a project for my retirement.

Most of my efforts now, much to the astonishment of my family and neighbours, are aimed at acquiring every bit of organic matter in the neighbourhood to make compost for the project, a necessary move to counteract the poor quartzitic soil on the hill side. Hopefully at some future Clivia Club meeting those members who gave me seeds will see the outcome of their beneficence in full flower on the Parktown ridge. Happy gardening!

Meg Hart

..*..

The Secretary

Although, a member of the club for only about two months I have learnt a lot about Clivias and other indigenous bulbous plants. I was also fortunate enough to meet Mrs. Toy Jennings who really inspired me with enthusiasm.

I found a bit of information about Clivias in a book with the title "Groot Bloemen-en Planteboek" by R. Herwig, that was published in Amsterdam in 1966. I was quite surprised to see that our wonderful Clivia, according to the book is an indigenous plant from Nepal. I include the article if you think it is worthwhile to be included in a forthcoming newsletter.

Thank you very much for a very interesting newsletter, yours sincerely,

Dirk Pretorius

..*..

CLIVIA

Deze bekende kamerplant stamt af van de C.miniata, een vaste pl. uit Nepal. De bloemen zijn oorspronkelijk menierood met een gele schede. Het meest treffen we thans aan de oranjerode, hoewel er ook heldergele bloemen op witte ondergrond voorkomen en andere var. Some kan men de C. niet

aan het bloeien krijgen. Alhoewel de breedbladige meestal beter bloeien dan die smallbladige, is de oorzaak bijna altijd dat men na okt. te veel water geeft. U moet nl. van okt. af de grond wat droger houden dan in de zomer, echter ook weer niet te droog. Het beste voelt U even met de vinger in the potgrond.Wanneer de bloemsteel 15 cm lang is gaat U pas weer gewoon water geven. De C. moet steed op een zeer lichte plaats staan maar niet in de zon: dan krijgt U geen glad. Van apr. to aug. de pl. om de twee weken wat voeden. Liefst voor een gelijkmatige temp. van ong. 150 C zorgen. Na de bloei worden de bloemstelen diep uitgesneden. Het stompje verdroogt en dit kunt U dan uittrekken. Soms bloeit de C. tweemaal per jaar, dan boft U. De oorzaak voor de tweede bloei is vaak de een of andere droogteprikkel. Wordt de C. te groot dan kunt U de pl. gaan delen. Oppassen dat U geen wortels kneust of breekt. Gebeurt het toch, dan die wortel met een scherp mes bijsnijden tot op het gezonde deel en de wond bestrooien met houtskoolpoeder of desnoods sigaretteas, wat die wortels rotten gemakkelijk. Oppotten in goede potgrond en de eerst drie weken de pl. wat vertroetelen met de nevelspuit; zie Besproenien

Wanner U wilt proberen de C. uit zaad te vermeerderen, kan dit ook. U moet echter niet verwachten dat U hetzelfde resultaat krijgt als de bloemist, die kruisbestruiving toepast en meer van die slimmigheidjes. Het zal zeker drie jaar duren alvorens U weer een bloeiende pl. krijgt.
Ten slotte nog enkele cultuurfouten: komen er gele vlekken op het blad, dan geeft U of te veel water, of te koud wat of water in het hart van de pl.; ook kan de C. te koud staan. Als de bladeren knakken, staat de pl. meestal te donker.

I was going to give a translation of the above, but I remembered that I had on my bookshelf, a copy of " The Hamlyn Encyclopaedia of Houseplants, by Rob Herwig. Translated from the original Dutch <Herwig Kamerplanten Encyclopedie= by Marian Powell (1984). This would be a little closer to Herwig's original intent and allow for improvements such as Nepal into Natal. Thus I give the entry for Clivia from this book (Ed.)

Clivia

Name: The plant is named after Lady Charlotte Florentine Clive, Duchess of Northumberland and governess to Queen Victoria. A number of species of the genus were brought into flower for the first time on her estate at Alnwick.

Origin: All species are natives of South Africa. The first to be introduced to Europe was Clivia miniata. It comes from Natal where it grows in valleys with nutritious, loamy soil, rich in humus and with a porous subsoil.

Description: The genus includes three species. Although they belong to the amaryllis family, they do not possess a bulb. Instead the rootstem is built up in layers and develops fleshy roots from the centre. The strap-shaped leaves are dark green and shiny and grow directly from the root. New leaves are formed in pairs and in the course of a few years they form a thick stem consisting of layers of foliage, growing to 60cm in height. The firm flower stalks bear terminal clusters of 10 to 20 trumpet shaped flowers.

Position: It is important to find the correct situation where the plant can be left alone, for it dislikes being moved. However, to meet its requirement of fresh air, it may be planted out in a sheltered, half-shady position in the garden in summer. Indoors it should also be stood in a slightly shady spot, for instance where the sun enters. Too much sun will cause the leaves to turn yellow.

Care: In the dormant season the plant should be kept in a cool position in a temperature of 8° to 10EC. When the flower has withered, cut the flower stalk as low as possible. When the remaining stump has dried out it is easily removed.It is advisable not to allow seed to form, as this exhausts the plant too much.

Watering: The secret of successful clivia cultivation lies in correct watering. In many cases the flower stalk remains strangely short; in others no flower develops at all. These problems can be avoided by following the rules. Clivias have to be goaded into flowering. This is done by giving them a resting period, starting in October, during which very little water is given, only just enough to keep the compost slightly moist and to prevent the foliage drying out. At this time the plant must not, of course, be fed. Sponge the leaves from time to time. A flower stalk will appear in the early months of the year. Curb your enthusiasm and do not immediately increase the temperature and water supply, for this will result in the flowers developing
between the leaves, Do not begin to give more water until the flower stalk is at least 15cm long. While the plant is in flower and for some time afterwards, water freely. Make sure that no water can collect

in the bottom of the pot or the fleshy roots would quickly rot and the plant would die. It is advisable to withhold water until the surface of the compost is dry. Spray when new leaves or flower stalks are developing. Yellow patches on the leaves are frequently the result of too much water, and especially of water that is too cold.

Feeding: From February to August feed every fortnight, using a solution at the strength recommended on the label. From then on until the dormant season, feed once a month.

Repotting: This may be done immediately after flowering has ceased. Great care is needed, since the fleshy roots are easily damaged. Cut away rotting patches and dust them with charcoal powder. Young plants should be potted every year. In the intervening years the upper layer of the potsoil should be scratched out and replaced with fresh compost. The best potting mixture for clivias consists of rotted turves, rotted beech leaves and rotted cow manure, with 2 tablespoons of dried blood, hoof and horn and bonemeal added to each potful of compost.

Propagation: If you possess a great deal of patience these plants can be grown from seed, but it will be at least three years before they flower. The seed which may be produced will take a year to ripen, and at least another three to four years will elapse before it will germinate in bottom heat and eventually develop flowering plants. The plant can also be increased by carefully removing offsets with at least four leaves from the parent plant. On the other hand they may be left where they are , and in time a large family will develop, which will take up a great deal of space.

Pests and Diseases: Keep a lookout for scale insects and mealy bug.

...

It is easy to criticise and fault-find from a distance, but one must bear in mind that this was written by a Hollander some thirty years ago for pot-plants in European conditions. The methods were probably very successful there. In any event I find it most interesting, especially how his later version has been improved from the earlier one. (Ed.)

..*..

CLIVIA OBSERVATIONS

In the Clivia newsletter, Vol.2 No.1, 1993, in Graham Duncan's article he states ? Offsets form very readily on C. miniata, but less frequently on the other three species.@ In Australia , at least in my

area, the form (probably hybrid) of C. nobilis which is grown here is probably the fastest offsetter. C. gardenii offsets possibly as fast and does so by long, up to 300mm, underground rhizomes so that the new plant may appear quite some distance from the mother plant. C. miniata can also produce offsets on underground rhizomes as well as shooting directly from the main stem, but the rhizomes are shorter and generally thicker than those of gardenii.

In a collection of miniata forms, including the improved forms, there is a very wide variation in offsetting characteristics. Some clones offset very freely, whereas others are extremely slow. Some of my large yellow clones have not yet made an offset although they have been flowering regularly for over five years. Obviously these clones cannot be described as freely offsetting. C. caulescens, I find, is also not a free offsetter., but I feel South African growers should comment on this species, as large, mature plants are very rare in Australia.

Another observation is in regard to growing from seed. In " The Bulbous Plants of Southern Africa" by du Plessis and Duncan, it is stated that " miniata and nobilis can be flowered in 3 - 4 years if well-grown." Certainly C. miniata and C. gardenii can be flowered in this time span. C. caulescens seems to be somewhat slower, perhaps 5 - 6 years. However, C. nobilis has proved to be one of the slowest plants to grow from seed that I have ever grown. I have grown all sorts of plants from seed, not only bulbs, but succulents, orchids, bromeliads, trees and shrubs etc.; so I feel qualified to state that nobilis is unbelievably slow. I have seedlings at least seven years old that appear to be many years from maturity. If they flower within another five years I will be surprised. If any of your South African members can tell me how to make them grow rapidly I would be very appreciative. Have any of your local members grown C. nobilis from seed? I would very much like to hear their experiences.

Young C. nobilis seedlings seem to only produce 1 or 2 new leaves per year, and the size of these leaves seems to increase very slowly. I have seedlings just over one year old with leaves about 4 cm long and only 7mm wide., while the seven year old plants have leaves about 12cm long and 12mm wide.

Bill Morris.

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Dear Nick,

On our visits to see caulescens in habitat at God's Window in November 1993, and there again and at Woodbush in 1994, we were all surprised at the low percentage of plants that were flowering, and the absence of ripe seed-heads.

The first remains a puzzle, but from the plants that Connie has in our garden (I do not own a single clivia as Connie annexes everyone that comes through the gate) I am satisfied that caulescens matures its seeds in 6-7 months, compared to the 11-12 months of miniata. Further, the flower stems are not seen for long after shedding of the seeds- a result of rapid rotting under the high rainfall conditions (3 000mm/a at God's Window) ?

The host of unanswered questions in respect of the genus remains a challenge for our members.

With best wishes
James Abel

*****

Dear Friends

Is winter a little late this year? My old bones are glad if it is, and after the cracking cold winter we had last year, perhaps we deserve a milder one. Yet what effect will it have on our beloved clivia? No doubt many of our dutiful members are ready with pen and pad to take copious notes on any phenomenon. But jokes aside, it is gratifying to see at last, a gradual trickle of observations on clivia seeping in. Perhaps when the trickle has become a flood, I would actually be able to edit something at last.

It was an absolute coincidence that Bill Morris sent in his little article about pollination at the same time as the beginners article. I had written and completed it with sketch and all, when Bill's letter came, and for the life of me I was not going to do it all again. Anyway, it is better to get another point of view. By the way, it is not at all difficult to clean these modern Japanese brushes, and I must confess to having put my finger onto many flowers over the years, for the purpose of pollination. Yet when I want to do a lot I prefer a brush. Chacun a son gout!

It would appear that Ken Smith sent in a collective payment for quite a few Australians, addressed to PO Box 6240, Westgate. This was returned to him by the Westgate Post Office. I am awaiting official comment on this

James Abel was the man who took the Clivia Club out of an envelope and put it on the showbench. He is an industrious, well-organised and generous person. Not for nothing is he our club chairman. James and Connie are well situated to give us some astute observations on clivia, and I certainly hope many more will be forthcoming.

Meg has carried her magnificent project a bit further, and I will be glad to see the further development at her house on a couple of months. I think she must have mistaken my blunt warnings about the magnitude of the task she was undertaking for scepticism. I wish her well.

I am glad Dirk Pretorius sent in the extract from one of Herwig's books. I have used Herwig's directions to raise many plants that were strange to me, and met with much success. I feel there is an error in the paragraph about propagation. I was tempted to correct it, but left it as it is. Surely it does not take a seed three years to germinate!

I must largely concur with Bill Morris with his observations on Clivia. Is that unusual Bill? I feel there are three types of offsets. Firstly, the one that comes high on the "stem", with no roots of its own. I have often cut these off and tried to grow roots in sand beds with root hormones and what have you. I have not succeeded yet. The second type develops on the "stem", but lower down in amongst the roots. This type is easily severed and grown up on its own. The third type develops some distance from the plant. This is the true rhizome, or underground stem. When I grow C.G. from seed, it always throw a few suckers before it flowers. My C.C. sucker profusely. My C.N. all sucker freely, and the miniata seems to vary according to type.

C.N. is very slow in cultivation. I once thought my seedlings were slow because they were selfed, but I brought seedlings up from an East London wild garden, and they are just as slow. I crossed, or attempted to cross C.N. x C.M. on several occasions. One batch of seedlings started off just as slowly as the straight C.N. seedlings, but suddenly, after three years some of them started to grow rapidly. The new leaves that were coming out looked like the miniata, whilst the original leaves were the little dark green straps with a pale green line up the middle. I am keen to see the flower when these bloom. The plants are now four years old, and may bloom in another two years time. Indeed, C.N. may well be very slow in the wild as well, we do not really know, do we?

I can thoroughly recommend to all our bulb-growing members a new publication that I picked up in the CNA the other day. The Australian Women's Weekly Garden Guides 'Bulbs for all climates'. A 128 page magazine type book, with thick glossy pages and deep coloured photographs that give a good idea of what the plant is like. This is very good value at R35.00 and exceeds some far more expensive publications in its scope and detail. It is written for the man in the street, or is it the woman in the garden (?) and in everyday language. Another point is that it is written in a Southern Hemisphere country, so the seasons are the same as ours. They also discuss the cultivation of difficult ones such as Tulips. A very good buy for bulb fans.

Nick Primich

..*..

CRINUM

A favourite Genus of the Amaryllidaceae family, and species are found just about everywhere except at the poles. Gibbs Russel et al lists twenty-one species for South Africa. I had collected them for about twenty years, and at one stage had sixteen. The average gardener will only see Crinum bulbispermum, C. buphanoides, C. campanulatum, C. macowanii, and C. moorei. There are a couple more species that should be grown in the garden, such as C. lugardiae. Others are difficult, and I was not able to unlock the methods whereby to flower them regularly.

C. graminicola is common in the veld all around Johannesburg, and I was able to transplant some specimens from a building site and get them to flower. The seed is very hard to raise, and Bruce Knight of Australia suggested to me that it was probably due to chemicals made by the parent plant that aided the young to grow near it. My experiments in growing seed next to the parent plant were interrupted by building operations. C. graminicola has a gorgeous umbel of flowers, and I have noted in one population, a variety of colours and forms. This would seem to be the norm rather than the unusual .

Our friend the amaryllis caterpillar is extremely fond of this genus, and I can safely say that it seems to prefer it to Clivia. I have on numerous occasions seen large armies of the caterpillar devastating local populations. They would even bore down into the bulb and eat it out. Crinum make a big roundish, fleshy seed, which can be germinated indoors. Indeed, it is probably safer as strange things seem to happen when you place them in a garden bed to grow unaided. However, they do seem to preform quite well if left beside the mother plant, and will soon grow up to a flowering size.

C. bulbispermum are prolific growers and once established will produce side bulbs in plenty. C. moorei are not far behind, whilst C. macowanii is a little slower to start, but it really has a lovely flower, and is worth persevering with. The Cape C. campanulata can be grown in a pot in the pond in summer, and taken out and kept dry in winter.

The hybrid C. x powelli, C. moorei x C. bulbispermum, is a vigorous grower, and on the highveld reaches four to five feet with ease. I have made other crosses, and although the plants are obviously different to their parents, they have not yet flowered. That is a pleasure yet to be enjoyed.

You must ask Adri Haxton about propagating C. x powelli. When I cleared the nursery school property of bulbs, the Witswatersrand Botanical Gardens fortunately took the remainder to save them from an ugly end. Amongst these were plus or minus a hundred C. x powelli. When they were dug out, there were one or two damaged bulbs that were discarded and thrown aside. The bulbs had been cut in half by a spade, and three or four months later you would not have believed it, but there were dozens of bulblets growing along the edges of the cut on both halves of the bulb. I gave the one portion to Adri, and she can confirm how many she actually raises from this one half bulb.

I am unable at this stage to confirm if this feat is successful with either or both parents of the cross, but will attempt a bit of cuttage next season, and let you know the result. A point of interest for those new to indigenous bulbs. When I first started to collect them and grow them either in my garden or in pots, it was common cause amongst the cognoscenti at that stage that the veld plants did not like good soil or fertiliser. I therefore starved my poor bulbs and mourned their demise along with the others at the time. However, the light of reason began to prevail, and good food and good soil was substituted for marginal subsistence means. The plants thanked me by flowering in greater quantities, and growing big and lush. We fell into the error of thinking they liked poor conditions because they can survive them.

Yet many of these plants require a sequence of wet and dry, and cold and warm for them to flower readily. Even in their native habitat they do not always flower. Many of their secrets have been winkled out by scientific methods. I can remember my mother, a keen gardener, telling me that if one took disas home, they would surely die. Yet now they can be grown from seed and hybridised at home with a little bit of contriving.

*****

ON THE COMPOST HEAP

You know, there are not enough of you pollinating your plants correctly. When you all get busy and have a surfeit of plants you won't take on so when I gobble a few up. So follow the good advice that you have been given and get pollinating like busy little bees!

It would also be a good thing to have a few crinum up front, so that a weary moth need not fly too far in the dark to deposit her brood. Some cyrtanthus and a few hippeastrum would not go astray either.

I'm considering leaving Roodepoort, and packing my bags for Parktown. Rumour has it that the air is starting to take on a better aroma. I will have to check this out, and then perhaps make a mothline for Johannesburg.

Our editor is convinced that each member has at least one good letter in him or her. I also think that if you really sat down and thought about it you could come up with something that the other members could benefit by. Perhaps a query that you would like answered, or you noticed something for which you did not have a ready explanation. Please keep your eyes peeled and sharpen your quills. That is what a penknife is for, not for biltong!

Lily Borer.

*****

Clivia
Club

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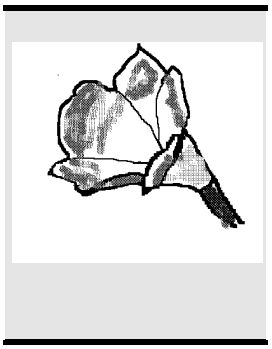

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HYBRID

Dear Nick,

The members can blame you for bringing up again the meaning of the word hybrid (newsletter vol 4 no.2, p11). After Bruce Knight's letter (newsletter vol 3 no.8, p3) I decided to let it rest. However, I think we should try to straighten it out. "Hybrid" is a technical term, and such terms are introduced so that communication can be on a firm basis. This means that the terms used should mean the same thing to everyone, and this means that every term should be accurately defined. Such terms are usually introduced to overcome some lack of definition or ambiguity in an earlier term.

This is the case with the word "hybrid". During most of the nineteenth century the word used for a cross between two species was a "mule". This was ambiguous as the name mule was the name of a specific animal, namely the offspring of a horse and an ass. As well, it carried the implication of sterility as mules are always sterile. Thus when extended to all crosses between species, many of which are not sterile (particularly in the plant kingdom) the term was inaccurate, so the word hybrid was substituted.

Another reason a special term was required was because the offspring of a cross between two species was usually distinct from either parent and couldn't be fitted into the botanical description of either parent species. For example in Clivia, the cross between C. miniata, and C. nobilis (called C. x cyrtanthiflora) is quite different from both parents and does not agree with the species description of either parent. This lack of fit is not just in one or two characteristics, but is in most characteristics. Thus a new word was needed to describe these offspring and a "mule" was used, to be later replaced by a "hybrid".

When crosses are made between plants belonging to the same species the parents usually only differ in a few characteristics so that both the parents and the offspring still fit the species description, and the offspring are not something new requiring a special term such as a "hybrid"

Now to return to the definition you, and Bruce Knight prefer: "a hybrid is a plant bred from parents with somewhat different genes". This unfortunately is not an accurate definition. It can mean different things to different people. How much difference is required between parents to produce a "hybrid"?

All individuals (either in plants or animals) have "different genes" which is why (in humans) none of us are exactly alike. Although many plants may look very similar, e.g.Clivias in the wild; detailed examination will usually show differences as will breeding experiments. For example yellow Clivia

results, showing that the plants have "somewhat different genes". So how do you decide how much difference is necessary to produce something quite new, i.e. a hybrid. The only definable difference I believe is a different species.

To conclude I would like to ask those who like the somewhat different genes definition to give some specific examples, say in C. miniata or any other C. species, of what particular characteristics are different enough to make the offspring of a cross sufficiently different from other seedlings of this species so as to be labelled by a special term i.e. "hybrids".

Crosses between plants of the same species produce only new cultivars, selected seedlings or new forms, not hybrids!

Bill Morris.

*****

Dear Bill,

Firstly, the word hybrid is not a technical term, but an everyday word of the English Language. The Shorter Oxford English Dictionary gives:

> (first printed use) 1601. offspring of a tame sow and a wild boar; hence, halfbreed.
> 1) The offspring of two animals or plants of different species, or (less strictly) varieties; mongrel, cross-bred, half-bred 1775.

"Aha," says Bill, " just what I"m trying to teach you thickheads! "Not so," say I, "Look at the given dates."

Dr. G.L. Osti, in "The New Plantsman" Vol. 1, part 4. Dec.1994 p195 asked at a meeting of noted botanist and horticulturists the following...

> when should a plant be considered a species, and when a sub-species or a variety. "A taxon is a species when an authoritive botanist says so" was the answer with a smile....

Thus arrogance substitutes for knowledge.

The O.J. Simpson trial has given the man-in-the-street an insight into the complexities of genetic identification, and this is the way the plants will be analyzed in the future. But back to the argument.

Chambers English Dictionary (1990) gives:

> An organism which is the offspring of a union between different races, species, genera, or varieties: .....

Longman Illustrated Dictionary of Botany (1984) gives:

> A plant which results from the cross-fertilisation of two different species, subspecies, varieties , strains.

Funk & Wagnall's (1958) gives:

> An animal or plant of mixed parentage.

Webster's Third International (1966) gives:

> ...species and varieties.

Just about any catalogue you look in offers "hybrids" in most popular kinds of flowers which we know are ex hort.

It is pointless to stand in the way of progress, even if you consider that progress retrogression. The word has obviously widened its scope over the years because the majority of people want it that way. But Bill is not without resource. One can always qualify, and perhaps one should always qualify the level of the hybridisation. Thus, I hybridised the two varieties to produce a third.

When it comes to accuracy of description, Bill will find himself hoist with his own petard. He cannot hope to have us apply standards to our descriptions that he is unwilling to apply to his own. The very term species is appallingly inaccurate in terms of scientific requirements, so how can anything related to it claim some spurious non-existent accuracy. All individuals have different genes? Are identical twins not supposed to share the same genotype? We are not after great accuracy, but merely wish to convey that additional genes have been tapped which were not available in the original gene pool. That is, look for new characteristics. New genes are added to the deme.

As to an example of what infraspecific hybridisation could offer, do we not have the yellow hybrids, which are all miniata as far as I know? Could we not breed a new group of long-stemmed hybrids, or apricot colours?

Nick Primich.

*****

CLIVIAS : QUESTIONS

This seems to me one of the most important reasons for having a club like ours. I wish to refer to Dirk Pretorius's letter (vol 4 No.3) in which he mentions Herwig's blunder about Natal : Nepal as a locality for clivia.

In a previous letter I mentioned finding Clivia miniata in the Zoutpansberg, while Jo Onderstal also mentions Barberton (the mountains near Barberton) as a locality for this clivia.

In the Red Data Book (Threatened Plants of Southern Africa, Hall De Winter et al, May 1980) all four species are classified as being **endemic** to **South** Africa.

Has anyone found clivia in the Chimanimani, Vumba, or Nyanga Mountains in Zimbabwe? I am planning a short holiday to this area, and will certainly keep an eye open for clivias.

The reason for these statements are the following few words which seem to overturn the Clivia applecart: "I was interested to see braces of Clivia plants in bloom, although I have been unable to discover what species they were..." (Dave Bristow in Getaway, p.36, second column, penultimate paragraph, April 1995.) He was on his way to one of the peaks of the mountains of the Moon (Clivia?), or the Ruwenzori Mountains in Uganda when he noticed these Clivias among Yellowwoods, and Rapanea (Cape Beech) trees, five Kilometres from the Kurt Shafer suspension bridge. Clivias in Uganda?

Can the Clivia Club "heavies" (chairman, secretary etc.) perhaps contact him and find out more about the form of the flower, colour(s), time of flowering, etc.? It seems we have very little knowledge of Clivias if they are still thought of as being endemic to RSA..

Come on now! Where are the members with their private jets and helicopters? We, the over fifties and overweights need you now.

Yours, Prof. A. Bester.

ps . *Please forgive me for my terrible left-handed scrawl. I have a computer, printer, the lot, but I hate all mechanical devices intensely, and my son is not here to type.*

..*..

Dear Nick,

Thanks for the chemical information. Since reading the paper by Christo Lötter,I have been searching for similar materials in The States. E.C. Geiger, wholesale distributor of horticultural materials in out area carries several formulations by a company called Bio Plus located in Texas. I am using their Greenhouse Nursery mix in conjunction with a fertiliser they also manufacture. I mix 3ml of the GNM and 3ml of the fertiliser in one gallon of water and foliar feed every two weeks. I have enclosed data sheets on two of their products.Both contain the growth factor in the Supranure. The Bio-Plus fertiliser, 10.4.3 is designed as a turf builder for golf courses, football fields, cemeteries etc..

Two weeks ago I went to a meeting of our local chapter of the American Gloxinia and Gesneriad Society where the talk was on "miracle" products. There was a discussion of foliar feeding, and quite a debate as to its efficacy. One individual who is an orchid grower and collector of plant exotica as well as the "Jewel leafed" gesneria, said that the American Orchid Society had run a number of tests and they were all inconclusive. I had Christo Lötter's paper with me and was prepared to contribute to the discussion, but I was not able to make any head way in the discussion. For reasons that are still unclear to me there was a spiritual-political split between what I term the "No Miracles Please, Just Hard Work" group of virtuous, industrious and well organized plant conservatives, and a more liberal and sanguine crowd who love to investigate all phenomena for the benefit of their plants. Well, be careful what and how you feed your plants, you might sin against Mother Nature by treating your plants in a way She never intended. Plants are more plastic than we imagine and can respond to opportunities they never encountered in Eden on their own before the "Nomenclature". It's somewhat similar to the division in rhododendrons between those that believe that no amount of hybridizing will ever improve on the hundred of species that have come about through natural selection and who humbly accept the limitations of this bounty, and those who want rhododendrons for the less hospitable regions of the world.

I had been constantly afraid to overfeed my plants, but talking to nurserymen and growers whose plants I admire, I find they calculate very carefully the fertilizer load of their crops. Some of course respond more rapidly than others to generous nourishment. However, I am now convinced that I was starving my plants. The clivias in particular are more exuberant in their growth and green and forming more roots. They look healthy and there is no distorted growth or weakness in the foliage.

A friend of mine who specializes in caudiciform plants and raises them in a cold green house in northern Pennsylvania (its a cold greenhouse) also raises a few clivia and has generously taken on a few of my clivia seedlings to see how his methods compare to mine. All his plants including the clivias are put into Ball mix No.2 which is a soilless mix containing mostly bark and a little vermiculite. All his plants are watered regularly leaf and root with a 20-20-20 fertilizer. He does not believe that you can over fertilize if the drainage is perfect and the plants are flushed regularly, and his plants are extraordinary. During the winter they may only go three or four days without water and they always come into bloom. So I would now say that bud formation does not depend on drought conditions at all, but must be dependent on diet or temperature or both. I add to this a recent conversation with the man from whom I purchased my first clivia. He is a horticulture professional. His family has been in the plant business 102 years (they raise mostly tropicals and specialize in begonias). He said that he had dissected many clivias and found the buds to be forming in the summer months. So the real question is what circumstances tell the nascent bud to emerge. I feel only a little obsessive about this.

I have been corresponding regularly with Gene Calkins. He is a paradigm of enthusiasm. He's send me the names, addresses and telephone numbers of several clivia growers and fanciers in his region of the country. As soon as I can wind up some business, I will begin contacting them to see what they have to offer, and if they may be inclined to share the history of their efforts with the Club. I wish I could travel and meet them, however, business still keeps me close to the Eastern Seaboard.

I have also been writing to Pen Henry. She has been doing some intriguing work crossing CM with CN and Cyrtanthiflora as well as CM "Aureas" More later.

Yours, Colman Rutkin

..*..

NATAL - THE GARDEN PROVINCE - REVISITED (VOL.3 NO.6)

A cool but fine Saturday morning 3rd June was the occasion of the first Clivia Club function in Natal at the home of Mr & Mrs Maxwell at Hilton. The meeting was attended by about 35 people. Des Andersson welcomed all including a strong contingent from Gauteng comprising our Chairman James and Connie Abel,his wife; Toy Jennings, Wessel Lötter, Koos & Fransie Geldenhuys, Adri Haxton and Lien Joubert. Geoff Nicholls of the Durban Botanic Gardens gave a most interesting talk on Clivias both in the wild and in cultivation. He told us that many types of indigenous plants, particularly the bulb type (including Clivias) and trees are being harvested for the preparation of traditional medicine and potions. Any visitor to the informal market area in Warwick Avenue in Durban can witness the alarming extent to which this practice has been developed. He said an investigation by a competent body, such as the Botany Department of one of the Universities, into whether the four types of Clivia were either one species, or four species, would be welcomed. A DNA test would solve the riddle. An investigation is presently under way by an organic chemist to identify the chemicals and drugs that are used by the African herbalists in traditional medicines and are known to be effective.

James Abel noted that the Transvaal members had joined the meeting with a view to giving impetus to a new membership drive and also to see C. gardenii in its flowering phase. Wessel Lötter gave hints on the planting and germination of seed. He said hybridisation is the process which gives the grower many surprises especially when the process is continued for several generations. He did not discount the possibility of white flowers being produced by selective pollination. Plant sale tables allowed enthusiasts to increase their plant colour range and varieties. James thanked Bobbie Maxwell for her kind gesture in providing a venue and facilities for the club's first Natal meeting.

After a delicious lunch provided by Hilton Hospice, a trip was made to Fern Valley Botanic Garden, the private home of Mr & Mrs Leslie Riggal which has an immaculately laid out garden of exotic and indigenous trees and plants. Of special interest were the clivias, both C. gardenii and C. miniata. One C. gardenii exhibited very pale yellow flowers.

On Sunday morning a trip to the Pietermaritzburg Natal Botanical Garden was made to view C. gardenii followed by a visit to Mrs Watkins' garden. This brought to an end a most interesting excursion to the Natal Midlands.

Des Andersson

..*..

STANDARDS FOR SHOWING CLIVIAS: Wessel Lötter

1 Plants must be healthy and well cared for especially in the broad leafed and variegated varieties where the condition of the leaves is important.

2 Peduncle must be sturdy and long to present the flower properly.

3 In Miniata the umbel must be large and at least three quarters of the flowers must be open and in good condition.

4 The umbel of Miniata must be as full as possible without showing 'louvres' or 'windows'. Flowers must be wide open and the sepals broad enough to cover open spaces between them.

5 The flowers must be substantial and the colour pure and brilliant. Washed out colours and yellows showing traces of pink, orange or red are not desirable.

6 The broad leafed varieties are judged on the width of the leaf as well as the flowers. The plant with the broadest leaves and the best quality of flowers will therefore gain the most points.

7 Variegated plants are judged on the percentage of yellow/white striations and on symmetry. Plants need not be in flower but if they are and if the flower are of good quality, they can also be entered in the appropriate class for that flower.

8 Pendulous species are judged on the number of flowers in the umbel, their neatness and acccording to the brilliance of their colour. Flowers need not be open but must be fully developed.

9 Hybrid clivia must be a cross between miniata and any of the pendulous species. Flowers must show characteristics of both parents. The form, colour, number of flowers in the umbel and their neatness are taken into account. Erect, open miniata-like flowers are not considered under this category.

10 The 'most unusual plant' category includes varieties such as sepals reduced to filaments or transformed into green bracts, multi-petalled flowers, more than one umbel on the same peduncle, pleated or spirally twisted leaves etc.

11 The 'best presentation' category refers to presentation and decoration as with rockery stones, driftwood, other ornamental plants, moss or any other appropriate medium.

*****

FORTHCOMING EVENTS

26 and 27 August MINIATA WEEKEND IN NATAL

(PLEASE NOTE DATE CHANGE): Enquiries are to be directed to Des Andersson, telephone 0331 - 471407 or Sean Chubb, telephone 0325 - 81978.

Time: 14:00 Meet at the Pietermaritzburg Botanical Gardens

SEPTEMBER 1995

9 September **CLIVIA SHOW (Pretoria Botanical Gardens)**

06:30 - 08:00	Accepting plants for show
06:30 - 16:00	Accepting seeds and plants to be sold
08:00 - 09:00	Judging plants
08:00 - 16:00	Show open to public, sales, talks and demonstrations
11:30	A.G.M.
16:00	Plants may be removed
19:30	**CLIVIA DINNER**

10 September **VISITS TO CLIVIA GARDENS** in Pretoria

09:00 Meet at Glen Fair parking ground (off Lynwood Road)

12:30 for 13:00 **CLIVIA BRAAI** at the home of James and Connie Abel, 89 Brampton Road, Lynnwood Manor, Pretoria.

OCTOBER 1995

7 and 8 October **NOBILIS WEEKEND IN THE EASTERN PROVINCE**

Coordinator: Charl Malan

W 0461 - 29112 or H 0461 - 311086

21 October **OPEN MEETING**

14:30 At the Abel's home

SHOW NEWS

QUESTIONNAIRES

Members who will attend the show should return their questionnaires as soon as possible.

ACCOMMODATION FOR THE SHOW

Those requiring accommodation should make their own arrangements. Prices for various types of accommodation are available from Rikita Gastehuise at telephone 012 - 8038833.

PLANTS AND SEEDS FOR SALE

Seeds for sale must sealed in plastic packets or containers (Transparent). Quantities & types should be clearly stated.

Seedlings must be packed and marked in the quantities to be sold e.g. 1 per packet, 5 per packet or 10 per packet.

Plants can be sold loose or potted in plastic bags or pots.

All plants and seeds for sale must be clearly marked with the seller's name. The seeds and/or plants must also be clearly marked with their prices with a tear-off tag which will be removed at the till. A duplicate list must accompany seeds and plants for sale. **15% of all sales will be retained by the club.**

DINNER ON 9TH SEPTEMBER

The clivia dinner will be held at a restaurant east of Pretoria (a la carte menu). Please return the questionnaire before the beginning of September so that numbers can be established.

BRAAI ON 10TH SEPTEMBER

The braai at the Abel residence will cost R25 per person. Anyone wishing to attend should send a deposit of R15 before 1 September to the club secretary.

PHOTOGRAPHS

Photographs of show events and clivia exhibited at the show will be available for purchase after the show.
This is also a reminder for clivia enthusiasts to take photographs of clivia for the 1995 or 1996 Clivia Show photographic competition as clivia will be in flower soon.

..*..

CLIVIA NOBILIS SEED FOR SALE

One thousand C. nobilis seed are available from their natural habitat in the Eastern Province at R1.20 per seed. Postage and packing extra. Please send requests to the Clivia Club secretary.

CLIVIA SEED WANTED

If Anyone has clivia seed either as a donation or for sale please send it to the Clivia Club, P.O. Box 74868, Lynwood Ridge, 0040 South Africa. There are many requests both from club members and members of the public for seeds, and these can be sent to those who want it by the club secretary.

REQUESTS FOR CLIVIA SEEDS AND PLANTS

Members wanting clivia seeds or plants must specify species, colours, and quantities required. The price of yellow clivia seed has varied from R4,50 to R8.00 depending on the seller.

..*..

PERSONALITY PARADE

Margaret Richardson (Meg) was born in Kimberley in 1941 and spent her childhood in the Transvaal. She matriculated at Wykeham School and read Zoology and Botany at Rhodes University. From Rhodes she trained as a nurse at Grey's where she and Connie van Niekerk (now Abel) were students together.

At Rhodes she met Graeme Hart whom she married in 1964 after completing her nursing training. Meg continued nursing in Johannesburg at the Queen Victoria Maternity Hospital and at the Johannesburg Hospital where she was senior matron for ten years. During this period she qualified in nursing education, nursing administration and community health nursing, and completed a bachelor's degree. She has been a lecturer in the Department of Nursing Science at the University of South Africa in Pretoria for the past ten years and has recently finished a Master of Science in nursing at the Medical School of the University of the Witwatersrand.

Her interest in clivias started when Graeme's mother, Hilda Hart from Howick, a very keen gardener, gave her her first few clivias in the 1970s. Hilda had found a cream clivia, possibly from the Karkloof, and the initial plant given to Meg was an offshoot from this one. Hilda passed away in 1988 and when the Howick house was sold, she and Graeme went down to dispose of the furniture and to collect odd plants from the garden, among them the cream clivia. However, someone had got there first!

About four year's ago Meg's interest in clivias was rekindled when she visited Margo McNeil at Ofcolaco in search of a genuine yellow clivia. She didn't find the yellow clivia but she saw the magnificent terraces of clivias there, the legacy of Gordon McNeil, in full flower, and this decided her to terrace the area above her house on the Parktown Ridge. In late 1993 she joined the Clivia Club and is now an avid enthusiast. She understudies Nick Primich as editor, to take over when he retires from the rigors of editorial work.

Meg's passion is gardening, for which she never has enough time. Her other interests are showing and breeding Jack Russells, hiking in remote and faraway places
(recently the Austrian Alps) and collecting Royal Doulton figurines and South African First Day Covers.

Meg and Graeme have two sons and a daughter (the heir, the spare and the afterthought). Graeme is better known as the weatherman on National Television and teaches at the University of the Witwatersrand.

..*..

EDITORIAL

This will probably be the last editorial I write for you. However, as long as I'm able I will always write the odd article or two to stir things up a bit. Clivia have got into my blood and will not easily come out.

Our Personality of this issue is fittingly Meg Hart, who will be compiling the newsletter from now on. Meg is no stranger to writing and has technical manuals to her credit. I will give her all the help she needs from me, and I hope you will all help her by getting your rusty pens out of hock and writing

in a letter or two. We need some friendly newsy letters as well as the more technical ones. Not all of our members delight in botanical and horticultural expertise.

Prof. Bester weighs in with another letter. As we have no Club Secretary, and our Chairman is away, I got the Club lightweight, myself, to approach Dave Bristow instead. I am engaged in correspondence with him and will let you know the result when I get it.

I attended the open meeting at Meg's house on 22.07.95. The attendance was fair, but I am sure that those of you who do not come would be pleasantly surprised, and better informed if you did turn up. I was able to show an example of Mr. Nakamura's hybridising (Bill Morris's kind). This was CMx CG which had an umbel of fourteen flowers horizontally disposed about a tall peduncle. The perianth segments were 60-65mm, and flared gently to about 23mm diameter. The buds started off with heavy green coloration, which gave way gradually to the orange (32B on the RHS chart). I also had an example of my own of the same cross. This had a much shorter stem, 300mm as against 430mm of Mr. Nakamura's plant (this was measured from the surface soil of the pot). These flowers were 40mm long and flared out more rapidly to about 27mm. The colour was 31B. I preferred the Nakamura plant, but I heard others say they preferred mine. I faulted mine severely for its short flower stem.

At this same meeting Wessel Lötter gave a talk on pollinating flowers. He had some good tips for the experienced as well as the beginner. He used a yellow that Meg had flowering as a guinea pig. This yellow is supposed to be self-sterile, but it had a good fragrance. Wessel then went on to talk about the effects of pollinating and brought up the subject of cytoplasmic inheritance. He was wondering if this was not responsible for the odd behaviour of certain yellows when a YxY cross gives red progeny. I found this very interesting and later went to the library and read up further on this subject. I did not find any evidence to support Wessels theory, but I did find that this is what caused or controlled variegation in some plants. Two monocots cited were Maize and Lilium. It would seem reasonable to think that Clivia could also follow this pattern. I will go further into it and perhaps make up an article later on. Do any of you out there know anything about it? Let us know if you do.

Our good friend Colman Rutkin keeps us in touch with the USA. We could do with a few more like him in various outposts of the world. Bill Morris is always a hive of industry. He writes out by hand

all his correspondence. I long ago had to give up this luxury, as I could no longer read my own writing, never mind expecting others to read it.

Wessel has given his guidelines for what he will be looking for on the coming show. I can't say that I agree one hundred percent with him, for instance 5: why rule out yellows that are suffused with red? There is a class for yellows where no other colour is acceptable, but what about the "other colour" class? We have new crosses coming with apricot blends, certainly not pure colours, but to me very lovely. 6: are we now going to try to breed plants with circular leaves? 9: why rule out a cross between two pendulous types? Have we seen all the possibilities that we can discard them like that? I have previously asked for members to comment on standards and style. You need to speak up if you have ideas that are different or if you do not agree with something. We are supposed to be a democratic club, and the voices should be heard. Overall I can't really complain, and I suppose that experience will teach us to iron out the wrinkles.
There is a lot of mention of "The Club Secretary" in the Club notices. If one has been appointed the committee should let us know. If one has not been appointed the notices should be amended.

Greetings

Nick Primich.

..*..

BEGINNER'S LUCK

Now you want to put your best clivia on the show. Well, give it a chance. Unless you give it a good presentation, you will lose points right away. A judge can be as impartial as he or she likes, but when you see a plant in a dirty untidy pot, with dusty unkempt leaves and a messy soil surface.... what can you do?

Clean your leaves up. There are preparations on the market, but soap is as good as any. Put your pot into one of those fancy pots that is a close fit. There are plenty available in the supermarkets and nurseries. Make sure the surface soil is neat. Put on a layer of fresh compost, or pebbles, but do not bring the pot with all sorts of garbage floating around in it. On the morning of the show trim any diseased or dead patches from the leaves. Better a cut leaf than one with dried and twisted bits on it. Then..Good Luck!

..*..

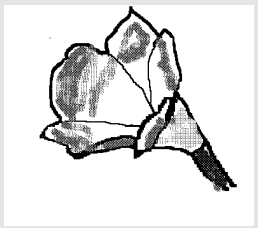
ON THE COMPOST HEAP

Have you ever sat down to supper and found a big lump of dust on your Plate? Have you ever started to eat at your snack and then found that a bird had been rather casual with his deposit? Indeed! And what was your reaction? No! No! No! Clean up the mess and let both the judge and me devour the beautiful clivia in sanitary conditions.

Lily Borer

Clivia
Club

PO Box 74868 Lynnwood Ridge 0040 South Africa



US$10.00 p.a. overseas R20.00 p.a. RSA

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CLIVIA CLUB COMMITTEE MEMBERS

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Secretary (communications)	Toy Jennings PO BOX 74868, Lynnwood Ridge 0040	012 9910843
Secretary (membership)	Adri Haxton PO Box 977, Gallo Manor 2052	011 8027985
Treasurer	Koos Geldenhuys PO Box 11277, Queenswood 0121	012 3339548
Show Organiser	Frikkie Potgieter 324 Fred Nicholson St, Mayville 0084	012 3354590
Editor	Meg Hart 70 The Valley Road, Parktown, Jhb. 2193	011 6469392

EDITORIAL

Much of this newsletter revolves around visits to indigenous clivia areas in Natal and the Eastern Province and clivia shows in South Africa. The prizewinners at the show are listed and the Chairman's Report and results of the Annual General Meeting which was held at the Clivia Club Show in September are also featured.

Bill Morris has given much food for thought on terms used for judging and there will no doubt be changes to the wording of some standards for future shows as a result of his comments. He will also have us all measuring the length and breadth (width) of clivia leaves. According to correspondence from John Roper there was an excellent clivia show in Sydney and we hope to hear more about it.

Graham Duncan and others state that the genus *Clivia* is endemic to South Africa. However, in the report on the KwaZulu Natal Clivia Club show and visits, mention is made of clivia growing "naturally" in Kenya and in the last newsletter (Volume 4 Number 4) Professor Bester mentioned a report about clivia having been seen in Uganda. As no clivia appear to have been found north of the Soutpansberg mountains in South Africa, it seems unlikely that these are clivia. If indeed they are clivia, is it not likely they could have been introduced by colonists who originally obtained them from South Africa?

As usual, Yoshikazu Nakamura appears to be ahead in his quest for exciting new varieties of clivia. Graham Duncan's article on clivia also raises great possibilities of better yellows in South Africa and he is joined by Christo Lötter in his quest for superior specimens.

Colman Rutkin in the USA has news of a clivia culture handbook in Japanese. Nick Primich also has one of these. I am sure that there are many Clivia Club members who would be interested in a copy when he has had it translated. Perhaps an appropriate charge would help defray the cost of translating it. Seeing that *Clivia* are endemic to South Africa, why do we wait for others to produce one first?

Rosan Jansen van Vuuren (nee Lötter) features in our Personality Parade in this issue. She has already shared some of her botanical talents with members and we look forward to hearing more from her. Our deepest sympathies go to the Lötter family on the death of Wessel Lötter's wife, Maryna (mother of Rosan and Rudo) who died suddenly the week after the Pretoria show.

Many letters have been received but space does not permit publication of all in this issue. Thank you for all the contributions - I hope they will be in the next newsletter. Some club members have submitted interesting articles on clivias which have appeared in scientific journals or books and these will be published once permission has been received from the authors.

As a result of the shows many new members have been recruited. We wish you all a warm welcome and good luck with your clivias. We hope to see you at our meetings and excursions. The names and addresses of new members have been included in the list of all the paid-up members for 1995 rather than publishing them separately in this issue. This will be the last time that members will be sent a separate address list. From next year address lists will be available from the Clivia Club at an extra cost of R10,00.

A renewal notice for the 1996 membership fees is enclosed. Although it was recommended in the Chairman's report that the subscriptions for local members be increased to R30,00, they are to remain at R20,00. Overseas members may send a bank draft (not cash) of US $10,00 or its equivalent in any currency.

Meg Hart

..*..

CHAIRMAN'S REPORT

The 1994 first ever show was successful in nearly all respects, except that we were so overwhelmed by the support of members and the public that plants were sold out early. Shortfalls in administrative controls were also shown up. However, many lessons were learnt, and we trust that the 1995 show will be even better. The hospitality of the Pretoria National Botanical Gardens is greatly appreciated.

The anchor of the club, namely the Newsletter, continued to have a varied and interesting content and overseas contributions were particularly welcome. As always, articles or snippets of information from more members are requested. Every member is able to learn from the experiences of others, and it is rewarding for those who write in to feel that they have contributed to their fellow's enjoyment.

Habitat tours were successfully arranged for all four species. The numbers attending were sometimes small but those present were rewarded. Immediately after the 1994 Clivia Show, Nick Primich and overseas members visited the Eastern Cape to see *C. nobilis*. In November a visit was made to view *C. caulescens* on the Eastern Escarpment, followed by visits in 1995 to see *C. gardenii* and *C. miniata* in Natal. Reports on these trips appear in the newsletters, and I hope that many more members, `indigenous' and `exotic', will be able to enjoy them.

Meetings have taken a new format, being held quarterly with a late morning meeting followed by an afternoon general meeting, at which experienced members have talked on matters of topical interest (multiplication, potting, pollination, etc). We are delighted that during the *C. miniata* tour a local branch was formed in Natal, and from now on the original one will become the Gauteng branch. We have not made much progress on botanical aspects, and look forward to contributions from those members with a specialist background.

I regret that I have been an arms-length chairman, spending most of my time in Zimbabwe on business (which will persist during most of 1996). Also regrettably, three of our founder committee members resigned early in the year. However, a number of people were co-opted onto the committee and made splendid contributions for which my grateful thanks. They include Toy Jennings (communications secretary), Adri Haxton (membership secretary, who is currently not well but to whom we all wish speedy progress), Koos Geldenhuys (treasurer), Frikkie Potgieter (show organiser), Wessel (judging) and Rudo Lötter, Rosan van Vuuren and Connie Abel. Nick Primich has again served the Club well with the editing of the newsletter, but has decided to step down and we wish Meg Hart well on her assumption of that responsibility.

Everything we do should be managed dynamically, including the constitution, and we propose that the elected membership of the committee should be increased to six, namely: chairman, editor, secretaries: members & correspondence, treasurer & show organiser. Other members will be coopted as appropriate, and we also propose that the subscriptions for 1996 be R10,00 entrance, R30,00 SA and US $10,00 overseas.

May your collections thrive and your club participation be rewarding.
James Abel 6 September 1995

..*..

CHAIRMAN'S COMMENTS FOLLOWING THE ANNUAL GENERAL MEETING

After some discussion of the Chairman's report at the Annual General Meeting, including ways of making the club and its activities more attractive to members, there was discussion on ways of making progress in the botanical understanding of our genus. A subcommittee was formed comprising Joan Vercuil (co-ordinator), Kathy Cohen, Saartjie Kidson and Henrietta Stroh, and two of our young members who

have studied in this field, Rudo Lötter and Rosan van Vuuren, and our National Botanical Garden's hostess Louisa Liebenberg.

Koos Geldenhuys presented his financial report, showing that we should have accumulated funds of nearly R20 000,00 by the end of 1995. This permits us to keep our dues at R20,00 SA and US $10,00 overseas, and will also allow us to channel funds into research under the guidance of the new subcommittee.

The growth of the Clivia Club and the formation of clubs in other provinces means that changes will, in due course, have to be made to our organisation.

The following committee members were elected unanimously: chairman - James Abel, editor - Meg Hart, treasurer - Koos Geldenhuys, show organiser - Frikkie Potgieter, secretary (communications) - Toy Jennings, secretary (membership) - Adri Haxton.

The show was very successful and well run by Frikkie and all his helpers. Many thanks.

James Abel 10 September 1995

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CLIVIA ACTIVITIES IN SOUTH AFRICA

KwaZulu Natal Clivia Club Show and Visits **26 & 27 August 1995**

On Saturday afternoon 26th August 1995 a mini show of *Clivia miniata* was held in the Natal Botanical Gardens, Pietermaritzburg, with the kind permission of the curator, Mr Brian Tarr. The colourful display of plants in flower was viewed by more than 50 people, many of whom expressed surprise at the variety of blooms and the range of colours. Mr Tarr gave a most informative talk on clivias, the areas where they have been located together with types of habitat. Different localities where *C. miniata* var. *citrina* were originally found were mentioned and their physical variations were pointed out from plants on show. It was noted that *Clivia miniata* is also known to be growing naturally in Kenya. Mr Sean Chubb discussed techniques of pollination, seed harvesting and preparation for sowing. His preference is a mix of coarse river sand mixed with commercially prepared potting soil.

At the conclusion of the meeting Des Andersson invited all those interested in clivias to join the Clivia Club. It was explained to those present (from as far afield as Tongaat, Mooiriver, Wartburg and Kloof) that it was the wish of the club chairman, Mr James Abel, that a Natal branch of the club be formed. This was agreed to and Messrs Chubb (chairman) B Tarr and D Andersson became the first committee of the Clivia Club in KwaZulu Natal.

On Sunday morning, 27 August 1995, a visit was made to the farm of Mr and Mrs T Antel at Baynesfield where a most enjoyable tea was served. Sadly, due to the lateness of spring rains, the clivia blooms were only starting to emerge but they should prove a wonderful sight in September. The tour concluded with visits to the farm `Glenn App' and a viewing of Sean Chubb's plants and nursery on `Thurlow Farm'.

Des Andersson, Pietermaritzburg.

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Clivia Club Show at the Pretoria National Botanical Gardens
9 & 10 September 1995

The day started very early for the committee members and clivia enthusiasts as plants had to be at the Pretoria National Botanical Gardens at 06:30 and stalls were then set up for displays and sales. Members of the public were admitted at 08:00 and from then onwards till 16:00 there was a steady stream of visitors to the show. Clivia Club members came from as far afield as the Western Cape, the Free State, Kwazulu Natal, Northern Province and Mpumalanga (previously the Eastern Transvaal). Just under a thousand visitors attended and the takings from sales amounted to almost R55 000,00 (15 % of which will go to the Clivia Club).

There were a wide variety of spectacular *Clivia miniata* and hybrids on show. A Belgium hybrid won the prize for the best clivia. It had characteristically broad leaves and deep orange flowers with large petals on a perfectly circular umbel. Apart from the many beautiful plants on show, there were stalls demonstrating the various species, plants at different stages in their life cycle, demonstrations on transplanting and a photographic exhibition of clivias. Clivia Club committee members were besieged with questions about clivia and the interest shown was reflected in the number of new members who joined the club. Toy Jennings and helpers worked hard all day attending to new members and selling back copies of the newsletter, seeds and T-shirts. Their stall brought in almost R10 000,00.

There were others who were of great assistance at the show. Louisa Liebenberg, the Scientific Liaison Officer of the Pretoria National Botanical Gardens, was at the venue all day. Amongst other things, she ensured that the venues were arranged (the area for the show and the hall for the AGM), that there were tables and pegboards for the photographs and saw to the needs of the public as well. Horticultural students from the Pretoria Technikon helped organise the show area by erecting tarpaulins to provide shade, putting up trestle tables for plants, assisting at stalls and carrying plants to cars for customers (the venue was a fair distance from the car park). They also assisted with ticket sales and general security. Other helpers included family members and gardeners who assisted whenever and wherever required.

The Annual General Meeting was held at 11:00. The chairman and treasurer gave their reports and the new committee was elected. There is a problem having the AGM at the same time as the show because of the difficulty of leaving the stalls with the public still viewing and buying plants. However most members are present on show day, especially from other provinces, and this makes other arrangements difficult.

The dinner on Saturday evening at the Farm Inn in Pretoria was attended by very few Clivia Club members. Most were too tired to come after being up at the crack of dawn and manning stalls or being occupied with other activities at the show. The tables were decorated with huge vases of cut clivias which some felt was somewhat sacrilegious.

On the Sunday following the show visits were arranged to three gardens in Pretoria. The first was to the home of Dr and Mrs Pansegrauw whose huge collection of Clivias began from six plants which were acquired some twenty five years ago. There were hundreds of *Clivia* in flower, many plants with numerous heads, and the whole effect was quite dazzling. The next visit was at one of the gardens visited last year, that of Joe and Ronnie Pretorius. They have many thriving *C. miniata* var. *citrina* and Belgium hybrids which were in flower. They follow the nutrition programme suggested by Mr G Reyneke at the 1994 Clivia Club talks and believe that their good results are due to this regimen. The third visit was to the beautifully laid out and well kept garden of Dr and Mrs Lombard. Mrs Lombard has her own clivia nursery with healthy plants all grown from her own seeds. These gardens were inspiring and we thank the owners for giving us the opportunity of viewing them.

The day ended with a braai (barbeque) at the Abel's home which was well attended. The catering was done by parents of children at TIQWA School (for disabled children). This was excellent and we thank them for their efforts and attention to detail.

The success of the weekend was in no small part due to Frikkie Potgieter and other members who helped and planned everything down to the last detail. Although only the second show in this area, most agreed that it had far exceeded its objectives and was even more successful than that held last year. As always, there were a few unforseen problems, and we hope that these will also be ironed out at future shows.

Meg Hart
Johannesburg.

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Nobilis Weekend **7 & 8 October 1995**

On 6 October 1995 the club chairman, James Abel, and his wife Connie arrived in Grahamstown for the start of the *Clivia nobilis* weekend.

We met at Waterloo Farm, the home of fellow club member, Mary Lynne Lubke and discussed the itinerary and clivia in general. Our first visit was on Saturday, 7 October when we travelled to the coast and visited a local farmer. We were guided to a valley on his farm where *C.nobilis* grows prolifically under a riverine forest canopy. Flowering was not as good as during the Hammett/Nakamura visit in September 1994, with only about 10 % of the population in flower. All the plants here occur on the southern slope of the valley and outstanding characteristics include:

- A leaf length in some plants of up to 1 metre
- A very pale flowers with a virtual absence of green tips
- A relatively little "clumping"
- A a very good age mix, indicating a healthy population

We thanked our host and proceeded to our second site near the ocean which is within 2 km of the farm. Here we visited a *C.nobilis* population growing in coastal dune forest with a much lower canopy. Of note were the large, well developed umbels and good seed production. This population grows on a north facing slope. We proceeded to Port Alfred where we lunched at the Royal Alfred Marina.

On Sunday, 8 October 1995 we left early to visit a *C. nobilis* population which is on Grahamstown municipal commonage. The country here is very rugged and not readily accessible to the general public. The *C. nobilis* population is small, on a north facing slope under an indigenous forest canopy of ∀ 7 metres. The only flower present had been severed from the peduncle and no seed production was evident. Most plants were relatively young with only one notable clump.

I would like to thank James and Connie Abel who travelled from Harare and Mary Lynne Lubke for hosting them and assisting with arrangements. I would also like to thank the Abels for sharing their wealth of clivia knowledge with other enthusiasts in Grahamstown.

Charl Malan
Grahamstown

P.S. I will be collecting my *C. nobilis* seed during November and will then make some available for sale to Club members.

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CORRESPONDENCE

Judging Standards

Dear Meg

I have just received the latest newsletter (vol 4 no 4) and there seems to be a lot to comment on but I thought I would start with Wessel Lötter's judging standards. I agree overall with most of it but have a couple of misgivings.

First I would strongly suggest that the word "must" in nearly all sections be replaced by "should". If the plants "must" have all these characteristics there will be very few plants suitable for exhibition. Also quite likely many exhibitors will be frightened off putting their plants forward.

What is meant by the flowers being "wide open" as most "developed" strains have open, bell-shaped flowers? I find truly "wide open" flowers, that is, flat across the face or even recurring, quite rare (but very desirable).

I agree with Nick about section 5. I think some of the most beautiful flowers are not "pure and brilliant" colours. Colour is very subjective but I don't think unusual colours should be excluded. Yellow with an orange overlay or yellow with orange tips would make me think I had won the lottery! Perhaps separate colour classes including "uncommon"?

In section 7 I don't think symmetry is everything. In most variegated clivias any sort of symmetry is very rare. What is important is that the variegation is clear, clearly contrasting and not wide enough to make problems with even growth or make the plant very unsymmetrical.

I am of course pleased to see that a "hybrid" clivia must be (not should be, in this case) a cross between two (or more) species as without a firm definition anything could be exhibited under that name. However, as it is stated, the definition only covers first generation hybrids e.g. *miniata* x gardenii, *miniata* x *nobilis*, *miniata* x *caulescens*. What about (*miniata* x *gardenii*) x *gardenii* or (*miniata* x *gardenii*) x *miniata*? I have seedlings of both which I am impatiently waiting to flower. Also, what about *nobilis* x *gardenii*?

I suggest a hybrid clivia should be "a plant with more than one species in its ancestry and which doesn't conform to *miniata* or other species in general appearance". This is necessary to exclude a primary hybrid, back crossed to *miniata* one or more times so that the progeny just looks like *miniata*.

This is of course in keeping with what I referred to in my previous letter (vol 4 no 4), that a hybrid is something new which doesn't conform to the description of either parent.

Yours sincerely

Bill Morris, Medowie, NSW, Australia.

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How Wide is Wide?

After reading Wessel Lötter's section on clivia judging standards, section 6, referring to "broad leaved varieties" it set me to thinking.

I have received seeds from various people at different times which were described as having wide leaves. Although "broad" is usually accepted as having the same meaning as "wide" we usually measure the "width" rather than the "breadth" of a leaf. I will mention this difference again later.

I thought I knew what a wide leaved clivia was until this year. Taking a wild or unimproved clivia leaf being about 2" (5 cm) wide I considered 22" - 2:" (6.5 - 7 cm approx.) to be a wide leaved variety. I would like to hear from South African members if my figures for the wild forms are correct.

This year, some of Nakamura's Japanese forms started to produce "wide" leaves that were 3" (7.5 cm) wide.

Also, rather suddenly, wide leaved clivias suddenly appeared in some of our nurseries. Some of these were wider leaved than anything I had seen previously, most producing leaves 3" - 32" (7.5 - 8.3 cm) wide whilst the largest leaf I measured was 4" (10 cm) wide.

Now when I looked at these plants it was apparent they looked much broader to my eye than the measurements suggested and I realised that it was not the width alone that was impressing me. These new (to me) wide leaved plants had considerably shorter leaves than the wild forms or the "wide leaved" plants that I was used to. Thus because the leaves are considerably shorter and twice as wide they appear very much "broader". Thus it is the ratio of the length of the leaf to its width (as well as the simple width dimension) that makes these plants appear to have so much broader leaves.

Measuring the length as well as the width of these leaves gave figures of about 12.5 for the ratio for the wild form, about 10 for my old "wide leaf" forms and 5 or less for the new wide, short leaf types. (The 4" wide leaf plant gave a figure of 4 for this ratio).

Now what I really want to suggest is that we must take measurements before we can decide what we mean by "wide". A preliminary suggestion is as follows:

"Wide" means a leaf 22" - 3" wide (say 6 - 7.5 cm)
"Very wide" means a leaf 3" - 32" wide (say 7.5 - 8.5 cm)
"Exceptionally wide" means a leaf more than 32" wide (more than 8.5 cm)
A "broad leaf" means a leaf with a length/width ratio 10 or less
A "very broad leaf" means a leaf with a length/width ratio of 7 or less
An "exceptionally broad leaf" means a leaf with a length/width ratio of 5 or less.

Such classes are needed so that the allocation of points (mentioned in section 6) can be on an objective rather than subjective basis.

Similar questions or problems arise when we talk of tall or small plants. I noticed while doing the measurements mentioned above that the wild forms and my original wide leaved plants were "tall". Measurements indicated about 28" (70 cm) ranging from 24" - 32" (60 - 80 cm). Also they were tall because their leaves grew upright. They do not recurve much because if they do their long leaves are not strong enough to support them.

The "Twins" strain is "small" by comparison to these more usual types. The strain contains two types. Those with upright leaves may reach 13" (33 cm) tall while the other type with sub horizontal to recurving leaves is generally 10 " (25 cm) or less tall.

The very broad leaved clivias mentioned earlier fall between these two groups. They may be upright (uncommon) or recurving but are mostly around 14 - 15" (35 - 38 cm) high although the upright growers may reach 22" (55 cm). The sub-horizontal to recurving leaf types (both the above plants and Twins) are also usually twice as wide (leaf tip to leaf tip) as they are high. My largest plant of this type (maximum leaf width 4" (10 cm)) is 13" (33 cm) high and 32" (80 cm) across tip to tip.

My preliminary suggestion regarding "tall" and "small" is as follows:

"Tall" plants are more than 24" (60 cm) high
"Small" plants are less than 12" (30 cm) high
"Intermediate" plants are between these two groups.

This leaves "dwarf" plants to be described as I have never seen any plants for which I would use this term although I believe there are rare, very small plants in Japan.

I would also like to suggest that the judging standards should incorporate something like these definitions and should also consider having separate classes along these or similar lines. Finally, rather than having one class for broad leaf varieties judged on leaf width and flower quality it would be better to have a class like

(1) Best clivia (flower quality) on plants with leaves at least 7 cm (?8 cm, ?9 cm etc) wide and
(2) A separate class for the "broadest" leaf clivia where the flowers are not judged.

If the judges have to consider both leaf width and flower quality they have to compromise and the final choice may not be very satisfactory. For example how poor may the flowers be on a plant with 10 cm wide leaves to beat a plant with excellent flowers but leaves only 6.5 cm wide?

Bill Morris, Medowie, NSW, Australia.

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Clivias in Australia

Dear Koos

Thanks very much for the *nobilis* seed. I have *cyrtanthiflora* which is larger seed and has a fairly distinctive orange membrane adhering. I would be interested to know if *nobilis* has a similarly coloured membrane or not. Some have suggested the bell-shaped species may be varieties of the one species *nobilis* which would seem unusual if the membranes are different in colour. I'm 69 in March and hear it said here *nobilis* is particularly slow from seed. May keep me going if it is! Needless to say, I'm looking forward to *caulescens*.

I saw a particularly nice salmon *miniata* type of Kevin Walters in Toowoomba in his collection in flower. All excellent in my opinion. A good lot of yellows, oranges and reds. A week after I saw the first Clivia Show in Sydney. I think largely Ken Smith and Bill Morris. Very good with enlarged colour photographs as well.

All the creams or yellows I have seen out here are delightful. However one could say not a great deal of variation in colour themselves.

I also saw in Sydney at Wahroonga on the North Shore a beautiful planting, very established and old, of a paler salmon - I had little time - the property was rather an imposing one - I would have liked to chase up its history which I may on a future trip. However a few seed pods grew over the fence and came my way.

Best wishes

John Roper
Graceville, Queensland, Australia.

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News from the USA

Dear Nick,

It's been a while since I've heard from you. I looked in my letter file to see how long it's been (April 19). The seeds arrived and of course I'm waiting for the letter to follow. What does the label SDY mean? I could guess of course, but I'd rather know. A number of seeds were desiccated, and I was worried about them. Looking in on them today about half have germinated and most of the desiccated number have plumped up and are showing signs of urgency.

Gerrit Tichelaar, a West Coast member of the Clivia Club came for a visit while he was back East visiting his family on Long Island. We are thinking of starting a "local chapter". We also share an interest in hoyas and paphiopedilums. I"m beginning to collect paphiopedilums and Gerrit raises them.

In a recent letter from Pen Henry she mentioned that Keith Hammett is writing an article for the newsletter. Is it to be published soon? She also sent me a clivia culture handbook in Japanese that Mr. Nakamura had sent or given to a friend of hers. I had previously received a translation of the book from her and was going to attempt to coordinate the translation with the illustrations. However, looking at the book with my partner, I knew the translation was only an abstract, and there was a lot left out. So this week I will attempt to order a number of copies from a Japanese book store in Manhattan and of course ask if there is an English translation. Once we have other copies I will try to have a translation made that will accompany the handbook. Gerrit knows people in Berkeley in California and there are people here and if nothing else works out there is the embassy who will recommend someone. I would like to have it done as inexpensively as possible.

It is possible to order the handbook. I ordered five copies @ $25.00 a piece. It takes about seven weeks from the time of your order till the books arrive. As I write this, it occurs to me that you may not be familiar with this handbook. Certainly, there are commercial growers around the world that have developed horticultural methods for growing clivias, however, this book's advantage is that it is designed for the devoted amateur and it would be nice to have a handbook that would serve as an initial guide for enthusiasts around the world. I checked and there are no editions in any language other than Japanese. I am still not sure of the name of the author. My partner does not think it is Mr. Nakamura. It is the most recently published book in a series of thirty-three books on plant culture. Most of the illustrations are of variegated *Clivia miniatas*. The flower forms are inferior to the dramatic foliage and they seem to be of secondary interest as Mr. Nakamura has suggested.

Since Gerrit's visit we have been on the telephone several times exchanging information. When he visited with his father, Gerrit Senior, he brought with him one of the Solomone fellows that are being sold through the Monterey Bay Nursery in California. A large plant. I gave him a number of seedlings including a *C. gardenii* and some very broad leafed seedlings, that are selfs of a friend's clivia. Gerrit will be back East in December and we will attempt to focus our activities. Perhaps, publish a list of West Coast nurseries that offer clivias.

And I forgot to mention that I purchased an elegant *Clivia miniata aureo marginata* from Dave Gordon in California. Its a delicate plant! I'm waiting for a *Clivia miniata medeo striata* to become available from the same source.

Colman Rutkin, Staten Island, New York, USA

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The Gene which Holds Dreams of the Future Shakes the World

The production of an excellent seed has the power of changing all spheres, including breeding and business.

I was the first person to observe `Vico Yellow' in Japan, as I had obtained an excellent specimen through the kindness of Sir Peter Smithers and Dr Hirao. I have discovered its great potential as a parent seed and I have crossbred it with all my collections. In Japan, we emphasise shapes of foliage rather than flower in Clivia, but this might be changed because of one plant called `Vico Yellow'. I have also noticed that the variegation appears from `Vico Yellow' seedlings and tissue cultured seedlings.

The gene continues throughout all ages. Benefit which can be brought by one excellent plant is unfathomable - - - and this is the dream of the breeder. I want to convey my gratitude to the Clivia Club and all my friends from all over the world who send me these precious breeding materials.

Yoshikazu Nakamura, Chiba Prefecture, Japan.(Translated by Yoshiko Dobson)

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More Dreaming about Genes
Liewe Toy,

Baie dankie vir al die wonderlike welwillendheid! Ewe skielik is ek lid van die Clivia Klub en ek sien pragtige moontlikhede vir samewerking tot voordeel van almal in die Clivia Klub.

Uit daardie skoublad wat jy gestuur het, was die interessantste artikel die een oor die genetika. Ek het maar genetika op 'n tweede jaar basis en baie van my kennis het al verroes. Toe ek dit goed bestudeer het, het ek besef dat ons voorsitter Mnr Abel 'n plant by Alfredo Gibello gekoop het met a RR -- genetiese konfigurasie - 'n dominant rooie dus. Ek het ook 'n plant met rooi blomme (baie groot) en 'n "squat leaf". As ek nou byvoorbeeld stuifmeel met Mnr Abel kan ruil ...
Ek kan ook stuifmeel van die Jim Holmes geselekteerde "vigorous" plante voorsien. Ek sluit 'n foto in van 'n Jim Holmes blom (eerste keer geblom in 3de jaar). Kyk net die breë blomdeksegmente. Hierdie plant se kode is C1/3.

Ag daar is nog so baie dinge wat ek wou sê, maar ek is op die oomblik nog in die bed met brongitis.

Baie groete en allerbeste wense!

Christo Lötter, Hermanus.

An English translation of the letter written in Afrikaans by Christo Lötter to Toy Jennings follows:-

Dear Toy,

Many thanks for all the wonderful goodwill! Suddenly I am a member of the Clivia Club and I see great opportunities for co-operation benefitting all members of the Clivia Club.

In the show journal that you sent me, the most interesting article was the one about genetics. I only did genetics at second-year level and most of my knowledge is rusty. When I studied the article I came to the conclusion that our chairman, Mr. Abel, purchased a plant with a RR-- genetical configuration, thus a

dominant red. I have a plant with red flowers (very big) and squat leaves. Now, if I could for example trade pollen with Mr. Abel ...

I am able to supply pollen of Jim Holmes' "vigorous" selected plants. I enclose a photograph (first flowering in the third year): note the broad perianth segments. This plant's code is C1/3.

Oh, there are still so many things I would like to say, but at the moment I am in bed with bronchitis.

Many greetings and best wishes

Christo Lötter
Hermanus.

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Questions and Answers about `Yellow' Clivias

Dear Mr. Duncan,

In an interesting article "Notes on the Genus *Clivia* Lindley, with particular reference to *C. miniata* Regel var. *citrina* Watson", in Veld & Flora (Sept. 1985) you mentioned that: "a cross between these two forms is also due to flower soon, and possibly the fragrance of `Kirstenbosch Yellow' combined with the vigour of `Natal Yellow', could produce a satisfactory garden plant."

As far as I can recollect, nothing has ever been published about the result of this experiment. I would therefore appreciate it if you could, for the benefit of - I am sure - many of our Clivia friends, shed some light on the subject.

Yours sincerely

Fred Gibello
Great Brak River.

..*..

Dear Mr. Gibello,

Thank you for your letter of 5 May 1995.

Regarding the *Clivia* cross I did some years ago, I'm enclosing a photocopy of an article which appeared in the American journal "Herbertia" in 1992.

Yours sincerely

Graham Duncan
Kirstenbosch National Botanical Garden, Cape Town.

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Clivia Article by Graham Duncan

NOTES ON THE GENUS *CLIVIA* LINDLEY WITH PARTICULAR REFERENCE TO *C.MINIATA* REGAL VAR. *CITRINA* WATSON

Clivia is a small, evergreen genus consisting of four species belonging to the family Amaryllidaceae and is endemic to South Africa. The species are *C. caulescens* Dyer, *C. gardenii* Hooker, *C. miniata* Regel and *C. nobilis* Lindley, of which *C. miniata* is the most attractive and well known, and their distribution extends from the eastern Cape through Natal and Swaziland to the eastern and northern Transvaal. *Clivia* have become one of the most popular South African indigenous bulbous plants in cultivation with *C. miniata* and *C. nobilis* having been grown in England for well over a century. Today they may be found flourishing as far afield as the United States, Europe, Australia and Japan.

Quite by chance, two British botanists, Lindley and Hooker, working independently of one another, each published a new genus on the same day in October, 1828, based on the same plant. Hooker named his genus *Imantophyllum*, a name later discarded by Roeme and Schultz in 1830. Lindley established the genus *Clivia*, named in honour of Lady Clive, Duchess of Northumberland when he described *C. nobilis*, the Cape clivia from material collected by James Bowie in the Eastern Cape, which was sent to Kew Gardens as well as to Sion House, residence of the Clive family.

Clivia miniata, which is known locally as "Bush Lily" and occurs naturally in Natal, Swaziland and the Eastern Transvaal, was discovered in the early 1850's, and was initially described as *Imantophyllum (?) miniatum* by Hooker in Curtis's Botanical Magazine in 1854. Ten years later the species received its present day name of *C. miniata* when it was published by Regel in Gartenflora. Its wide range of flowers in shades of orange or yellow and its ease of cultivation have endeared it to gardeners world-wide; it has been used extensively in hybridising.

C. gardenii from Natal and Transkei was described by Hooker in 1856 from material collected by Major Robert Garden which was sent to Kew gardens. A fine planting of *C. gardenii* from Eshowe may be seen in the Dell at Kirstenbosch, where it has been growing since 1947. *Clivia caulescens* was described fairly recently by Dr. R.A. Dyer in The Flowering Plants of Southern Africa in 1943 and occurs only in the Transvaal where it has been recorded from the Barberton, Pilgrim's Rest and Pietersburg districts. It is closely related to the two other pendulous-flowered species, *C. nobilis* and *C. gardenii*, but differs mainly in that the mature plant produces a distinct "main stem" of up to 450mm in length. Besides the differences in distribution between these three species, they also differ in that the inflorescence of *C. gardenii* bears fewer, longer flowers than the other two and they have clearly protruding stigmas. Further, the leaves of *C. nobilis* are often hard and leathery with blunt tips, while the leaves of C. caulescens are usually very broad.

CLIVIA COLLECTIONS

With clivias having been cultivated for such a long time, many hybrids and improved forms have been raised over the years, particularly in the United States and Britain, where they are grown as greenhouse subjects. In Australia and New Zealand they are popular as outdoor plants, a feature of Sir Frank and Lady Main's garden in Auckland having been a spectacular bed of clivias Lord Aberconway maintained a famous collection of clivias on his estate at Bodnant in North Wales, and raised several hybrids and improved forms, such as his *Clivia* "Bodnant Yellow", which received an award of merit from the Royal Horticultural Society in 1958.

Another well-known *Clivia* collection was that of Miss Gladys Blackbeard of Scott's Farm, Grahamstown, who cultivated species and numerous hybrids, and which was the subject of two articles in the Herbertia magazines of 1939 and 1948. Her fabulous collection was bought by Mr. P. Gordon McNeil in 1962 and

established at his farm in Ofcolaco, Northern Transvaal. An interesting and humorous account of Gladys, written by Gordon, appears in the 1985 edition of *Herbertia*. Although I never had the honour of meeting Gordon McNeil personally, I corresponded with him for several years before his death and in September, 1988, had the good fortune of seeing his almost legendary terraces of *Clivia* at Ofcolaco, in full flower.

CLIVIA MINIATA VAR. *CITRINA*

The history of the naturally-occurring yellow forms of *C. miniata* is interesting. The first published record of one is that of Mr. W. Watson who described *C. miniata* var. *citrina* in volume 25 of The Gardener's Chronicle in 1899. The plant described here was donated to Kew Gardens by the Rev. W.H. Bowden of North Devon, having been found wild in Zululand. It is also mentioned that another specimen of the same yellow variety had been collected by a Captain Mansell in Zululand, and which flowered in the garden of Mrs. Powys Rogers in Cornwall, in 1897.

In the book Flower Paintings of Katharine Saunders, a quoted passage accompanying Plate 20 reads as follows: "yellow *Imantophyllum* from Eshowe, flower withering after being two days in post bag. Most lovely, delicate peculiar shade of yellow, not orange, but like straw colour mixed with pink, quite inimitable by me. October 8th, 1893. This drawing has been sent to Kew with the bulb by Maud." It is strange that Watson makes no mention of this collection from Eshowe in his description.

Plate 411 of The Flowering Plants of Africa volume 11, 1931, describes *C. miniata* Regel var. *flava* Phillips, where it is mentioned that Mr. C.R. Saunders, of Melmoth, Zululand had collected a couple of plants in the Eshowe Forest in about 1988. Plants were propagated from seed from these parents, and after many years flowered; all turned out yellow, indicating a pure strain. The variety name *flava* must however be discarded in favour of the earlier published var. *citrina*; other variety names sometimes used, such as var. *sulphurea* and var. *aurea*, have no standing and should not be used.

Many different forms of *Clivia miniata* var. *citrina* are in cultivation today, and what makes the situation confusing is that in most cases the origin of the plants in question is unknown. That is, there is uncertainty as to whether the plants were originally collected in the wild, to whether they are the result of years of being under cultivation, where they might have been hybridised with other forms.

The Kirstenbosch bulb collection contains four different forms of *C. miniata* var. *citrina*, two of which are quite superior and have large horticultural potential. One of these was obtained in October 1951 from the former Reeds nursery, in Wynberg, Cape, South Africa but, unfortunately, no details of their origin are available. It is a fairly slow-growing form and has broad, fairly light-green leaves and blooms in September. The light yellow flowers have well-reflexed petals, and the base of the segments is a deep yellow, RHS Colour Chart 12D and 13A respectively.

The Flowers have a sweet fragrance, reminiscent of azaleas, while the bright yellow fruits are small, and contain up to four seeds each. I have not come across this form anywhere else, and in order to distinguish it from other forms the cultivar name `Kirstenbosch Yellow' has been applied to it. The plants seen at Kew Gardens and at the New York Botanical Garden would appear to be most similar to `Kirstenbosch Yellow', but their background information is also very scanty.

The second superior form in cultivation at Kirstenbosch is also *ex hort*, having been kindly donated by Mrs. Cynthia Giddy of Natal. Also very attractive, it differs from `Kirstenbosch Yellow' in having narrower, dark green leaves, and it produces suckers vigorously once established. Its unscented flowers have a more tubular shape and are a different shade of yellow, again having a darker shade at the base, RHS Colour Chart 16D and 16A respectively. It blooms slightly later than `Kirstenbosch Yellow', being in full flower in mid-October. The bright yellow fruits are large and contain up to eight seeds. The cultivar name `Natal Yellow' has been applied to this form.

There are a number of reports of forms of the var. *citrina* which do come true to type from seed, while there are as many to the contrary. In my 1985 article I reported that seedlings of 'Kirstenbosch Yellow' and `Natal Yellow' were due to flower soon, as well as a cross between these two forms. The results are as follows: all the seedlings of `Kirstenbosch Yellow' have turned out yellow, all those of `Natal Yellow' are orange and the cross between the two although quite superb, is orange! 'Kirstenbosch Yellow' is certainly a magnificent form, but it is unfortunately subject to a fungal disease causing leaves to die back from the tips which requires a rigorous spraying program. As far as I am aware, propagation by tissue culture for clivias has not yet been successful anywhere, so for the time being we will just have to plod on with breeding from seed, and hope that eventually a free-flowering disease resistant superior form which comes true from seed can be raised.

CULTIVATION

Shade is essential for the successful cultivation of *Clivia*, which makes them valuable plants for growing under trees, in large containers on a shady stoep, or in corners of the garden which receive poor light. Although clivias can take very light frosts, in regions of extreme winter temperatures they must be grown under cover. They prefer a rich soil containing plenty of compost or leaf-mould and require regular watering during their growing period which is in the summer months. During winter they can survive with very little water, but are not adversely affected by heavy winter rainfall, provided the soil is well drained. Clivia generally bloom in spring and summer, but sporadic blooms may appear throughout the year. *C.miniata* is undoubtedly most suited to garden culture as it is the most attractive, floriferous and long-lasting. Once established, clivias prefer to be left undisturbed and will eventually form large clumps producing many flowers each year.

This article originally appeared in Veld & Flora, the journal of the Botanical Society of South Africa, in volume 71(3) in 1985. Graham Duncan revised and updated the article for Herbertia.

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The above article appeared in Herbertia 48(1&2): 26-29 in 1992 and is reproduced with kind permission of the author.

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Repopulating Clivia in South Africa

Dear Mr Abel

Last year I witnessed how masses of *Clivia miniata* are being removed from their natural habitat in Kwazulu Natal and sold to nurseries throughout the country.

I have since made an appeal to members of the Botanical Society of South Africa to participate in a conservation project by donating to Kirstenbosch any surplus seed of *Clivia* from their gardens. We will germinate the seed and when one year old, the seedlings will be offered for nursery trade. We have had an encouraging response and I wondered whether you would consider appealing to all your members to donate their surplus seed to Kirstenbosch for this conversion project.

I look forward to hearing from you.

Yours sincerely

John Winter, Curator, National Botanical Institute, Cape Town.

..*..

Dear John 4 November 1995

Many thanks for your letter, brought up to Harare by Connie yesterday.

We do appreciate your initiative in regard to increasing nursery multiplication of clivia to reduce illegal pressure on the natural populations, and will ask Meg Hart to publish these two letters, thereby urging all members to participate. Presumably they can hand in surplus seed to their nearest Botanic Garden for multiplication or for onward despatch to you.

We also hope that the authorities are able to strengthen their efforts to stop the unlawful removal of plants from habitat.

With best wishes

James Abel, Pretoria.

..*..

Multiplication of Crinums

Re Nick Primich's article on Crinums in the newsletter of June 1995: the two damaged *C. x powellii* bulbs he gave me produced six and eight bulblets respectively. The one mother bulb has disintegrated completely, but the other is still feeding it's young! It is interesting that this is also the one found out by our friend the lily borer and of course young bulblets are that much nicer! However, I got to him in time!

Adri Haxton
Sandton.

..*..

PRIZEWINNERS OF THE 1995 CLIVIA CLUB SHOW

Plant section

Best Yellow	**Points**
1st Joe & Ronnie Pretorius	3
2nd Dr D Strydom	2
3rd Toy Jennings	1

Best Red	
1st Rudo Lötter	3
2nd Norman Weitz	2

Best any other colour	
1st Joe & Ronnie Pretorius	3
2nd Joe & Ronnie Pretorius	2
3rd Pat Gore	1

Best broad leaf	
1st Frans Gerber	3
2nd Joe & Ronnie Pretorius	2
3rd Toy Jennings	1

Best variegated	
1st Connie Abel	3
2nd Toy Jennings	2
3rd Jim Holmes	1

Best C.nobilis/gardenii/caulescens	
1st Rudo Lötter	3
2nd Pat Gore	2

Most unusual	
1st Pat Gore	3
2nd Connie Abel	2

Best hybrid	
1st Rudo Lötter	3
2nd Connie Abel	2
3rd Rudo Lötter	1

Best presentation	
1st Rudo Lötter	3
2nd Toy Jennings	2

Best Clivia on show	
1st Frans Gerber	3
2nd Joe & Ronnie Pretorius	2
3rd Joe & Ronnie Pretorius	1

Special merit award for morphological exhibition of Clivia: Meg Hart

Photographic section

Best informative photo. exhibition	
1st Renee Stevenson	3
2nd Pen Henry	2
3rd James Abel	1

Best photography	
1st Wessel Lötter	3
2nd Kenneth Smith	2
3rd Wessel Lötter	1

Total number of points scored

Rudo Lötter	13	Norman Weitz	2
Joe & Ronnie Pretorius	13	Dr D Strydom	2
Connie Abel	7	Pen Henry	2
Pat Gore	6	Kenneth Smith	2
Frans Gerber	6	James Abel	1
Toy Jennings	6	Jim Holmes	1
Wessel Lötter	4		

..*..

PERSONALITY PARADE

Rosan Jansen van Vuuren is the daughter of club stalwart Wessel Lötter from whom she got her love of clivias. It seems to be something which runs in the family because brother Rudo is also a devotee. Rosan has more than just a layman's approach to clivias, having obtained a diploma in Plant Protection (majoring in Entomology and Botany) at the Pretoria Technikon in 1986. While she was there, she also acted as a demonstrator in pest control.

Most of her work has been related to research on stalk borers in various grains (parasitic control, the influence of environmental and other factors and biocontrol). She has worked in the Agricultural Research Council (at the Plant Protection Institute), has published a number of papers and has attended conferences. She presently works at the Agricultural Research Council's Institute for Vegetables and Ornamental flowers. Here she is concerned with propagation and breeding of tomato plants.

This review sketches her interests and achievements and it shows that Rosan has the potential to use her knowledge in developing clivias. She has been appointed to the subcommittee of the Clivia Club which is to advise on technical and botanical matters, and we are sure that her contribution will complement that of the many other interested members.

Rosan is married to Gerrit, they have a daughter and enjoy hiking and climbing.

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BEGINNER'S LUCK

Although *Clivia* is not susceptible to many pests or diseases, the Amaryllis caterpillar or lily borer is one of its worst enemies and makes its presence known from late August to April. In its adult form, the dark moth is about 30 mm long with a grey spot on the middle of the thorax. The fugacious moth lays small white eggs on the underside of leaves at night. When the larvae hatch they bore into the leaves and the yellow and black spotted caterpillars can be seen clearly through the outer leaf covering. They grow rapidly and are extremely destructive. If left unchecked they will eat into the bulb and destroy the plant.

Prevention is the best protection. Clivias should be inspected regularly, daily if possible, as much harm can be done in a very short time. Spray clivia regularly with a carbaryl-based contact insecticide such as Karbaspray. Don't forget to spray the underside of the leaves and direct the liquid into the leaf interstices. Spray <u>all</u> Amaryllis plants in your garden which may be harbouring eggs and infecting your Clivia. This will deter the moth from laying eggs and will destroy the larvae once they hatch and feed on the contaminated foliage.

However, contact insecticides may be washed off by rain and spraying the underside of the leaves is difficult, so some eggs and larvae may not be destroyed. Another related problem occurs when caterpillars are active inside leaves and therefore do not come into contact with surface sprays. If infested, cut off the leaves and destroy the caterpillars.

Some growers use systemic insecticides, for example Dursban, and these are absorbed by the plant and are more effective than contact insecticides. Some of them are toxic to fish, bees and wildlife. They are <u>very dangerous</u> and must be used <u>very carefully</u>. They are not always available at retail stores but can be obtained from farmer's co-operatives.

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CLIVIA CLUB ITEMS FOR SALE

The following are available from the Club secretary:

Shirts (Navy or White - S, M, L, XL, with emblem on left hand side)
- T-shirts R40,00
- Golf shirt R45,00

Separate pockets with emblem R5,00
Plant markers x 10 (green or white) R4,00
Clivia Cards (blank) x 4 (minimum order R20,00) R20,00

Please advise the Club of your requirements (plants or seeds), so that these can be distributed when they become available.

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ON THE COMPOST HEAP

I looked out for Nick at the show but he was conspicuous by his absence! I heard he had gone to see the flowers in the Cape. He now has plenty of time to tend to all his clivias, so I'm giving him a wide berth!
With all this talk of war and violence in the form of chemicals and house destruction, I'm packing my bags and emigrating North in search of the mythical Clivia in equatorial regions. I'll let you know what I find when I get there.

Lily Borer.

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