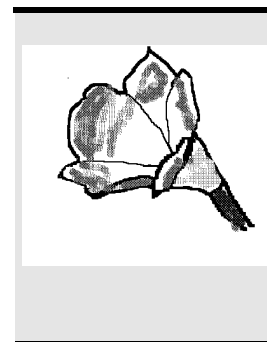


Clivia

Club

PO Box 74868 Lynnwood Ridge 0040 South Africa



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Volume 6 Number One January 1997

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EDITORIAL

There have been fantastic rains on the highveld this summer and the clivias on my hillside which were planted last year have had a wonderful start. Terracing is almost complete and I only wish my plants were older. A few did flower last year and created a splash of colour, so I dream about what they will look like in a few years' time.

We start the new year with our chairman back with us in Gauteng and he has already made himself most useful by helping to type some of the articles for this newsletter (if not, it may have been a February newsletter, but we have made it just in time for January).

The financial report adequately reflects a favourable position, due mainly to income from sales and shows.

Most of the letters left over from last year have been included in this newsletter. Annatjie Smith and Stella van Gass give accounts of their interest in clivias and Bill Morris, Wessel Lötter and Gert Wiese expound their theories on the genetical makeup and origin of yellow varieties.

An article about "painting" plant chromosomes from the *New Scientist* has been included as our scientific contribution. I do not know who sent this article to us or who wrote it, but the technique described may be helpful sometime in the future to help us sort out our species, hybrids and cultivars.

Des Anderssons's review of the visit to Eshowe in September 1996 concludes news of the Clivia Club expeditions organised last year to see clivia in their natural habitat.

Our personality for this issue is Elda de Witt who was coerced to sending in her story at the last minute because other people who I have asked for contributions have not submitted them yet. Elda is the Public Relations Secretary of the Clivia Club so it is fitting that we hear about her interest in clivias.

We wish to thank Ken Smith for organising the payment of Australian subs and for making efforts towards forming a branch in Australia. The Western Cape members too are forming a branch and we wish them success in their venture.

Adri Haxton welcomes all E-mail addresses and she will include them on the membership list. Unfortunately the Clivia Club does not have an E-mail address yet but the costs involved are being investigated. Should members wish to contact the Haxtons or Coleman Rutkin, their E-mail numbers are:

Adri and James Haxton: jameshax@global.co.za
Coleman Rutkin: colsage@interport.net

Other E-mail numbers have not been given as the people concerned are not members of the Clivia Club.

As we are ordering seed from Holland, Japan and who knows where else, for fancy hybrids and cultivars, there is a message of hope for those who have just the ordinary *C. miniata*. Olive Naude's clivia which won the prize for Best on Show in Pietermaritzburg last year, and the peachy/apricot flower (Anna Meyer's) which attracted so much interest at the Pretoria show were both from plants which appeared on their own from nowhere. Rumour has it that Anna Meyer sold an offshoot of her plant to an unidentified buyer for R3000!

Should there be any queries regarding the distribution of seed or plants, please address them to Koos Geldenhuys. Adri has privately ordered Belgian hybrid clivia seeds from Henk Braam in Holland and is eagerly awaiting their arrival. The minimum amount which could be ordered was 1000. Perhaps other

members would like to get together to share the costs of E-mail orders. The cost per seed including postage is approximately R1.80.

Wessel Lötter recently had a hip replacement and we wish him a quick and successful recovery. Pen Henry in Australia has recently had an operation and we hope she is in good form again by now.

Good luck with your clivias this year.

Editor. ..*..

TREASURER'S REPORT

The Clivia Club's financial situation is summarised below by Koos Geldenhuys, our treasurer. Please note that office equipment is not capitalised.

	1995 Audited		1996 Actual		1997 Budgeted	
<u>Income</u>						
Interest	731		1,109			
Sales seeds/plants	18,359		22,075			
Sales sundry	6,725		2,107			
Show entrance	1,940		1,652			
Membership fees	8,373		7,432		13,600	
Other	0	36,128	0	34,375	20,000	33,600
<u>Expenditure</u>						
Newsletter	6,589		4,082		6,000	
Stationery/print	10,410		6,723			
Telephone	3,370		4,899			
Show	2,312		3,899			
Promotion	1,443		2,975			
Other	2,865	26,989	3,875		12,400	18,400
Equipment	0		5,600	26,663	9,500	
Research	0	0	0	5,600	3,000	12,500
Net Surplus		9,139	0	2,213		2,700
Ret Inc Year End		16,796		19,009		21,709
<u>Assets Year End</u>						
Bank/Investment		13,793		17,207		
Promotion items		3,459		2,302		
Prov: audit fee		(456)		(500)		

CORRESPONDENCE

Incorrect numbering of the December 1996 newsletter

From SV Potgieter

38 York Road, Waverley, Bloemfontein 9305
12 December 1996

Dear Meg,

The Newsletter arrived today and I have spent the day reading and enjoying it. Only it has arrived too late for my poor seeds as I have already planted them in my best compost, full of fungi no doubt.

I hastily investigated, the first one I 'fingered' up was brown and the next one broke its emerging root, so I decided to stop investigating and trust to luck to see what happens.

I do not have so much seed left to plant your way as described on page 26 in Beginners Luck as I have sent a box full to Kirstenbosch following Dr Winter's request for seed.

I hope there is a mistake in the numbering of the Newsletter. I have just received

Vol. 6 Number Four December 1996 and my previous one is
Vol. 56 Number Three September 1996.

If I am missing three newsletters in two months please send them on, if not don't bother to answer.

I am pleased to see that the club membership has grown to 334 and I have no doubt that the newsletter is the main reason for this growth. Thank you for your efforts.

Kindest regards,

SV Potgieter

Thank you for pointing out the error in numbering of the last newsletter. I think a virus or fungus must have got into the computer! Good luck with your clivia seedlings, and thank you for sending seed to Kirstenbosch (Ed).

..*..

For the love of a Clivia

From Annatjie Smith

PO Box 28500, Sunridge Park 6008
? 1996

Dear Toy Jennings

I decided after reading in the newsletter of how I helped to get Adri to love clivias to write my story.

I first saw a clivia when I was in about Std 8, visiting God's Window in the Eastern Transvaal. My mother got a plant and nursed it under a big laurel tree in our garden. The plant grew bigger and when I moved into my house in Murrayfield my parents gave me one plant. I had a difficult pregnancy and when my son's illness prevented me from going back to a busy career I started gardening. I dreamed about clivias under the shade of the thorn trees but a visit to the nursery gave me a different insight, seeing the price of one plant.

I phoned around and asked about the possibilities of growing clivias from seeds. Nobody was very positive (≈ 1980) but I decided to give it a go. I went back to friends, my father's garden, the nursery and gathered about 400 seeds. The whole house was full of trays with cotton wool and seeds, and my rainbow started. My success was big and I planted them into small containers and my husband made a small "hot house". My son had another big operation and some of the plants died but I started planting them into bigger containers and into the garden. When my husband died in 1986 I was able to sell plants for an income. I built consulting rooms onto my house and planted the clivias where my dream of seven years earlier was realised.

What a pleasure with up to 200 clivias flowering. Whenever I needed money I sold clivias to help me through. When I decided to move out of Pretoria for a more steady income the most difficult decision was to leave the clivias behind. Through the years I always gave plants to friends and family and sold a lot to people and patients who did not know the plant. My clivia monuments are in lots of gardens in Murrayfield etc.

While we were busy planning to move we found a wonderful water-colour of clivias to take along and it helped in leaving the plants behind.

I planted 10 clivias in bags and moved with them. When the minister of the local church in Port Elizabeth came for his first visit he saw the clivias and also started planting them. He also asked for donations and the clivias are flowering at the moment in the Kaggakomma church garden, here in Port Elizabeth.

The clivias are not doing so well in my garden here as there is almost no shade and the wind is bad. But I planted them in different spots and have already started giving my first three year old seedlings to friends. I visited my house in Pretoria in August 1996 and asked the new owners for a few plants that I took down to PE, plus all the seeds that I could pick. Again my house is full of seeds.

So big is my love for a clivia.

Love
Annatjie

..*..

A nursery for 'muthi' plants in the Eastern Cape

Stella van Gass

Blomdal, PO Box 144, Kwelera 5259
8 September 1996

Dear Toy

I will attempt to do my correspondence in English so as to save the hassle of translating.

A word of appreciation for the magazines. Not being able to attend meetings it is the lifeline for members spread all over the world. Especially the latest one had such a wealth of information that I will treat it as a reference book.

We would also like to say that we treasure the confidence Gauteng members have placed in us to entrust their precious seeds to us. We received them the week before last and planted them into trays the following day after extensive moving around of other trays and plants in the shade houses. We filled 19 trays of 800 x 200 x 200 mm deep. We used a Hygrotech growing medium and placed the seeds on top of this mix. After reading the September magazine, I put pipe-frames covered with a double layer of shadecloth (80% + 40%) over the trays. Four pans are uncovered so it will work as an excellent experiment as well. The trays cover about 1/5 of the table space where I normally grow cuttings and seeds for our nursery.

I've started research as far as the "muthi" part of our undertaking goes. A customer whom I spoke to turned out to be Sylvia Baines, an anthropologist. She suggested that I speak to somebody at the Social Anthropology Dept. at Rhodes University, Grahamstown.

This I did and was put in touch with Michelle Cox, a Masters student doing her thesis on muthi-plants. She will come down to East London by the end of September and will "donate" her fieldwork i.e. the

names of 150 species of muthi-plants used in the Eastern Cape including 80 botanical names of such plants.

Now what has that got to do with clivia? Everything! Reading up about the uses of Muthi-plants in Natal has made us very aware that very little if any work has been done in the Eastern Cape. Secondly, being very conservation-minded, we realised that at the rate that squatter camps went up, very little of this neglected resource will be left in a short span of time. Thirdly, there is no nursery that I know of in our region that has these plants for sale.

Conclusion - there is a lot of work to be done. Japie and I are seriously planning to turn part of our nursery around to muthi plants. Those of this region firstly, and thereafter from wider afield. This entails a lot of reading, and talking to people. Last Sunday a chance customer from Queenstown turned out to be the owner of a muthi-shop in Queenstown. He has a Xhosa-speaking man doing the actual mixing and prescribing. This will now enable us to come by various tubers, corms and bulbs from which to start our breeding colonies. Because of our age, I don't think trees are a viable proposition at this time. (We are both 64).

We also have an appointment pending with a local chemist. He is a trained homeopath who dispenses traditional medicines as well as western preparations. He will be able to give both botanical and Xhosa names of plants which will assist us in buying our breeders.

As we have been collecting indigenous bulbs for our own enjoyment for quite a few years, we already have some of the required stock. I propagate from our own plants and then sell the extras as they become available.

We also have a succulent collection that at one time numbered 3.000 species. Because of the extent of our nursery, I am sadly neglecting this side of the operation.

This is turning into worse than a Sunday paper!

Now to clivia. Thank you so much for the seeds for our own use that popped out of the box of seeds. Obviously we don't have any of these beauties, so I will really guard them.

We now have *miniata* in the normal orange, a brighter orange, cream, yellow, the Zululand plant with pale green buds opening to pale yellow, a red/orange colour and also a wide leafed orange with rounded petals on the flowers i.s.o. the normal pointed ones. Three and a half year old seedlings in open ground are now starting to flower.

These seeds came from a garden where red, yellow & orange *C. miniata* grew all mixed. I am very excited about this lot. So far a bright orange and a normal medium orange have flowered, and then one where the tips of the petals are orange and the rest yellow. Whether it will stay this way, I don't know.

We also have 4 *C. gardenii*; 1 Wessels X; 2 *C. caulescens* and then some *C. nobilis*.

Some of the *C. nobilis* comes from the coastal forest near Beacon Bay, E.L. Very tall (× 1m) leaves and some of the seed capsules yellow i.s.o. orange. My friend had been monitoring this clump of more than 12 metre in diameter. He found half missing with a lot of broken off "tops" lying around. He went home and three days later went back with bags to pick up these tops. The whole clump was gone. Only three small plants and 24 tops were scattered around. These he brought out here and I am pleased to say 21 of the tops have rooted and seem to be doing all right.

And that is enough for the time being!

Clivia regards
Stella van Gass

We look forward to hearing about your experiments with your seedlings. Good luck with growing your muthi plants. I also don't think you are too old to start growing trees. You may see some grow to maturity and if not, they will be a legacy for the next generation (Ed.).

..*..

Comments on the September 1996 newsletter (Vol. 5 No. 3)

From Bill Morris

P O Box 17, Medowie, 2318 NSW, Australia
20 September 1997

First, Nick's (Primich) letter. His observation that with seeds germinated in the dark "the orange flowered plants, which usually have the purple base to the leaves, show the first leaf deep red" (p.8). The reason for this is that chlorophyll production is depressed in the dark. As the normal purple base colour is due to the mixing of green chlorophyll pigment with red anthocyanin pigment, when the green is depressed or absent the only pigment present is the red anthocyanin, thus the leaf base is red. Then "some of them become a beautiful deep plum purple." These are the ones which have a higher concentration of anthocyanin causing a deeper colour. It is also possible that another anthocyanin (? purple) may be present in lower concentrations than the red but when the overall concentration is increased some purple tones appear also.

I would expect the deep coloured base seedlings to produce deep orange or red flowers rather than the usual medium orange flowers.

Secondly, Sir Peter Smithers article regarding Vico Yellow and Vico Gold was very interesting. The name problem with the yellows is also of interest.

As I understand botanical (as opposed to horticultural) nomenclature there are two varieties of clivia *miniata*, namely:

- C. *miniata* var *miniata* (all orange or red clivias)
- C. *miniata* var *citrina* (all yellow clivias).

As I understand it *C. miniata* var *citrina* does not apply to only one clone or only to the original yellow that the botanist (Watson) received and on which he based the name. It applies to all yellow clivias to distinguish them from all the orange or red clivias.

Thus to identify particular plants, either found in the wild or bred by clivia growers, a cultivar (c.v.) name is required.

Thus in Sir Peter Smithers' article his statement that "Kewensis Cream was therefore not *C. miniata* var *citrina*" is not correct. Kewensis cream is (or was) not the original clone or cultivar of *C. miniata* var *citrina* but that name is certainly applicable to it. Its name "Kewensis Cream" (if used as a cultivar name) identifies it and separates it from Vico Yellow, Vico Gold, Kirstenbosch Yellow, Natal Yellow, etc, etc, all of which are different clones of *C. miniata* var *citrina*.

I was most interested in the short report on the Kwazulu-Natal meeting by Adri Haxton. In this report it was stated that Brian Tarr and Sean Chubb had characterised (identified and "labelled") 5 different yellows. This is a most important step and should be followed up. They also reported some breeding results, some of which were different from earlier reports (and my own observations). For example, Kirstenbosch Yellow which they quote as "80% yellow seedlings". Seed I received as Kirstenbosch Yellow gave 100% yellow (12 out of 12) which Duncan had also earlier reported (numbers not stated) (in *Herbertia* 1992 and Newsletter 4 no 5).

I would therefore be very interested in the source of their breeding information. For Karkloof Yellow, instead of "true if selfed" I was informed it was self sterile but that the strain based on it still produced a percentage of oranges. Again I would be interested in the origin of this statement.

I would plead with any of the members of the Clivia Club who have breeding results for any of their yellow plants (either wild collected or derived, identified or not) to please write and publish in the newsletter. Even if the results seem confusing it will (or may) encourage others to repeat the experiment or try others and we may eventually sort something out about the various clones. I, personally, would be very interested to hear from anybody about their results.

Bill Morris

..*..

An explanation of the breeding behaviour of the "Natal Yellow" Clivia.

By Bill Morris

PO Box 17, Medowie 2318, New South Wales, Australia
20 September 1996

Duncan, in *Herbertia* (1992), described the results of selfing and crossing the two yellow clivias called "Kirstenbosch Yellow" and "Natal Yellow".

When "Kirstenbosch Yellow" was selfed all the offspring were yellow like the parent. When "Natal Yellow" was selfed all the offspring were the usual orange clivia colour. No yellows were obtained. When the two clivias were crossed with each other, again, all the offspring were orange and the yellow colour disappeared.

These results have also been observed by myself and other clivia hybridisers.

In an earlier paper in *Herbertia* (1990) I described the results of crossing an orange clivia with a yellow clivia to obtain an all orange F1 generation and then the results of crossing these orange F1 seedlings with themselves and with other yellow clivias. Eventually yellow was crossed with yellow using yellow seedlings obtained from the earlier crosses. The percentages obtained of orange and yellow in the various crosses agreed with the figures predicted for the yellow behaving as a simple Mendelian recessive characteristic.

Since then many other yellows have been crossed together and always yellow x yellow crosses have given yellow offspring. Thus the behaviour of the "Natal Yellow" clone is anomalous and so far no attempt has been made to explain it.

The "Natal Yellow" can be described as having a yellow phenotype but an orange genotype. This simply means that although it appears to be a yellow, it breeds like an orange clivia. For example, when an orange plant is selfed it gives all orange seedlings and when an orange clivia is crossed with a true breeding yellow it gives orange seedlings. This is exactly how "Natal Yellow" behaves. To finally confirm the orange behaviour of the "Natal Yellow" clone, these "Natal Yellow" x yellow seedlings

should be crossed with yellow again when they should produce 50% of **true breeding** yellows. These yellows will be derived from the Kirstenbosch Yellow parent, not the Natal Yellow parent.

The question remaining is, how can the yellow appearance of "Natal Yellow" be explained. There are two main possibilities:

1. It may be a tinged yellow. That is, it may be an orange which is so pale that it appears yellow. The fact it has slightly deeper yellow colour than "Kirstenbosch Yellow" and its leaves are a dark green rather than light green (Duncan 1992) suggests that the plant may contain some red anthocyanin pigment. An extraction of pigment from the flowers and leaves and an examination of them by liquid chromatography should show if any anthocyanins are present.
2. The other possibility is that "Natal Yellow" arose as a somatic mutation rather than a genetic mutation. This means that the mutation causing the inability to produce anthocyanin occurred in the body cells of the plant but not in its sex cells. Thus the plant's nuclear DNA is unaffected and it breeds as an orange.

All other yellows appear to be genetic mutations. However other wild collected yellows haven't been separately identified and tested for their breeding behaviour, so it is possible that other types may exist in these other yellow clones.

..*..

From Meg Hart

*70 The Valley Road, Parktown, Johannesburg 2193
8 October 1996*

Dear Bill

Thank you very much for your recent letter enclosing the two interesting articles on yellow clivia. Wessel Lötter has come to the same conclusion as you have regarding 'Natal Yellow' having cytoplasmic rather than genetic yellow characteristics. I am sending a copy of your article to him and I hope that he will be able to add his ideas to yours.

With best wishes

Meg

..*..

Clarification of genetic inheritance and cytoplasmic mutation

From Bill Morris

P O Box 17, Medowie, 2318 NSW, Australia
17 October 1996

Dear Meg

Thank you for your note. In it you said that "Wessel Lotter has come to the same conclusion as you have, regarding the Natal Yellow having cytoplasmic, rather than genetic, characteristics."

I am not sure whether I agree with Wessel or not, as the terms above are not clear to me.

In particular, "having cytoplasmic, rather than genetic, characteristics". Does this mean that Wessel claims the breeding behaviour of Natal Yellow involves cytoplasmic inheritance rather than nuclear (genetic?) inheritance? I certainly don't agree with this if this was what was meant.

In cytoplasmic inheritance the characteristic being studied (in our case yellow colour) is inherited usually via the mother only. In other cases it may be inherited via the pollen parent only (rare). In nuclear inheritance the offspring can inherit characteristics from either parent equally.

In the case of Natal Yellow the yellow colour is not inherited at all so both nuclear inheritance and cytoplasmic inheritance are excluded. However if he is using "cytoplasmic mutation" as equivalent to "somatic mutation" thus implying that it is non nuclear and thus non inheritable then I do agree. As I said in my article Natal Yellow appears to be a yellow (the phenotype) but it breeds as an orange (genotype).

Thus anyone interested in breeding for yellow should forget about using Natal Yellow in their programme. Even if they wanted it for its vigour and fast offsetting. These characteristics are probably due to its being physiologically an orange and would be lost in any yellows eventually obtained (after at least two generations).

I am interested in the statement that Natal Yellow produces 98% orange and thus presumably 2% yellow. I expect that these 2% yellows will breed the same as Natal Yellow. It would be very interesting to know if this is the case. It is possible that crossing these seedlings with themselves or back crossing to Natal Yellow would progressively produce higher and higher percentages of yellow. So far however although I have raised more than 50 seedlings of Natal Yellow (or Natal yellow x yellow crosses) I have not seen one green (= yellow) seedling.

Thanks again for your letter

Regards

Bill

Thank you for clearing up the terms discussed in the letter above (Ed.).

..*..

A classification of yellow clivia

From Wessel Lötter

P O Box 48520, Hercules, Pretoria 0030

Dear Bill

Your queries regarding yellow clivia with special reference to the odd behaviour of the so called Natal Yellow have been referred to me for a reply.

First of all I would like to point out that I was able to differentiate between at least three different variations of yellow clivias, namely:

- a. The true yellows of which the inheritance is recessive.
- b. The Natal yellow and its alliances which may be dilutes or plants which due to some biochemical defect are unable to or just slow to produce the orange colour. Inheritance not yet understood.
- c. Plants where the yellow "throat" area has become so exaggerated that virtually nothing of the orange area remains. The outside of the flower is also affected by this phenomenon, sometimes to a lesser degree with quite an appealing effect. Miriam Meltzer has one of these. The flowers are yellow with only an orange stripe on the outside midrib of the petals. These are mainly of horticultural origin. Inheritance is not known but presumably only the extent of the yellow "throat" area will be

affected from very little to very much and to such an extent that the whole flower appears yellow. See enclosed photos of different stages in this development. (*These and other photographs were sent to Bill Morris - Ed.*)

My trip to Pietermaritzburg for their clivia show (where Pen Henry and I were the guest judges and Brian Tarr of the Pietermaritzburg Botanic Gardens was the local judge), was the most informative, clivia-wise, I ever had. There I was able to see all the different yellows from the habitat and discovered that the not-true breeding clivias are not the exception but that there are as many as there are true yellows. The true yellows are:

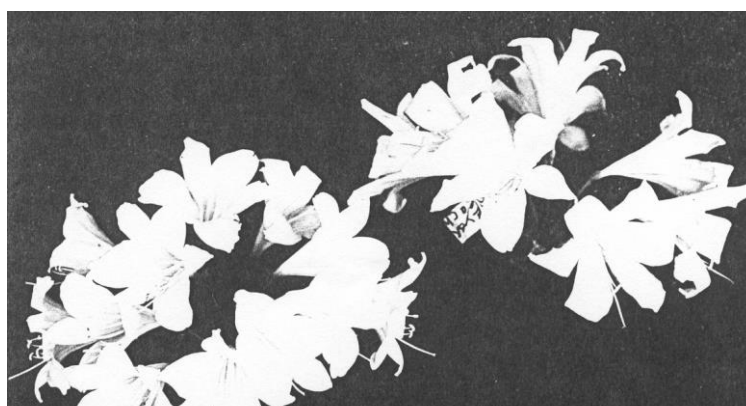
- a. Watkins or Karkloof Yellow
- b. Eshowe Yellow
- c. Melmoth Yellow

According to Duncan (Veld & Flora September 1985) and Sir Peter Smithers (Herbetia vol 50-1994.1995) all the yellow clivias that were collected in the previous century were collected in the Eshowe Forest. No doubt some of these found their way to Kew. I had the opportunity to examine an Eshowe plant at the Pietermaritzburg show and this resembled the Kirstenbosch Yellow. According to Duncan (1985) the plants seen by him at Kew and the New York Botanic Garden appear to be most similar to Kirstenbosch Yellow. In my personal opinion Kirstenbosch Yellow and Eshowe Yellow are the same.

The not-true breeding clivias are:

- a. The Natal yellow of Kirstenbosch which I am henceforth going to refer to as Natal Yellow "A". This plant has slightly more funnel shaped flowers than "B" below and there is no marked difference in the colour of the flower compared to a true yellow. This plant breeds only orange if crossed either way with a true yellow and even if selfed. In the attached photo, "A" is on the left and "B" on the right.
- b. The Natal Yellow of Pietermaritzburg Botanic Gardens and which most of us have. Regrettably there is a tendency amongst our clivia people here to give every yellow the name of the person from whom they obtained it. This results in this plant which is suckering profusely to have four other different names ie Giddy, Gibello, Jardine and Zululand. To stop the confusion I would like to name this plant Natal Yellow "B". The flowers of this plant can best be described as campanulate with strongly recurving petals at the apexes. When opening it starts green and matures to yellow, almost the colour of butter. If crossed with a true yellow either way all the seedlings have red pigmented stems. One of these results which I was able to observe and where Natal Yellow "B" pollen was used on a true yellow produced all red stemmed seedlings - some dark and some light. When they flowered there were some orange and some very pale pastel pinks. Amazingly one of these pinks that had a very small really inferior first flower the first year produced a good quality flower the second year but not pink again. It was yellow but brighter and darker than the true yellows. Whether "B" does self, and what the result is, I do not know.

Both "A" and "B" were distributed by Cynthia Giddy and it is a pity that we do not know from where these plants originated in the wild. If we knew, more appropriate names could have been given. As far as I could find out, "A" came from the Dwesa Forest, but there is no confirmation of this.



NATAL YELLOW "A"

NATAL YELLOW "B" ^ insert
kleur

- c. Howick Yellow. There were three different forms. Two of them had strongly funnel shaped flowers - the one a clear yellow and the other a shade darker towards orange. The third had starlike flowers with red tips just detectable on the outside of the petals. Sean Chubb told me that it is not beyond any doubt that all three were Howicks as the plants were also collected at Hilton and they got mixed up. Some people, however, claim true yellow breeding from Howick, but this may relate to one of the forms.

A test for the presence of anthocyanins in these not-true breeding yellow clivias as suggested by you is not necessary. I have already proved the presence of orange pigment in these plants and demonstrated it at my slide show at the National Botanic Gardens, Pretoria, on the 5th of October 1996. The proof lies in the colour of the berries. Those of Natal Yellow "B" ripen to a greenish yellow but if left long enough they mature to a golden yellow with red spots more concentrated in the bottom half of the berry. The berries of two of the Howicks are dull red. Despite enquiries made by me countrywide I was unable to establish the colour of the berries of Natal Yellow "A" but I will definitely know this coming season when the berries ripen. The slow development of the red colour in the berries of the Natal Yellow "B" and perhaps also the initial green colour of the flower supports my theory of a biochemical defect. Perhaps the flowers just do not stay on the plant long enough to develop some orange colour. As a matter of fact some of these not-true flowers just give a hint of this. Natal Yellow "A" sometimes develops tiny pink spots on some of its petals just before the flowers drop and one Howick which I examined developed a pinkish colour in the withered flower. In the book *Flower Paintings of Katherine Saunders*, mention is also made of the withered flower of a yellow clivia which was straw coloured mixed with pink. This plant was received by her from Eshowe and sent to Kew in about 1893.

To explain the development of pink in the withered flower and the change from pink in the small flower to yellow in the larger flower, I can offer my theory of the inflated balloon. When the withered flower shrinks the red pigment becomes more concentrated and visible as pink. On the other hand, an inflated balloon becomes lighter and therefore the small first year pink flower did not show any red pigment in the bigger flower the second year. Some people also claim that yellows become lighter when the flowers are larger.

On the other hand the pale pinks produced by Natal Yellow "B" make me think of a dilute. On Nakamura's pamphlet "The Yellow Clivia in the World" he depicts on the front thereof a yellow clivia which resembles Natal Yellow "B" and directly underneath it pinks, indicated by him as F1 pastels. Did he have the same experience as us?

If I look at the history of Vico Yellow and Vico Gold (Sir Peter Smithers 1994.1995) it is tempting to believe that the two yellow clivias which the late Hon Lewis Palmer took to England in 1925 were one of

these Natal Yellows. The fact that it produced only orange seedlings suggests that it was Natal Yellow "A".

Why is Sir Peter Smithers so emphatic about the bright yellow colour of the berries of Kewensis Cream? Was it any different to that of a true yellow? Its breeding behaviour corresponds to that of Natal Yellow "A" barring the two yellow progeny, Vico Yellow and Vico Gold for which I have no explanation. Even more puzzling is the fact that Vico Yellow and Vico Gold are true yellows. According to Brian Tarr Natal Yellow "B" breeds 2% yellow. This corresponds with the one confirmed case already mentioned in this letter.

If the name *Clivia miniata* var *citrina* was assigned to a true yellow and the bright yellow berries as mentioned by Sir Peter Smithers were different to those of a true yellow, then Kewensis Cream differs from *citrina* not only as a genotype but also as a phenotype. Sir Peter Smithers may therefore be right in his view that Kewensis cream was not *citrina*.

The presence of anthocyanin in seedlings.

I repeated the experiment of Nick Primich by germinating seed in the dark and am satisfied that anthocyanin is already present in the seedlings. It is also present in the berries. Berries which I allowed to ripen in the dark still turned red. The orange colour of the flower on the other hand needs light to develop. See enclosed photo (*sent separately - Ed.*) of *caulescens* which I allowed to develop in the dark. It shows no orange colour and is almost white.

Whether the deepness of the colour of the base of the seedlings has anything to do with the shade of the flower I do not know. All that I do know is that the colour of the flower does not always correspond with the deepness of the colour of the berry. I have seen orange clivias with golden yellow berries and those pinks that I referred to above have yellow berries. Whether they were left long enough to show some red coloration I do not know. Remember that they were derived from Natal Yellow "B" where the berries should be left long enough to develop the red pigment.

I agree that we have to find names for certain cultivars and I enclose a photo of a plant bred by Kirstenbosch presumably in the F2 generation from Kirstenbosch Yellow x Natal Yellow "A". You will note that this is not a pure yellow but appears to be dusted with orange. I obtained Pat Gore's permission (he owns the plant) to refer to it as Pat's Gold. I also enclose photos of three different peach coloured clivias which I am going to refer to as Chubb's Peach, Naude's Peach and Meyer's Peach.

Now I regard it as a challenge to breed from these not true breeding yellows as I am sure that we will see more very interesting new colours in future.

Sincerely
Wessel

PS. I never claimed cytoplasmic inheritance by Natal Yellow "B". At a meeting in August 1995 at Meg Hart's house when I had only the result of Natal Yellow "B"'s pollen on true yellow (all red stemmed seedlings), I explained that if the inheritance was cytoplasmic you may pollinate it with whatever you like and the progeny will be 100% yellow.

..*..

Defender of the 'Howick Yellow'

From Gert Wiese

12 Van Der Westhuizen Ave, Durbanville 7550
31 December 1996

Dear Meg

I wish to thank you and the whole committee for all your hard work during the past year and for a most informative newsletter full of very useful information. Congratulations also for a lovely show you organised in September. As you no doubt are aware, we in the Western Cape have formed a branch and we hope to hold our own show in 1997, so we will be looking to your committee for advice and we will need your experience. To the members who missed the show in Pretoria, you do not know what you missed, try harder next year and show a face.

I always look forward to your newsletters but was most upset when I read the adverse comments made by Brian Tarr about the Howick Yellows in the September newsletter. I could not believe that anybody could make such remarks in public, nor could I believe that such remarks could be printed in the newsletter and sent all over the clivia world. I was very upset and wanted to react immediately, but thought, no,

perhaps Adri reported Brian incorrectly, in which case I expected him to react. So far no reaction from anybody! I must say that remarks like these were most uncalled for, and leave a very bad taste, so does the publishing of remarks in our esteemed newsletter. Any rate, I have now cooled off and can write this letter without all the bad feelings I originally had. I now want to make a few comments on what was reported.

(1) Natal Yellow or Cynthia Giddy Yellow. Why no comment as to the origin, what the flower looks like and whether the seed produce yellows or not?

(2) Howick Yellow - strappy ugly flower.

I presume that after Lily Borer reads these remarks he will never have enough courage to taste a Howick Yellow again! What a relief. Our plants will now be safe from Lily Borer. On the other hand, this was the only flower commented on, maybe the only one worth while mentioning. Please refer to volume 3, no. 5 of May 1994 for the history of this plant. I personally named this strain Howick Yellow, and for the first time in July 1995 marketed plants under this name. Does Mr Tarr really know what the Howick Yellow looks like? I presented Christo Pienaar with one of these plants in 1990, and often heard him referring to his beautiful flower. I have also in my possession a newspaper cutting where he said the following about this plant: "Ek besit gelukkig 'n pragplant van die geel clivia, en beskou dit as my kosbaarste plant". [*"I luckily have a splendid yellow clivia, and consider it to be my most precious plant"*].

To put the minds of all Howick Yellow owners at ease, I can only say I cannot agree with Mr Tarr. It is a matter of personal taste. The Howick yellows also cross well with most other strains, especially with the Kirstenbosch Yellow, when you may get up to 90% yellows, and very vigorous growers. So please do not throw away your Howick Yellows.

(3) Eshowe Yellows. Is there any more information about these plants except the flat bases?

(4) Watkins or Karkloof Yellow: True if selfed.

I cannot agree with this statement and as far as I know there is no Watkins strain. I asked Mrs Watkins if she knew the origins of her plants. I now have in my possession a letter from her, stating that she obtained Howick Yellows from my wife's family. She also obtained a plant from Stanger, but has no further information about this plant. (I remember reading in some magazine some time ago that a yellow clivia was found at Kearsney near Stanger, but unfortunately cannot trace this article). She crossed these two strains and for the last 20 years tried to improve the flowers using the selection process. This is also the reason why her plants differ. Can anybody supply further information on the Kearsney plant?

Jim Holmes wrote in Vol. 1 Number 3 of November 1992 that he started off with one plant. For 5 years he got no seed from this plant, after which he obtained pollen from another strain, and from this cross he obtained 40 seeds of which 15 turned out yellow. Jim told me he obtained his first plant from a Mr Todd but believes there is more than one member of the same family living in the Merrivale area. Jim was told that one of the old grandfathers found this plant at the Karkloof falls, and this strain was always kept in the family. How about following this up Mr Sean Chubb, and give us feedback?

(5) Kirstenbosch Yellow. Can Brian Tarr please advise where he obtained his information about this strain?

Please refer to Volume 4 No. 5 of November 1995 where Graham Duncan gives more information about the Kirstenbosch Yellow. He also confirms that seedlings from Kirstenbosch Yellow turn out 100% yellow and not 80% yellow.

Best wishes for 1997 and happy clivia growing.
Best regards,
Gert Wiese

I hope that the letters from Bill Morris and Wessel Lötter have helped to clear up some of your queries.

My husband, Graeme Hart was at school in Howick from 1943 - 1949 and knew two Todd boys, Graham and Errol, whose father was a farmer at the time in the Merrivale district. Could these be members of the same family? (Ed.).

..*..

A PAINTBOX OF PLANT GENES

A colourful DNA technique, the botanical equivalent of a paternity test, is helping researchers to trace the wild ancestors of key crop plants. It explains from a breeding point of view; it's a godsend. Now researchers believe they have the answer. The secret they say, is to "paint" the plant chromosome before trying to understand their origins. The approach owes little to fine art. It involves persuading the DNA in plant chromosomes to "mop up" fluorescent "probes" - molecules themselves made of DNA - that can act as a guide to the ancestry and character of the chromosomes. The palette of colours available to the chromosome painter include reds, yellows and blues. The result is a multicoloured display that can be used as the botanical equivalent of paternity test. Such displays are also helping plant breeders to monitor the mixing of DNA that are crucial to create cross varieties which combine the beneficial traits of their parents. Already, chromosome painting is helping researchers to solve the problem of how the tobacco plant evolved.

The technique is based on a phenomenon called DNA hybridisation (not to be confused with plant hybridisation). Though technically demanding it is conceptually straightforward. First, researchers "unzip" part of a chromosome's double helix, producing two single strands of DNA. Then they supply these DNA strands with alternative partners - short fragments of DNA tagged to molecules such as dyes which can readily be made to fluoresce. What happens next depends on the DNA that has been unzipped, they can cling to it, advertising their whereabouts by fluorescing. Moreover, the probes can be persuaded to cling to DNA inside cells as well as in test tubes. Hence the official name of the technique - fluorescence *in situ* hybridisation, or FISH for short.

The form of the final canvas depends crucially on the design of the probe. Some probes are specialists that will highlight just one stretch of DNA in the chromosomes, sometimes a single gene. They are particularly useful for mapping the layout of genes on chromosomes. In many cases, researchers use a potpourri of probes produced by chopping up the entire genome of a particular plant species.

The idea of painting plant chromosomes took shape independently in at least two laboratories, one in Britain, the other in Canada, in the mid - 1980's. A laboratory run by the Agricultural and Food Research Council, Cambridge, were using conventional microscope techniques to investigate how plant cells store and organise their chromosomes. Studying hybrid plants created by crossing a type of barley with a type of rye, the researchers discovered something that challenged existing dogma: when the hybrid's cells divided, its chromosomes were not jumbled together. Chromosomes of barley origin were kept separate from those of rye origin - and each collection of chromosomes occupied its own territory in the dividing cell. It was a classic case of cellular apartheid.

Before investigating this any further, the researchers needed to know whether the standoff persisted when the cells were not dividing. But here the standard microscopical methods let them down. They had a

dream of some simple system, to colour chromosomes in such a way that it would allow them to tell which set of chromosomes came from which parent. They got some literature of medical research in this field which was done with Chinese hamsters but never on plants. Would this technique work in plants? Actually it came as a big surprise when it was done with plants.

The experiment on barley-rye hybrids had been arranged so that chromosomes originating from rye would shine with a bright greenish-yellow hue. The researchers stained remaining chromosomes - the one from barley - with a second fluorescent dye, this time a red one. The upshot was an image of breathtaking clarity, from which it was clear that the rye and barley chromosomes remained separated even when the cells were not dividing. Barley chromosomes tended to be at the centre of the nucleus, rye chromosomes at the periphery.

No one knows whether this separation serves any biological purpose. But one guess is that a chromosome's position in the nucleus of the cell affects the activity of the genes it carries. In this study there was evidence that genes in the outer region of the nucleus exerted more influence on the plants' appearance and behaviour.

This technique will surely clear some mysteries within *Clivia* hybrids.
New Scientist: August 13, 1994

Someone sent this article to the Clivia Club. However I do not know who the author is and have no other details. Thank you whoever it was who submitted it (Ed.).

..*..

CLIVIA IN THE ESHOWE AREA (21 & 22 SEPTEMBER 1996)

On a very warm Saturday afternoon, 21 September 1996, a small group of *Clivia* enthusiasts met up with Mr Charles Cadman to view *C. miniata* growing in indigenous bush alongside a small river. It was immediately observed the plants only grew on the side where they obtained afternoon shade. Of particular interest was a strong patch of *C. miniata* growing in humus and leafmould on a flat sandstone outcrop, well above river water level. These plants relied totally on rainwater, mostly summer, for growth and existence. Patches of *clivia* had been uprooted and the stem at ground level eaten. Charles informed us that both wild pig and porcupine were in the area and a short distance away recent activity and evidence of wild pig presence was noticed.

The walk ended with a most welcome tea hosted by Mr and Mrs Radcliff Cadman. Later in the evening we all enjoyed a braai at Charles' home.

Sunday morning brought a complete weather turnabout - cool, overcast and steady mist rain. Undaunted, we set off to view a patch of *C. gardenii* growing under a small area of dense bush in typical marsh wetland terrain. The plants were much smaller than normal being about 450 mm high and had developed supporting roots which held the stem above ground level, giving an impression of a miniature *C. caulescens*. In several bushes seeds had become lodged in moss and were growing epiphytically. A count was difficult but an estimate of up to 100 plants was considered feasible. A number of plants with seed pods were observed. At this juncture the mist and rain made further exploration uncomfortable and it was decided to call it a day. Sean Chubb thanked Charles on behalf of the group, comprised of the two of us, Ron and Cheryl Henry and Val and Roy Thurston.

Des Andersson

..*..

PERSONALITY PARADE

Elda was born in Pretoria on 16 September 1956 and matriculated from the State President C R Swart High School in 1974. She studied law and at present is registered at Unisa for an MBL. She has two businesses - an art brokerage and a financial advice bureau. She married Kobus de Witt, a medical practitioner, on 31 October 1987. They met at the Unisa Ad Libitum Choir of which he is the director and she still dances to the tune which he plays. Their son Marthinus is 62 years old. They live on a smallholding in Olympus in the Bronberge. Kobus is busy building her a shade house for her clivia which she believes will be ready before the winter - the year in which this will take place is somewhat uncertain!

Her mother and father both share her great love for plants and nature. Her father, Tienie Holtzhausen, is also a member of the club. They were both introduced by mother Annatjie at the 1994 show. Since then the space for plants in her mother's garden has decreased as the clivias spread. Elda's collection consists mainly of Belgian hybrids and she is as Kees Sahin says: "A real Clivia Nut"!

In 1996 the choir entered the International Choir Competition in Hungary and they won the folk music section and came fourth in another section. With choir business over, they then turned their minds to clivia and visited Pierre de Coster and Willem de Reuter in Belgium and Kees Sahin in Holland. They were most impressed with the scale of production, all plants growing under huge glasshouses.

..*..

NEW MEMBERS

A warm welcome to the following new members:

AUSTRALIA:

G J Reale, RMB 8732, 27 Sundew Ave., Bacchus Marsh

NEW ZEALAND:

Lisa Mannion, 16 La Trobe Track, RD New Lynn, Kare Kare, Auckland

SOUTH AFRICA:

Con Annandale, Posbus 2000, Honeydew 2040

Mrs M L Connor, Private Bag X14, Bryanston 2021

P L Crous, 41 George Street, Grahamstown 6139

David & Paula Fourie, P O Box 33, Eston 3740

Ria Kriek, Posbus 84, Mosselbaai 6500

H J Kruger, Posbus 241, Nylstroom 0510

Emsie Schoeman, Posbus 73020, Lynwoodrif, Pretoria 0040

John van der Linde, 1 Wheelan Street, Newlands, Cape Town 7700

A C van der Walt, Posbus 601, Nylstroom 0510

Martin van Zyl, Posbus 52724, Wierdapark, Pretoria 0149

..*..

FORTHCOMING EVENTS

Sat 15 February 1997

Venue

Members' meeting (miniata varieties & general)

At the home of Connie & James Abel in Pretoria
(for directions tel (012) 476406)

Time	14:00
Sat 24 May 1997	Members' meeting (gardenii & general)
Venue	To be confirmed
Time	14:00
Sat 26 July 1997	Members' meeting (show planning & general)
Venue	To be decided
Time	14:00
Sat 6th September	Gauteng show
Sat 13h September	KwaZulu Natal show.

Other dates and details to follow.

Members, please feel free to bring plants for bragging, swopping or sale to meetings. If meetings are at the Abel's home, please bring folding chairs.

..*..

BEGINNERS LUCK

Coarse river sand is invaluable for the cultivation of clivias. It provides adequate drainage for seeds and young and old plants alike. Seeds planted in it germinate well, and plants in pots are well aerated if river sand is included in the potting mixture.

A plant whose roots have rotted can often be rehabilitated by first removing the rotted area, dusting it with flowers of sulphur or dipping it in a fungicide mixture, and then replanting it in a container of coarse washed river sand. Keep the sand moist but not saturated. The plant should begin to grow a new root system in a few weeks and can be planted out into an ordinary potting mixture again after a few months.

Do not try to wash and sieve building sand. It is extremely difficult to get rid of all the fine particles. Much time, effort and water can be saved by buying packets of coarse washed river sand from a nursery. It is beautifully white, clean, even in texture and comes in handy packs. It can also be used when taking cuttings of other plants, so is well worth the expense.

Meg Hart

..*..

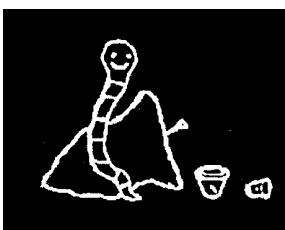
ITEMS FOR SALE

Rowley Strachan has ordinary *C. miniata* seed for sale at R80.00 a kilogram.
Tel. 0336-350085

Yoshikazu Nakamura's special seed from Japan will be available in ? March/April. Details will be given in the next newsletter. Please be sure to send R50 for a seed deposit so that you won't be disappointed.

..*..

ON THE COMPOST HEAP

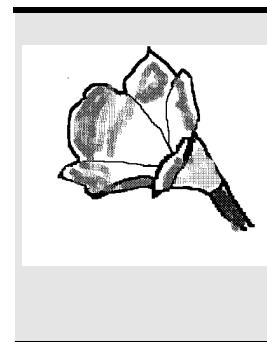


I didn't tell you what happened to me when I was in captivity. I finished the plant I'd been placed on and then had a walk around the house looking for another one. I had some narrow escapes from big feet and paws but eventually found my way back into the kitchen and was put into a box! Because all the clivia in Parktown had been sprayed I had to feed on leaves nicked from the Johannesburg Botanical Garden. *C. gardenii* leaves were OK, but I preferred

Crinum moorei. After I'd chewed up a couple of clivia seeds I hid under a leaf and turned into a dark brown pupa. Three weeks later I became a beautiful dark moth and was given to James Haxton to photograph, so I will live on in posterity in the photographs of the Clivia Club!

Yours
Lily Borer.

Clivia
Club



US\$20.00 (or equivalent) p.a. overseas

R40.00 p.a. RSA

Volume 6 Number Two April 1997

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..*..

EDITORIAL

There has been a record rainfall on the highveld this summer and whereas the average is usually about 860mm, many places have doubled that amount. The clivia have thrived in the humidity. Our friend the Lily Borer has also had a good time. We are now receiving the first icy blasts of winter, whereas those of you in the northern hemisphere are enjoying warmer weather and will have clivias flowering. We wish you luck with all your spring blooms, and may some of them be very special varieties or hybrids which will be the breeding stock of many future generations.

In this issue there are letters from the United States of America, Australia, The Netherlands and all corners of South Africa, with interesting questions and contributions on growing clivias. We learn about the varieties grown in the U.S.A. with most exciting cultivar names. Readers share with us their experiences in growing clivia and describe the types of environment in which they are cultivated and the obvious enjoyment they have from their efforts. There is feedback about the first meeting of the Clivia Interest Group in the Western Province and accounts of successes with cultivation of clivia seeds -yellows and others. Bill Morris gives an explanation of the properties of wide short leaved clivias and why these are more prone to disease.

The letters and articles sent by Kees Sahin illustrate the wealth of information that is available from historical sources, some of it from the last century as illustrated in the 1899 extracts (translated from the Dutch). Krelage was a famous Dutch nursery which operated from the beginning of the 19th century

until about 1920. It is interesting to see the attention given to the genus in the last century. Regrettably, the named clones are now unlikely to be identifiable. The feasibility of bi-generic hybrids has been somewhat refuted so this topic will no doubt be resurrected.

Meetings have been well attended at the Clivia Club and its branches and many activities are planned for this year. Selling space is at a premium for the Clivia Club Show in Pretoria and sellers must apply for space in advance. To prevent overcrowding of show plants, each exhibitor will be limited to two specimens per category. There will also be a benching fee for show plants. Details of next year's Clivia Conference, Shows and Tours are included in this newsletter and a booking form is enclosed.

Our personality for this issue is Geoff Meyer who is no stranger to those who have attended meetings and shows in Pretoria. Geoff has generously donated the flyers for our shows and has made himself available for demonstrations in caring, potting and treatment of clivia. He also gives gardening advice on radio programmes.

The *Farmer's Weekly* of October 11, 1996 has an article about a clivia business run by one of our members, Pat Lang, in the Northern Province. Of interest is the fact that she finds that seed planted directly into bags is more vigorous than that sown into a seed bed and then transplanted into bags at a later stage. Please send us any articles about clivia you may come across. Some of them may be worthwhile publishing in the newsletter. We will list what we already have in the archives in our next newsletter.

How many readers noted that when the Chinese leader Deng Xiaoping died in February the space immediately surrounding his coffin where he lay in state was massed with clivias? Is there any cultural significance in this for the Chinese?

If it is at all possible, will members submitting articles for publication who have e-mail facilities please send them via e-mail as it saves much time in typing.

A final reminder for those of you who received a renewal notice and have not yet reacted - this will be your last newsletter!

Editor

..*..

CORRESPONDENCE

Is there a white clivia?

From Maris Andersons

4115 Cresta Ave., Santa Barbara, CA 93110, U.S.A.

October 17, 1966

Dear Mr Geldenhuys

Thank you for sending me the application for the Clivia Club. I have completed the form and am returning it herewith.

Though a long time enthusiast of Clivia, I am a hobbyist and do not engage in breeding at this time. Maybe sometime in the future.

My most cherished plants are *C. miniata* 'Lemon Chiffon' and *C. miniata* 'Megan', both exceptional yellows bred by David Conway of Santa Barbara. I also have a number of exciting reds. I grow my prize plants in containers, otherwise under evergreen oak trees where they get very little water from April

till November. Coastal fog is common throughout this period. In general Clivias do very well in Santa Barbara.

My objective is to add interesting species or cultivars. I have heard rumours that a pure white Clivia has been bred in South Africa? Can you enlighten me? I also have heard that such a color may exist in Japan and secondly, that breeders in Japan have succeeded in meristem propagation of Clivias, are you aware of this?

Again many thanks for your response.

Best regards,

Maris Andersons

The question as to whether there is a white Clivia is often asked. There certainly are rumours, but these have never been substantiated.

Meristem propagation for certain families such as orchids is very successful allowing the rapid multiplication of specific forms. However, we are not aware of any substantial success with laboratory propagation techniques with clivia. Can any members throw more light on this? (Ed.)

..*..

Queries about seeds dropping off

From Debbie Schlosser

44 Athalie Ave., Linksfield North, Johannesburg 2192
19 October 1996

Dear Mr Geldenhuys

Thank you for your letter of welcome. I have been growing *Clivia miniata* (orange) in my garden for 10 years. Now that my children are growing a little, I hope to be able to spend more time in the garden. My husband and I are much interested in clivias, but class ourselves as beginners. Most of our plants grow in "forest" conditions under very large duranta shrubs (trees). They seem happy and give a lovely show each year. I've recently added *C. nobilis*, *C. gardenii* and a yellow to our collection and never having seen *nobilis* and *gardenii* in flower in real life - I wish they would hurry up! I'm now going to plant our next "forest" under a wonderfully huge pine tree and see how the plants do. I would be most excited to get hold of seeds or plants of other colours.

After the flowers have dropped off our *Clivia miniata* plants, we are left with what looks like a potentially good head of seeds. When the seeds are \approx 1cm long, they mostly drop off, leaving only 0 - 2 seeds per plant to develop to full maturity. How can I produce a head of seeds similar to those we saw at the Clivia Show in Pretoria? If one succeeds in producing a good seed head does this influence the plant's "vegetative reproduction"? I've probably used all the wrong botanical terms. Excuse me!

Yours sincerely

(Mrs) Debbie Schlosser

*You raise some interesting points in your letter. Firstly, I hope you are not disappointed when your *C. nobilis* and *C. gardenii* flower as the flower heads are not as spectacular as those of *C. miniata*. However, as they flower at different times of the year they do provide colour and interest.*

Secondly, the seeds which drop off the umbel have probably not been fertilised. Try to do some artificial pollinating next season and see if this does not improve the number and size of the seed pods. Also feed your plants with fertilizer as recommended and mulch with compost.

Finally, good seed heads do not appear to influence the plant's vegetative reproduction. As long as the plants are fed adequately they will produce good flower heads and offsets (Ed.).

..*..

"Weskapers" Clivianuus

Van Theo & Judy Beukes

Posbus 282, Gordonsbaai 7151
21 Oktober 1996

Beste Koos

Baie dankie vir die nuusbriewe, ledelys en ander nuttige en interessante literatuur. Ek het jou groete aan Gert Wiese oorgedra en hy sê ook dankie.

Ons "Weskaapers" (29 van ons) het Saterdag 5 Oktober 1996 'n baie interessante en insiggewende inligtings werkswinkel onder leiding van die kurator van Kirstenbosch Botaniese Tuine mnr. John Winter gehad. Dit was uiters leersaam en boeiend. Hy het die volgende punte breedvoerig behandel en wat so lekker was, ons kon saam praat en vrae vra.

- A. Wanneer en hoe om plante te verdeel
- B. Beste potplantmedium
- C. Water behoeftes van die plant
- D. Siektes, insekte en swam probleme
- E. Verskillende soorte voedings

Baie persoonlike ervaring van die ouer klublede is onder ons uitgeruil en meegedeel. Vir 'n hele paar van ons beginners was dit brandstof vir ons entoetiesiasme.

Gedurende die pouse is verversings geniet en gesellig verkeer. Ons was baie bevooreg om die eerste besoekers aan die nog onvoltooide reuse glashuis te wees - 'n belewenis op sy eie.

By die groepbesprekings het Gert genoem dat 'n egpaar as 'n eenheid vir lidmaatskap doeleindes beskou word teen die R20 fooi per jaar (volgende jaar R40). Sal jy so gaaf wees om my ewe Clivia entoetiesiasiese vrou, Judy, se naam by myne te voeg vir volledigheid van die rekord en die poslys.

Judy en ek is nou so \times vier jaar besig met *Clivia miniata* plante - somer rond en bont in die tuin geplant - toe nog in die Paarl. Ons is nou vir sewe maande ernstig met die stokperdjie en het tans 11 oranje, 2 geles, 2 saailinge en 3 houers met saad, 9 geles en 24 oranje sade in die ontkieming stadium. In die kop loop ons ook met 'n "kweekhuis" plan rond. Man maar dis lekker om so met die plante en saad te speel.

Die beloning vir ons pogings sal kom wanneer hul geheime uiteindelik aan ons geopenbaar word.

Clivia Groet
Theo & Judy

- O -

The following is a translation of the above letter:

Western Cape clivia news

From Theo & Judy Beukes

PO Box 282, Gordons Bay 7151

21 October 1996

Dear Koos

Thank you very much for the newsletters, list of members and other relevant and interesting literature. I have conveyed your greetings to Gert Wiese and he also thanks you.

We "Western Caper's" (29 of us) had a very interesting and enlightening workshop on Saturday 5 October 1996 under the guidance of the curator of the Kirstenbosch Botanical Gardens, Mr John Winter. It was extremely instructive and captivating. He dealt with the following points in detail and what was so nice, we could talk and ask questions.

- A. When and how to separate plants
- B. Best pot plant medium
- C. Water needs of the plant
- D. Diseases, insects and fungal problems
- E. Different types of feeds

Many personal experiences of older club members were exchanged and communicated. It fuelled the enthusiasm for many of us beginners.

During the break we enjoyed refreshments and mixed socially. We were very privileged to be the first visitors to the as yet uncompleted giant glasshouse - an experience on its own.

During the group discussions Gert mentioned that a couple can be accepted as a unit for membership purposes at a fee of R20 per annum (next year R40). Please be so kind as to add the name of my equally enthusiastic wife, Judy, to mine for completeness of the record and the postal list.

Judy and I have now been busy for \approx four years with *Clivia miniata* plants - just planted here and there in the garden - when still at Paarl. We have been serious about the hobby for about seven months and at present have 11 orange, 2 yellows, 2 seedlings and 3 containers with seed, 9 yellows and 24 orange seeds in the germinating stage. In our minds we also are planning a "greenhouse". Gee whiz but its nice to play like this with plants and seeds.

The reward of our labours will come when their secrets are eventually revealed to us.

Clivia Greetings

Theo & Judy

We are delighted to hear that Clivia enthusiasts in the Western Cape are gathering to share their love of Clivia. May your group thrive and attract many others (Ed).

..*..

Success with yellow clivias from seed

From Mrs Claerwen Howie

7 Ripple Close, Newlands 7700

3 November 1996

Dear Mrs Jennings

Just a short note to mention how even a novice Clivia grower can have success with yellow plants. Perhaps my experience will encourage other beginners.

I obtained ten yellow seeds from Bill Morris in Australia which I planted in early October 1992. Several of my friends were sceptical about my ever seeing yellow flowers. But the seeds all germinated and the plants grew well. This year, to my great delight, four of the larger plants flowered. All were yellow!

If it is of interest to any readers, I grow them in pots and use the potting mixture suggested in the Club's newsletter (Vol 1 no. 2, Sept 1992). They are outside in my garden which is shaded by very large trees, so they receive dappled sunlight. I feed them once or twice a year with a product like Seagrow and mulch with the leaves that fall from the deciduous trees in my garden in autumn.

Yours sincerely

(Mrs) Claerwen Howie

Congratulations on your efforts to grow yellow clivia from seed and to get them to flower after four years. The flowers should be even better in subsequent years. I am sure your success will encourage other members to persevere with propagating clivia from seed, especially as yellow seeds are relatively inexpensive compared to the prices asked for mature plants in flower (Ed).

..*..

An account of clivias seen in California

From Kyle Herbold

126 Adair Street, Decatur, GA 30030, U.S.A.
November 4, 1996

Dear Koos,

Thanks so much for the back issues back in May! I've moved to Atlanta since then, and have been INCREDIBLY slow in replying. I must say that the Olympics were loads of fun, and I've been enjoying the somewhat warmer climate of Atlanta.

About the back issues, I read through them all with MUCH excitement and learned much. Unfortunately, in the move I'm still not clear as to which - I'll let you know when (and if!) I find out.

Back in April, I had the privilege of visiting Dave Conway in Santa Barbara, California to see his Clivias. He is actually the only person I know of in the U.S. who is growing divisions of selected varieties of Clivia. Being divisions, they are certainly not cheap, but the diversity and quality of his work is amazing. It seems that with the current obsession with Yellow Clivias, many are inferior seed grown plants with narrow foliage and much "window space" between the petals. Many of the varieties Mr. Conway offers are incredibly attractive with many having fragrant flowers as well.

I've included copies of the photos I took during that visit. The timing was somewhat early for his yellows, but the reds and late oranges were still wonderful.

I hope this will let you and the club know some of what is going on in the American Clivia scene. It is quite difficult to find out about, but surprisingly active. Again, I appreciate your time and look forward to more Clivia News!

Truly,
Kyle Herbold

We are pleased that you have enjoyed reading the back copies of the news-letter. Thank you for the information about Dave Conway's clivias and for the photographs which will be displayed at our shows. There are many sizes and shapes of yellows, and buyers of yellow clivia seedlings are certainly taking a chance as they do not know how they will turn out. The only sure way of knowing that you are buying a particular cultivar or hybrid is to buy an offshoot or division or to buy it in flower. We have seen many inferior yellows at nurseries which fetch extraordinary prices, but simply because they are yellow, some members of the public will buy them. How about getting Dave Conway to become a member of the Clivia Club! (Ed.)

..*..

Report back on clivia seedlings

From Stella van Gass

Blomdal, P.O. Box 144, Kwelera 5259
16 December 1996

Dear Toy,

I think it is time for a first report back on the Clivia seeds we are growing.

We found that the seeds - just flat on the top of the growing medium - took off within 4 weeks of planting. We had to lift our shade cloth frames after another 3 weeks to enable the leaves to grow up straight.

There are still seeds that are sprouting and some are even now after 3: months still dormant but still firm.

It seems that the seeds of Clivia are the same as any of our indigenous plants. After a lifetime of growing succulents we know that nature does not put all its eggs in one basket. For a better survival rate, seeds in nature are inclined to stagger their germination to ensure the survival of the species.

The seeds sent - 2 months after yours - by Dr D Strydom of Klerksdorp, started germinating in the same medium but without the shade cloth frames over them. These seeds were smaller than the collected club seeds. Norman Weitz says it depends how full the capsule is; i.e. whether adequate pollination took place or not. Our own seeds are big fat ones but not many to a capsule.

Of the striped variety seeds you kindly gave me, the germination rate has not been too bad:

Apricot	2 out of 2
Dark orange	4 " " 5
Pink	9 " " 10
Dark red broad leaf	4 " " 4

How's that for beginner's luck!

I wonder if the other members have the same "problem" with seed growing? I find that I have to check ours every day for root rot penetrating the growing medium. The medium is very loose and also damp enough. Instead of going down, the root pushes the cotyledons up in the air like little mushrooms! I have the sneaking suspicion they just want a little T.L.C.! After been shown the right direction to go they carry on merrily to produce leaves. Some leaves are \times 10cm high now.

We have had a very small percentage of seeds that rotted. Maybe 2:1000. In the new year I have been thinking of getting the East Cape members together for a swapping session of plants and information.

We'll see how things develop, but I am sure it would be of benefit to all of us. Maybe - if it materialises - someone from the committee would like to attend to get us started. In any case, that is a thought for the New Year.

Let us hope and believe that our precious S.A. heritage plants and animals - large and small - will survive the uncertain times ahead. As long as each one does their small bit, I am sure it will be OK.

Clivia regards
Stella van Gass

Thank you for keeping us informed about the progress of your clivia seedlings. With regard to your seed growing problems: clivia seedlings often start growing with their roots in the air, pushing up the seed. It is a case of taking the line of least resistance. Your growing medium is probably not as porous as forest mulch. Once firmly planted, they usually remain underground. Fungal infections can usually be prevented by not overwatering and having adequate ventilation in the seed or plant area. Spraying with a fungicide also helps (Ed.).

..*..

Comments on wide, short leaved clivias

From Bill Morris

PO Box 17, Medowie, NSW 2318, Australia
1 January 1997

Dear Meg,

I have just received the Newsletter for December 96. I am interested in Allan Tait's article dealing with the wide, short leaved clivias which he calls Belgian Hybrids. These plants are not called Belgian Hybrids in Australia, simply sold as clivias. Near identical plants received from Japan were labelled as Daruma strain. Similar but dwarf plants were called Hime and from Europe "Twins".

I believe that these strains have been produced simply by selection over many generations for these characteristics. I don't know what the author meant by chemical induction, but I don't think any chemical treatment is necessary.

I have observed these plants to be more difficult to grow than either common clivias, widely grown in Australia, or the large flowered improved strains (often called hybrid clivias), also well known and grown here.

As observed by Allan Tait, the short broad leaf plants and the dwarf strains, as well as the variegated strains are much more susceptible to disease (not just powdery mildew), easily rot off in cold, wet weather and are obviously less cold tolerant.

Before commenting further I think it is worthwhile to point out the big difference between growing conditions in the Northern and Southern hemispheres.

In Australia, and apparently in South Africa, clivias are usually grown outdoors in garden beds or in pots. For protection, sometimes shade houses are used but usually only natural shade from trees etc. is necessary. Clivias are almost never grown in glasshouses (except as seedlings being raised commercially) or as indoor plants.

However, in the Northern hemisphere where much colder winters are experienced, most clivias are raised in heated glasshouses and after sale are kept indoors as flowering plants. Particularly in Europe most

plants sold are as flowering pot plants and expected to be discarded in a few months. Clivias cannot survive the winter temperatures in northern U.S.A. the U.K., most of Europe and Japan, China and Korea. Thus they are not planted outside in gardens exposed to the vagaries of the weather.

In the glasshouses, temperature, humidity and watering are stringently controlled and regular fertilising and spraying to control disease is practised.

The temperature is usually kept around 20 °C because at this temperature the plants grow continuously and can reach maturity in 24 months or a little longer.

Thus selection has favoured plants which grow fast and continuously at this temperature, while natural resistance to disease has been lost by the regular use of chemical spraying to control disease.

This selection has not been planned. It is just a consequence of raising numerous generations under the conditions described and selecting the fastest growers and best looking plants while discarding the unwanted ones.

Now when we take plants from these controlled conditions, particularly an almost unvarying 20 °C (min) and expose them to varying lower temperatures and plenty of overhead watering (particularly in winter) without regular spraying, they suffer from all kinds of diseases and straight out cold damage and rot.

I believe it is silly to expect these plants to do as well as garden plants, as the wild type of clivias or the improved strains that have been selected for garden conditions in South Africa or Australia.

What I am trying to do, as I appreciate the short broad leaves and smaller stature etc., is to experiment along two lines. From amongst the plants I raise myself or buy commercially, I am trying to select the few that show some resistance to cold, water and disease and use these as parents to hopefully breed back some hardiness. It involves drastic culling of the seedlings obtained to try to make rapid progress as at the lower temperatures they will not grow as fast and so each generation takes 4 - 5 years instead of 2.

The other approach is to cross the difficult types with the hardy improved Australian strains and select the vigorous seedlings back towards the characteristics one desires. This is probably slower than the first approach but doesn't require such drastic culling as many (or most) of the seedlings will be usable plants.

I would like to say finally that I am not criticising the Northern hemisphere strains. They have been selected and grown for their own (artificial) conditions. We should not expect them to be suitable for our outdoor conditions. I admire and appreciate their appearance and I hope I can transfer the characteristics that I like, to plants which will grow outdoors here without problems.

Regards
Bill Morris

Thank you for your reply to Allan Tait's queries about short broad leaved varieties of clivia. A big problem is that we do call them by different names in different countries and in different areas. You have also described most succinctly why these strains are so prone to problems (Ed).

..*..

Give in haste, regret forever

From Tino Ferero

PO Box 36558, Menlo Park, Pretoria 0102

2 January 1997

Dear Mrs Hart,

Excuse the paper and handwritten letter, but I am on holiday in the Free State and have the time to write a few lines.

I joined the Clivia Club in September 1996 and purchased all the newsletters from the start of the Club. I have just read through them for a second time and what hours of pleasure and enjoyment they gave me! One of my greatest regrets is that I did not join the Club sooner, especially when several members almost pleaded with me to join. I have learnt a tremendous lot since reading the newsletter and have met wonderful new friends and obtained beautiful quality plants.

My interest in clivias started many years ago when Cynthia Giddy brought me a bakkie load of miniatas removed from her garden when a tree was removed. Unbeknown to her or me there was a yellow amongst them. My sister-in-law requested a plant and landed up with the only yellow which she refused to dispose of. I had to wait years for an off-shoot and this flowered for the first time in 1996. I pollinated it with a Pat Bennet Yellow and 13 seeds have set. I am now anxiously awaiting the results.

In September 1994 I was one of the thousands of visitors who went to the Clivia Show to buy a yellow, but who came away disappointed, without even a seed. A friend then told me that Wessel Lötter was selling yellow seedlings. I knew Wessel well from the days I had an aloe/succulent nursery, and like me, Wessel was also a keen cycad collector and grower. Wessel let me have 60 plants and these I promptly planted in my front garden under shade between my *Encephalartos villosus*. To boost their growth I worked in much leaf compost and when they had taken well, I gave them a healthy helping of 2:3:2 fertiliser, even in the crowns of the plants. I lost 22 of these plants, but managed to save 38. A friend twisted my arm for 2 which I let her have. One of hers and three of mine bloomed in 1996 - all yellow, but the friend's one turned out to be the most beautiful deep yellow flowers I have ever seen with very broad petals. She is not prepared to let me have this plant back, but I used the pollen on a yellow I got from Anna Meyer. Seed has also set on this plant.

Wessel Lötter has been a plant collector and grower for most of his life and has a vast collection and knowledge of plants. He tells me that in all his experience, no other plant has presented him with so much pleasure and such a challenge as the clivia. When visiting him the other day he said to me that his interest and enthusiasm for clivias is only really starting to take off now. We look forward to seeing many beautiful specimens coming from him and Rudo.

Regards

Tino

The moral of the story is that you do not give any clivia plants away until they have flowered. Many of us have been coerced into giving or selling plants only to regret it when we see them flowering elsewhere. Connie Abel is waiting to get an offshoot from her red Belgian Hybrid back from Adri Haxton as she has no mother plant left (Ed.).

Queries with crosses

From Pat Gore

669 Killack Ave., Les Marais, Pretoria 0084

25 February 1997

Dear Members,

In 1995 I crossed broad-leaved *Clivia miniata* varieties with my good true yellow (the one I call Pat Gore) and planted the seeds. The seeds germinated well and produced strong seedlings. None of the seedlings appear to be yellow, but there are a few variegated varieties.

I would be interested to hear whether anyone else has had a similar experience. None of the broad-leaved varieties or the yellow are variegated.

Regards,
Pat Gore

..*..

Discovery of early articles about clivia

From Kees Sahin

Postbus 227, Alphen an den Rijn, 2400-AE,
The Netherlands
February 19, 1997

My dear friends

When visiting my mother yesterday, who lives in our 300 year old family home at Aalsmeer, I started reading through some old gardening magazines in her library, that are from my grandfather's days.

In "Krelage's Bloemhof" for 1899 I found two articles on *Clivia*, that I herewith enclose.

The one from the December 1899 issue is of more than usual interest with regard to the description of named, vegetatively propagated clones, with distinctly coloured flowers of fine quality for its days.

The Hamburg specialist Reimers is a new name to me. Undoubtedly in old German magazines of its time one can find details on his person, skills and activities.

In this same article I spotted, what I thought to be a mis-spelling of *Imantophyllum* an old generic synonym for *Clivia* still sometimes used in France, printed as *Imatophyllum*. As in those old days text was usually correct, I checked to be certain on the 8th edition of Willis' Flowering Plants and Ferns and to my surprise I found:

Imatophyllum Hook. (1828) = *Clivia* Lindl. (Sect. *Clivia*) (*Amaryllidac.*) AND *Imantophyllum* Hook. (1854) = *Clivia* Lindl. (Sect. *Imantophyllum* (Hook.) Benth. & Hook. f.) (*Amaryllidac.*)

Can you imagine?

On the *Cliveia* as found in the article from April 1899 of Krelage's Bloemhof I could not find reference in Willis when checking upon this.

But this checking put me on to what I once knew but forgot about: x *Cliveucharis* Rodigas. The elusive bi-generic hybrid between a *Clivia* and *Eucharis amazonica* raised by Louis van Houtte of Ghent, a century or so ago.

We need to do research on this I think. To start with we need to screen the Van Houtte magazines for more detailed information.

Originally I thought this whole story was a joke. After all how could one produce by conventional means a bi-generic hybrid of two parents, SO diverse and from two SO different origins: Southern most Africa and Amazon America.

The last discussion I had on the subject was with the late Dr. Shuichi Hirao some 35 years ago and he said that this was a highly unlikely story.

But guess what has happened since:

My dear old friend Stanley Smee has made a hybrid of *Lycoris sprengerii* and *Nerine bowdenii*, that clearly shows the characteristics of both parents. On top of this it is fertile.

Others have made crosses between *Lycoris aurea* and *Nerine* (some hybrid) one of these is my young friend Aad Koen. I have seen the hybrid plants, that also clearly show hybrid characteristics but unfortunately his hybrid has not flowered yet.

Besides, the late Dr. John Cage made a hybrid between *Sprekelia formosissima* and *Habranthus robustus*, that I think was named by Dr Hamilton Traub x *Sprekanthus cagei*. Dr Cage kindly gave me some bulbs when visiting him in Palo Alto, California in the early 1970's. The plant took very kindly to cultivation. It grew rapidly and propagated in a vegetative fashion most profusely, but it was completely sterile. Moreover it looked exactly the same as *Sprekelia formosissima*, one of its parents.

A year or two later I gave a plant in flower to Dr Peter Brandham of the Jodrell Laboratory of the Royal Botanic Gardens, Kew. He did like the plant, but did not believe that it was a bi-generic hybrid. Upon a chromosome count, that he performed soon afterwards, he had to confirm to his great surprise, that the plant actually WAS a bi-generic hybrid. It was just in-between with 66 chromosomes (*Sprekelia formosissima* $2n = 120$ and *Habranthus robustus* $2n = 12$).

A similar story is the hybrid between a modern *Hippaeastrum* hybrid and *Sprekelia*, that was made by Udai Chandra Pradhan of Kalimpong, India. When I last met with him, about this time last year, I failed to touch this subject. We spent a night talking *Rhododendron* instead. I will try to remember at the next occasion.

Also we must remember the many bi-generic hybrids of *Brunsvigia* (=x *Amarygia* Ciferri & Giacom.) and *Crinum* (=x *Amarcrinum* Hort.) with *Amaryllis belladonna* made by good old Les Hannibal of Fair Oaks, California. And then the bi-generic hybrids between *Amaryllis belladonna* and *Nerine bowdenii* made by C.G. Van Tubergen of Haarlem, Holland and named x *Amarine tubergenii* Sealy.

And there is more.

I do mention all these stories, because they indicate what is to be expected in the - perhaps not too distant - future: masses of bi-generic *Clivia* hybrids with such diverse fleshy seeded Amarillidaceous genera as for example : *Amaryllis*, *Brunsvigia*, *Eucharis*, *Eurycles*, *Lycoris*, *Nerine* and *Pancratium*. If not by conventional means, then perhaps by somatic hybridisation, or by embryo-rescue.

You should consider sending a copy of this letter to your editor, as some of the contents may give rise to desirable action and if not, perhaps to some lively discussions at least.

With kind regards, I remain,

Yours sincerely

March 4, 1997

After sending you the letter of the 19th of February on the potential bi-generic hybridization of *Clivia*, I have been giving all this rhetoric a further thought and also I have been digging a bit deeper into facts. The result is confirming my earlier philosophies and expectations in a very promising fashion.

It turns out, that checking upon the facts of fleshy seeded Amarylladaceous plants, their chromosome base is more often than not at par with the chromosomes of *Clivia miniata*, whilst further desirable candidates of future inclusion into such complex hybrids without fleshy seeds, share that same chromosome base.

Herewith an alphabetical sequence of the various genera and species $2n$ being:

$2n =$	22 in <i>AMARYLLIS belladonna</i>	from	S Africa
	22 in <i>AMMOCHARIS coranica</i>		Africa
	22 in <i>BOOPHONE disticha</i>		S Africa
	22 in <i>BOOPHONE guttata</i>		S Africa
	22 in <i>BRUNSVIGIA rosea</i>		S Africa
	22 in <i>CLIVIA caulescens</i>		S Africa
	22 in <i>CLIVIA miniata</i>		S Africa
	22 in <i>CLIVIA nobilis</i>		S Africa
	22 in <i>CRINUM</i> most species		World wide
	22 in <i>CYBISTETES logifolia</i>		S Africa
	44 in <i>EUCHARIS amazonica</i>		S America
	22 in <i>HIPPEASTRUM</i> most species		S America
	22 in <i>LAPIEDRA martinezii</i>		Spain
	22 in <i>LYCORIS radiata</i>		East Asia
	22 in <i>LYCORIS sanguinea</i>		East Asia
	22 in <i>LYCORIS sprengerii</i>		East Asia
	22 in <i>NARCISSUS tazetta</i>		Mediterranean
	22 in <i>NERINE</i> most species		S Africa
	22 in <i>PANCRATIUM</i> most species		The Old World
	22 in <i>STRUMARIA truncata</i>		S Africa
	22 in <i>UNGERNIA</i> most species		Central Asia
	22 in <i>VAGARIA ollivieri</i>		Morocco

The above is a most promising range of potential candidates for hybridising with each other, of which a number of intergeneric combinations - some of them most unlikely - already firmly exist.

All existing ones have been made by the conventional method of straightforward hybridisation, without any further technique.

Thinking of more modern ways, such as embryo-rescue or somatic hybridisation, many further combinations and re-combinations should shortly be commonplace.

Imagine the combinations of the most hardy, easy to please, long lived and aristocratic of all house plants the *Clivia miniata* with such genera like:

- 1) *Amaryllis* for spicy sweet fragrance and an enhanced colour range.
- 2) *Brunsvigia* for an increased range of colours, shapes and forms.

- 3) *Crinum* for an increased range of forms and colours.
- 4) *Eucharis* for heavenly fragrance and an enhanced range of colours.
- 5) *Hemerocallis* for winter hardiness, new flower sizes and colours.
- 6) *Hippaeastrum* for large flowers and many new colours.
- 7) &c., &c.

It is just by chance, that I started to develop the above pattern of thinking; but the more I research the basics and potentials, the more I find proof for these possibilities. So much so, that I already started to bring together the collection of ingredients, required to work this exciting project myself.

I think that you should consider to send this text to your editor for inclusion in a future newsletter, as members may well contribute further towards the realisation of this revolutionary project. In the meantime, I hope to be favoured with your firm criticism.

With warmest regards, I remain,

Yours sincerely
Kees Sahin

Your stimulating letters have given much food for thought and are certain to attract much debate about the question of bigeneric hybridization (Ed.).

..*..

THE CLIVEIA as room plant (in answer to question 2)

From Krelage's Bloemhof, April 1899, page 18.

An interested subscriber has asked us for information on the cultivation of Cliveias. From the expression *cultivation* we will assume that it especially implies information on handling them as room plants: indeed of *cultivation* in the true sense one can talk only of a single species and above all as a room plant Cliveia is particularly valued.

Cliveias are preferably potted in a mixture of half-rotted leaves, decayed sod soil and old cow manure, to which sand has been added, resulting in a good nutritious soil, which the thick fleshy roots appear to need.

The plant is not fussy regarding temperature, and can prosper in a mild room temperature. To advance the flowering time, so that much pleasure may be given in the winter months, a higher temperature is desirable (15°). During summer the plant may be kept in a protected outside place. The plant's demands will manifest themselves. Regular watering is necessary.

After flowering re-potting may be recommended, the young plants may be separated from the mother plant and potted separately. If seed is desired, then naturally the flower is left on the plant, otherwise it is removed immediately after flowering. To maintain the leaves in good condition, they should be sponged carefully with lukewarm rainwater. A healthy plant, well looked after, will be reward enough, but if all plants are not healthy, and one plant is sick or deteriorating, then special steps must be taken to recover, such as keeping the plant at a higher temperature, so encouraging the growth of new healthy leaves, while the old sickly ones may be removed, or through ventilated and cooler conditions so that thrips and aphids, which prefer warm rather than fresh air, are discouraged from establishing themselves on the plant. Only the result can show whether correct steps have been taken.

Also with healthy specimens old leaves that are yellowing or are dying may be removed.

..*..

CLIVIAS

From Krelage's Bloemhof, December 1899, page 76

Further to an earlier (page 18 of this year's volume) article regarding the cultivation of Clivias, we wish to focus attention particularly on the different forms of the plant.

Superficially one can presume that the variety is not very large; where Clivias are seen in flower they are virtually always the well known plants with orange coloured flowers, with little or no variation between them. Still this impression is only partially correct, and judgement is made more further complicated due to the circumstance that usually only isolated specimens are seen and the possibility of comparison is denied.

One comes to another conclusion when one sees a well arranged selection in full flower, such as the one at Bloemhof. It is then apparent that there is a substantial difference and variation among Clivias and that the colour range is from light sulphur yellow to deep red.

The oldest known *Clivia* is *C. nobilis*, imported in 1827 from South Africa to England, where it first flowered on the estate of Lady Clive. The generic name should therefore more correctly be written as *Cliveia*. On the other hand the plant was named almost simultaneously *Imatophyllum Aitoni*, with the genetic name "Riemblad", after the characteristic leathery leaves. This variety is seldom seen nowadays. In 1854 a second *Clivia* was imported from Natal, superior by far to the earlier one. While with *Clivia nobilis* the flowers are small and hanging and tinted with green, those of *C. miniata*, as the second import was named, are bigger, wider open and much redder in colour, and the leaves, although leathery, are not as hard as with *C. nobilis*.

Shortly after the importation of *C. miniata* a hybrid between *C. nobilis* and *C. miniata* was brought into the trade, with characteristics between the two parents. This hybrid is still present, has been given the name *Clivia cyrtanthiflora*, and is a very popular variety. It is actually preferred over many newer types, where not one can match its resistance against diseases, pests and otherwise, to which house plants are so susceptible. Therefore we deemed it necessary to draw once more the special attention to this old, but useful, house plant by illustrating it.

With its flowers, although hanging, attractive, cheerfully coloured and numerous, the whole plant is well developed and makes a good impression with its broad dark green leaves, from which the firm flower stalk appears with a heavy umbel of orange yellow flowers on top.

To also ensure that the newer varieties are correctly distinguished, a flower scape of each one of these is herewith presented. The enormous difference is evident, the blooms all erect, "looking at you", flowers standing close together and forming a fully round ball, equally nicely developed on all sides. Although in many nurseries one sees only seedling Clivias without names, there are nevertheless a number of hybrids, each with its own characteristics, so that it is worth while to examine them more closely. They are grown under specific names, and must, to remain true, be propagated vegetatively and not from seed. The speed of reproduction is thereby severely restricted and one seldom finds many of these sorts together.

Here follows a selection of a good range of older and newer vegetatively propagated named varieties.

C. miniata hybrida has small hanging flowers of a single even flesh colour.

With *intermedia* the light salmon coloured hanging flowers are grouped to one side.

intermedia splendens has small dark orange-salmon coloured flowers.

With *maxima* the flowers are held firmly upright, and are orange-salmon coloured with white centres.

maxima Vanhouttei forms a beautiful bunch of large orange salmon coloured flowers.

Juliana is small flowered, soft salmon coloured with a light sulphur yellow centre.

Lindeni is a cultivar that became very popular soon after its introduction and was used on a large scale for breeding. It is now surpassed by its offspring.

Madame Louis van Houtte is a classic type bred by Hamburg Chief Gardener Reimers, who has achieved fame through his Clivia seedlings. The beautiful big flowers stand upright, are dark orange in colour with a nearly pure white centre.

Mademoiselle Marie van Houtte, also bred by Reimers, has hanging flowers, more elongated than round in form, much clear white in the centre and bright orange salmon tips to the petals.

Madame Peeters (Reimers) makes a large umbel of big round flowers, salmon coloured with white centres, spectacular.

C. H. Donner (Reimers) has not round but rather long extended flowers and is distinguished by especially white centres, with only a little orange on the very top of the petals.

After Reimers it is especially the Belgian growers who have brought the best Clivia seedlings into the trade. The collection and planting of seed is easy, and was increasingly practised as Clivias became more widely spread. Still remarkably few named improved forms are seen in the trade. We name the following:

Roi Leopold II (1883) large widely open flowers with three broad and three smaller petals, large pure white centre, petals clear orange salmon colour.

Madame Rodigas, differs from all the others through the particularly light colour, centre sulphur yellow, petals soft salmon colour. This selection can be recognised in one show group at a distance. The same applies to

Chevalier Heynderickx, which has a sharp contrast between the dark petals and the large clear white centre. It is a lovely plant with deep dark green leaves.

The Dutch have gained by having the following crowned with a 1st Class Certificates:

Natura Artis Magistra (Krelage 1891) with large round upright flowers, orange salmon colour with light yellow centre.

Speciosa has beautiful full blooms with big flowers, soft rose salmon colour, big clear white centre with soft yellow mid stripe.

The above summary - one group out of many - may give an impression of the wealth of variety of our contemporary Clivias.

Thank you Kees for sending us these two articles (Ed.).

..*..

WESTERN PROVINCE CLIVIA INTEREST GROUP MEETING (22 JANUARY 1997)

Nine members were present at this meeting held at Kirstenbosch chaired by John Winter. Dates were set for future meetings and a show. Toy Jennings and Jim Holmes were coopted on to the committee.

..*..

GAUTENG CLIVIA CLUB MEETING (15 FEBRUARY 1997)

This was the first meeting that was held at the home of Connie and James Abel since their return from Zimbabwe. Thirty two members attended the general meeting which was chaired by James Abel.

With the development of the branches (Australia, KwaZulu/Natal, Western Province) and their organisation and finances, the following was suggested:

- a. Club subscription fees be set to cover only the production of the newsletter
- b. Branch expenses should be covered by their own fund-raising activities (shows, sales, commissions, etc.)
- c. Any branch with surplus funds is encouraged to commit them to a central fund for the promotion of research and any other matters devoted to the development of the Clivia Club and of the knowledge about the genus.
- d. Separate accounts be kept.

Plans for the 1997 Clivia Club show in Gauteng were discussed briefly. Any members wanting to help should contact Frikkie Potgieter well beforehand.

There was much discussion amongst members about various aspects of clivia culture: natural pollinators (bees, ants, other insects?, wind), vegetative propagation, pests and diseases.

Several Clivia were on display: an F2 hybrid cross, a broad leafed clivia ex Coromandel (not flowering), a flowering *C. caulescens* and a *C. nobilis* with a magnificent head of seeds - at least six per pod.

Wessel spoke about the Clivia which he has been breeding for 25 years. He showed us his F2 hybrid cross (F1 was *C. miniata* x *C. nobilis*) which was flowering in February. It had a long stem, good umbel and upright orange flowers. Wessel also showed his photographs of the magnificent clivia taken at the Natal Show.

..*..

WESTERN PROVINCE CLIVIA INTEREST GROUP MEETING (1 MARCH 1997)

An open meeting was held at Kirstenbosch Botanical Garden. Kirstenbosch donated two *Clivia miniata* var *citrina* plants (with Kirstenbosch Yellow x) and Gert Wiese donated a 'Howick Yellow'. All three were raffled and Gerhard van Wyk from Parow drew both 1st and 2nd prizes (the two Kirstenbosch plants). Toy Jennings drew the 3rd prize. The branch is now solvent.

Jim Holmes gave a demonstration on repotting and talked about compost mixes.

Toy Jennings

..*..

FORTHCOMING EVENTS

GAUTENG

Sat 24 May 1997	Member's meeting (<i>C. gardenii</i> and general)
Venue	The Nestlè Centre, Witwatersrand Botanical Gardens (Malcolm Road, Poortview, Roodepoort. Tel. (011) 959-1750/1
Entrance fees	Nestlè Centre - free, Gardens - R5 adults, R2 students (Botanical Society members free)
Time	14:30 Club meeting 16:00 Guided tour for 1 hour past the <i>C. gardenii</i> and up to the waterfall
Sat 26 July 1997	Member's meeting (show planning & general)
Venue	Pretoria National Botanical Garden
Time	14:30
Sat 6th September	Gauteng show and annual general meeting

KWAZULU/NATAL

Sat 21 June 1997	<i>Clivia gardenii</i> display
Venue	Pietermaritzburg Botanical Gardens
Time	12:00
Sun 22 June 1997	Clivia cultivation workshop - contact Sean Chubb for details (Tel. (0325) 81978)
Sat 13 September	KwaZulu Natal show.

WESTERN PROVINCE

Sat 14 June 1997	Preparation for showing, pest control
Venue	Kirstenbosch National Botanical Garden
Time	09:00
Sat 13 September	Plant breeding, producing seed crop
Venue	Kirstenbosch National Botanical Garden
Time	09:00
Sat & Sun 4 & 5 Oct.	Western Province Clivia Club Show
Venue	Sanlam Hall, Kirstenbosch National Botanical Garden
Sat 15 November 1997	Annual general meeting

Other dates and details to follow.

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1998 CLIVIA CONFERENCE, SHOWS AND TOURS

Building on the success of the Newsletter, founded and run initially single-handed by Nick Primich, the Clivia Club grew to be able to hold its first show and talks in 1994. It was then decided that this should be repeated every four years, and early planning for September 1998 is essential - please respond.

1998 will offer members an opportunity for two weeks of being part of presentations and intense discussions on clivias, of seeing the best plants that the Gauteng and Kwazulu/Natal branches have to offer at their shows and of touring the habitats of all four species (understandably, only *C. miniata* in peak flower in September). Since clivias grow in the mountainous and high-rainfall eastern seaboard areas of South Africa, participants will also travel through some of the finest scenic regions that the country has to offer.

Plans include the following:

3rd & 4th Sept: a two day conference where papers and posters will be presented on technical aspects as well as on developments with clivia around the world. Members are requested please to consider offering papers. Even if unable to attend the conference personally, papers can be read on your behalf, so please send us a short summary.

5th Sept: a show of the best plants available from the Gauteng (Johannesburg/Pretoria) Branch.

6th to 11th Sept: a bus (air-conditioned) trip from Louis Trichardt in the North through KwaZulu/Natal to Pietermaritzburg, visiting a number of *caulescens*, *miniata* and *gardenii* habitats.

12th Sept: a show of the best plants available from the KwaZulu/Natal Branch.

13th to 16th Sept: continue the tour to *nobilis* country in the Eastern Cape, and then return to Johannesburg.

Travel agents will be selected to offer members pre- or post- conference tours to other Southern African attractions such as game parks and the Victoria Falls.

Accommodation on the tour will be limited, and priority will be given to early responders. Members are earnestly requested to complete and return the questionnaire enclosed with this letter, without commitment at this stage, so that planning can be undertaken effectively. Provisional costs are given (1997 rates). Hotel accommodation for the conference and the tour will be of good "3 star" (not luxury) quality. The tour is budgeted on a bed & breakfast basis, and other meals and costs will be for the delegates own account.

James Abel

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PERSONALITY PARADE

Geoff Meyer

Geoff was born in Pretoria on 15 December 1960. His schooling was at Sunnyside Primary and Pretoria Boys High School. He enjoyed high school and had five happy years there. After matriculating, being unsure of what he wanted to do, he joined the South African Navy on the understanding that if he completed four years in the permanent force he would not be called up for any naval camps later. However, this was not to be and he still had to do camps, but only two instead of the customary ten! During his term in the navy he was stationed at Saldanha, Simonstown, Durban and Pretoria. His navy years gave him his first exposure to the marvels of the Cape and the richness of its flora.

After leaving the navy, he enrolled at the Technikon in Pretoria in January 1983 for the National Diploma in Horticulture. At weekends he worked at Keith Kirsten's Waterkloof Garden Centre in Pretoria. This was very convenient because it was 900 metres from his parent's home. He completed his studies and continued to work at Keith Kirsten's as the manager. In April 1990 he and a friend bought the business as Keith Kirsten was concentrating on his Johannesburg operations and wanted to dispose of the one in Pretoria. It is now called Geoff's Garden Pavilion and is one of Pretoria's best nurseries. Geoff gives gardening advice on Radio Jacaranda on the first Wednesday of every month at 10:00 and is a regular on the Radio 702 garden talk show on Saturdays from 14:00 to 14:30.

In March 1990 he married Sue Russell and in December 1995 they were blessed with a little girl, Jennifer Anne, who now takes up a great deal of their time and is tremendous fun, and is the best thing that has happened to them since they were married.

Since childhood Geoff has taken a keen interest in plants and nature. He still has a few aviaries with birds as well as tanks of tropical fish.

Toy Jennings stimulated his interest in clivias and Joe Pretorius introduced him to the Clivia Club some years ago. He belongs to numerous clubs and societies and at present is chairman of the South African Garden Centre Association and chairman of the management committee of the Austin Roberts Bird Sanctuary in Pretoria East. The little free time he has is spent attending to his plants, birds, fish and family, and he loves slipping off to the Kruger National Park or game reserves in KwaZulu/Natal (Mkuzi is his favourite) with the family.

He says "I am fortunate enough to be one of the few people whose hobby has become his profession and if I had my time again I would do exactly the same."

..*..

NEW MEMBERS

We welcome the following new members:

AUSTRALIA

George Hellen, 8 Currawang Street, The Gap, Q 4061

John & Dorothy Miller, 161 Loch Street, Toowoomba, Q 4350

Bruce & Cathy Newton, 35 Juniper Crescent, Toowoomba, Q 4350

Norman Wake, 10 Coronation Street, Mona Vale, NSW 2103

SOUTH AFRICA

Jakkie Boucher, Posbus 1663, Vanderbijlpark 1900

Div de Villiers, PO Box 37318, Faerie Glen 0043

Barbara Dippenaar, 16 Irvineweg, Bonnie Doone, East London 5201

Giles Garlick, PO Box 426, Munster 4278

Lynette Lotz, Tarentaalweg 22, Stellenbosch 7600
Gerhard van Wyk, Sarel Cilliersstraat 25, Parow 7500
..*..

CHANGE OF ADDRESS

Kyle Herbold's new address is 126 Adair Street, Decatur, GA 30030,
Tel. (404) 370 -1839

Toy Jennings' new address is 33 12th Avenue, Fish Hoek 7975,
Tel. (021) 782 7043.

Toy says that she is sorry that she wasn't able to say goodbye to everybody before she left for Cape Town. She is now feeling more settled. She now has a shade house for her clivias to protect them from the notorious South Easters. She has joined the Western Province Clivia Club and attended their last two meetings (Ed.).

..*..

E-MAIL ADDRESSES

The following clivia club members have e-mail addresses:

SOUTH AFRICA

Connie & James Abel jabel@omnia.co.za
Elda de Witt kedewitt@smartnet.co.za
Meg Hart hartmh@alpha.unisa.ac.za
James & Adri Haxton jameshax@global.co.za
Louisa Liebenberg ejll@nbipre.ac.za
Piet Vorster pjvor@maties.sun.ac.za

THE NETHERLANDS

Kees Sahin sahin@euronet.nl

U.S.A.

Kyle Herbold kherbol@emory.edu
Colman Rutkin colsage@interport.net

..*..

BEGINNER'S LUCK

Sometimes an umbel of a very special clivia breaks off before it is mature enough to produce viable seed. Try to encourage it to mature by placing the stem in water or a weak solution of Nitrosol. If the lower end starts to rot, cut it off and reimmerge the stem. It should be possible to extend the maturation period for as long as two months. Once out of the water the pods should change colour and when they have dried out a little, but while they are still fresh, they can be peeled and the seeds planted.

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FOR SALE

Membership lists. Full membership lists are available from the club for R20 (\$10 US dollars or equivalent).

Seeds. Please remember to send R50 seed deposit to Koos Geldenhuys if you wish to purchase seed from the Clivia Club. Yoshikazu Nakamura's special seed from Japan has not arrived yet!

***C. miniata* and *C. gardenii* plants** for sale at all ages - R12,00 and down. Phone Sean Chubb at (0325) 81978

***C. nobilis* seed** for sale @ 50c/seed. Phone Charl Malan at (0461) 311086 after 18:00

Fertilizer. For the convenience of Gauteng members, a supply of 1:0:1 and 4:3:4 fertilizer (recommended by Gerhard Reyneke) has been obtained and is available at cost - contact Connie Abel on (012) 476406.

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ON THE COMPOST HEAP



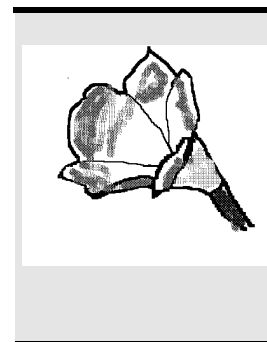
I was wondering whether any of my ancestors were around in 1899? I would love to have tried all those varieties with their fancy names. Please let me know whether anyone has seen a white clivia.

You will not be hearing from me again unless you've paid your 1997 subscriptions!

Yours
Lily Borer.

Clivia Club

PO Box 74868 Lynnwood Ridge 0040 South Africa



US\$20.00 (or equivalent) p.a. overseas

R40.00 p.a. RSA

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EDITORIAL

As I write this newsletter the winter solstice has just passed, but although the days will be lengthening, the coldest weather has yet to come. There were exceptionally heavy rains and cold weather in May - not usual for us here on the highveld. Clivia have been flowering out of season and most of us have very little seed ripening. Lily Borers have had a wonderful time destroying as much as they can, and just when you think you have them under control, they appear somewhere else! Plants under cover have not fared too badly, but most of us have our plants out in the open.

We have contributions from all over South Africa and from all the continents except Asia. Dries Bester talks about successful germination of seedlings, describes a snippet from an old magazine, and has a list of prices of Clivia. He seemed very pleased about the Clivia caulescens tour which he led last year. We hope he is still enthusiastic when those of us who were unable to go last year contact him for a tour this year! Gert Wiese clarifies points on yellow Clivias. All the controversy on yellows really points to a need for a classification of the known varieties with proper nomenclature. Lynette Lotz has mentioned some interesting aspects in her letter: seedlings without chlorophyll, suggestions for the newsletter, and ideas on how to boost the club. We hope to institute a coloured supplement for members soon.

There are two letters from Les Hannibal in California. The first gives a description of what is supposed to be a Belgian hybrid - here again a photograph would help with the identification. And yes, when is someone going to describe this in the botanical literature? Come on, all you budding botanists! Les Hannibal's second letter describes some of the intricacies of bigeneric hybrids and successes with Crinum

in particular. This letter will also serve as the scientific article for this newsletter. There has been no success in finding a "white" clivia. Kees Sahin was able to furnish a possible source, but when followed up this turned out to be a pale cream. Sir Peter Smithers has given an e-mail number on which there is a picture and a writeup about *Clivia x Kewensis* 'Vico Yellow'. Keith Hammett reports that little progress has been made with *Clivia* research at his university in Auckland, New Zealand. One student discontinued his studies and another has recently started. Bill Morris has raised more interesting points on the origins of Belgian Hybrids and we hope readers will be able to contribute more to this discussion.

Jakes Naude is growing seedlings hydroponically in vermiculite with good results. He asked for information on pests and diseases and as these topics were discussed at both the Gauteng and the KwaZulu/Natal *Clivia* Club meetings, we have given a breakdown of one of them in this issue. Both meetings were well attended and helped to enthuse members even more about their hobby.

I was at the North Coast recently and decided to collect the KwaZulu/Natal news in person from Val Thurston, the secretary of the branch. Needless to say, I got lost in the sugar cane near Tongaat. I couldn't help thinking how many pockets of indigenous bush with *Clivia* in them must have been cleared to make way for all the sugar cane along the coast. Here we decry the ravages made by the herbalists when we, the so-called first world communities, probably do far more damage to the environment when clearing for farming or housing. Val Thurston has photographs of lovely yellow *Clivia* and is busy classifying them. I hope we will be able to publish this sometime in one of our newsletters. A few of them have very wide stems with distichous leaves much like those of the broad leafed varieties. I had always thought that these were only found in hybrids, but they are obviously also found in the wild. So perhaps it is from this stock that we get our broad leafed varieties!

There were far too many entries for the space available at the Gauteng *Clivia* Club show last year, so restrictions have been placed on the number of entries per person per class this year. There will also be a benching fee. The rules for Gauteng and the classes for both Gauteng and KwaZulu/Natal shows are listed in this issue. All Western Cape members will automatically be notified about their show.

The long awaited parcel of seed from Yoshikazu Nakamura posted from Japan in February was finally traced. It arrived in South Africa on 14 February, but due to an oversight by the postal authorities, and despite repeated enquiries, it could not be found. After sleuthing activities by Connie Abel it was eventually discovered and collected from the post office on 9 May 1997. Unfortunately 40% of the seeds were beyond rescue and had to be thrown away. Many of the remainder were of poor quality, but this was not as a result of the seed sent by Mr Nakamura, but because they were packaged for so long. Seed from Yoshikazu Nakamura is restricted to South African members only. Redistribution overseas would decrease viability even further. The money from their sales goes towards the translation costs for his newsletter. Overseas members who want seed from Mr. Nakamura are advised to order it directly from him. Supplies of special seed are severely limited as growers of yellow *Clivia* and cultivars are not keen to part with their seed. However, as this becomes available, it will be distributed to overseas members.

Our personality for this newsletter is Charl Malan who lives in *nobilis* country in the Eastern Cape. Sydney Press, a doyen of Belgian Hybrids in South Africa, passed away in June 1997. He left a legacy of Belgian Hybrids which were raised on his Coromandel estate near Lydenberg in the Eastern Transvaal (now Mpumalanga).

Most *Clivia* growers eagerly await the Spring when our plants will show their true form, and especially the major shows which will take place during that time. Glenn Wagner, a *Clivia* grower in Pretoria has submitted a picture of a new Lily Borer for the newsletter. We hope you like her.

Editor.

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COMMENTS FROM THE CHAIRMAN

There are some developments that will be of interest to our members:

1. At the last committee meeting, we discussed the organisation of the Club, and our thoughts are that we need to separate the Club as a whole from the Gauteng Branch (and others). The proposal is that each branch should nominate one or two delegates to attend a Clivia Club meeting soonest to consider all overall matters, which would include the newsletter and finances. Editing and Finance would be club portfolios. The branches would each be responsible for their own finances, shows and other activities, but would be able to draw on the Club for documentation and other promotional materials at cost.
2. We have received a stimulating letter from Kees Sahin in which he proposes that we develop a top quality colour illustrated magazine. We feel that, for script, the current method of publishing the newsletter is economic and adequate, and that all available publishing funds should be used for illustrating the beauty of our genus. It is our intention to continue with the quarterly newsletters and to publish a coloured supplement annually. We have read often and enticingly about all the named clones that are in our members' collections, but with little idea of what they look like. All members are urged to send in photographs of their prized plants with their names (if any) such as "Twins" or "Daruma" and a brief description. We will publish as many as we can, but all of them will provide the basis for an authoritative collection for the Club. Photos are urgently needed for the first colour supplement and should be sent to the Clivia Club secretary.
3. At this rate, the 1998 Conference and Tour will be held in a minibus. I plead with all members to let us know of their likely participation in any of the activities, without commitment at this stage, so that we can realistically start working on the facilities required. There will be no objection if some members wish to make their own travel and accommodation arrangements to visit the sites in parallel with the main tour, although they will then not be part of the discussions in the bus.

With best wishes to all,

James

..*..

CORRESPONDENCE

Clivia here and there

From Dries Bester

Box 75, Levubu 0929

2 February 1997

Dear Koos,

This is going to be a long rambling letter about the past, present and germination successes (as well as the *C. caulescens* tour).

✌ First of all - germination: 100% success with Pen Henry's seeds. All five are going to be yellows. Nakamura's "Special Breeding Stock" - 80% success and most emerged with leaves as red as beetroot; these changed to green as they grew bigger. De Koster's Belgian seeds: 100% germination and 18 out of 20 are yellows.

All seeds germinated on sand in 2 litre Coca Cola base "hot-beds" and were watered with funginex when planted and sealed. The containers were kept in 80% shade and in a cool corner.

Thanks so much for fellow members who share their collections with others.

✌ Secondly - the *Clivia caulescens* tour, 1996. This was a "first" for us up here in the darkest heart of Africa. What a pleasure to have met some of our club members! It is not difficult to be enthusiastic as a tour leader when such people as Pat Lang, Lien Joubert, Kerneels Buitendag and all the others are eagerly pushing on behind you. We shall do it again. Thank you for coming and the unselfish sharing of knowledge (and plants!).

✌ Thirdly - a historical note: a dear friend of ours, Mrs Rikie Putter (81) rummaged through her collection of old magazines after seeing my clivias in flower. She remembered having seen an article on Clivias some time ago (wish I still had such a memory!) and the "Ster" magazine was dated 26/12/1969. The anonymous article was written in Afrikaans and I shall summarize the main points.

Mrs John de Villiers from Thornville (Natal) was thrilled when her yellow Clivia (for the first time in 17 years) pushed up two four feet bunches of flowers - each bunch one foot across and having 26 individual florets.

This plant was the offspring of a plant originally given to Sir Melmouth Osborne (Resident Commissioner of Natal) by a Zulu in 1892. The writer stresses the need for a rich, well-drained composty soil and that the seeds take one month to germinate when kept in deep shade.

Then there are a few photographs of Mrs de Villiers admiring her magnificent plant. What happened to Mrs de Villiers - and especially, her Clivia? Any relatives who are members?

☞ Fourthly - Prices. I paged through the 1969 magazine and saw that Dante's Deodorant (which "protects you from anything except men") sold for 31 cents; Buccalene for your disintegrating tonsils was 65 cents per bottle. And a special for club members who easily get overexcited, a self-hypnosis course for only R5,25.

I realise that comparisons are odious but, referring to Pat Lang's letter (Vol. 5 no 2: 8) and the editor's views on the pro's and con's for nurseries charging people R20 - R25 for *C. miniata*, I wish to inform you that I have been "nursery-hopping" from the Natal North Coast (Stanger area) up to Pietersburg, Tzaneen and the Soutpansberg region.

Prices:

Umhlali - Salt Rock - Stanger nurseries ranged (1996) from R3,50 - R9,90 for mature, flowering miniatas and gardeniis.

Tzaneen (3 nurseries) from R6 - R6,90 for broad leafed cultivars, and up to R10 for massive light orangy-pink miniatas.

Venda - miniatas with nobilis-like serrated leaves, deep-orange flowers, some with strong St Joseph Lily fragrance for R10 (but if you bargain and haggle, R8,50).

Levubu - miniatas for R5 (I call these "Sunset" collection as they are all pastel sunset-yellowish-pink-orange shades).

Louis Trichardt - miniatas R8,50.

Nelspruit - wonderful, magnificent broad leafed varieties/cultivars for R12.

Pietersburg - I bought my first broadleafed cultivars < 5 years ago here for R26. They sell ordinary miniatas for R12 upwards now.

Soutpansberg area - miniatas from R8, Broad-leaves R20 and R60.

NB! There is no reason to suspect that some of these nurseries have collected their stock from nature as miniatas do NOT grow naturally in MOST of these areas). Their prices are so affordable that nobody would pilfer, buy from the roadside or raid natural populations.

We as members, must guard against the development of a spirit of selfishness. Maybe I am naive but I feel we should share knowledge and experience and we should support nurseries which sell Clivias as garden plants not as cult- plants - they are cashing in on our fever!

Members who are "sharers" may send a stamped, self-addressed envelope to my address if they wish to visit these nurseries. (Maybe I should publish the names of these nurseries in the Newsletter as a token of gratitude).

Yours,

Dries Bester

Thank you for all the bits and pieces, Dries. We are pleased to hear that your new seedlings are doing well. We also hope that there will be another Clivia Caulescens tour this year. Please remember to give Adri Haxton a copy of the article in the 1969 'Ster' for the archives.

I wonder why Mrs de Villiers' yellow Clivia only flowered after 17 years if it was being grown in the correct medium? I hope that ours don't take so long to flower! (Ed.)

..*..

More delving into the origins of yellow Clivias

From Gert Wiese

12 v.d.Westhuizen Ave., Durbanville 7550

27 March 1997

Dear Meg,

Thank you very much for acknowledging and publishing my letter of 31 December 1996.

With reference to Wessel Lötter's letter on page 11 of your newsletter of January 1997 re true yellows, the following remarks:-

a. Watkins or Karkloof Yellow. I think I made it clear in my previous letter that Mrs Watkins never had a Karkloof Yellow. Her plants are crosses between two other strains and are not true yellows. We don't seem to know much about the so-called Karkloof Yellow.

b. Eshowe Yellow. Refer to newsletter volume 4 number 2 of April 1995, pages 2, 3 and 4. Here Mrs Robinson, daughter of Sir Charles Saunders gave the history of one of the early finds of yellow Clivia. This plant was found in 1892 by Sir Melmouth Osbourne's cook at Entumeni, close to Eshowe. Now at that time Entumeni must have been just a name, it can therefore be accepted that this plant would have been described as found at Eshowe. I also think that the town of Melmouth, named after Sir Melmouth, did not exist at the time. What is however important, is that this plant was shared with Sir Charles Saunders who in turn sent a plant to his mother Mrs J. H. Saunders at Tongaat. She made a drawing of this plant and sent the drawing as well as the plant to the Royal Botanical Gardens at Kew, where it was planted under glass and lived happily ever after. On page four of this same newsletter it states as follows: "One curious fact about it is that it does not breed true to type".

May I now refer you to newsletter Volume 2 Number 1 April 1993, pages 6,7, and 8. The date here differs and states the plant was found in the Eshowe forest in 1888. The same family names appear here so we can accept that we are dealing with the same plant. On page 6 it states that all plants raised from seed produced yellow flowers. On page 7 it states that the two plants were taken to England where both flowered and both died afterwards. The seed however produced plants which reverted back to orange. It is also stated that the yellow flowering plant at Kew is not the original *C. miniata* var. *flava* received from South Africa, but a segregation back from that plant to a hybrid.

On page 13 paragraph c, Wessel states that he saw three different Howick Yellows. I am very sorry to say Wessel, that what you saw were not all true Howick Yellows. Furthermore, Howick Yellows do not breed true yellows, but breed very well with other strains.

The information I am referring to is available in the newsletters, and I am sure that the club will sell back copies of these old newsletters. They can be very interesting.

So let us enjoy our hobbies and see who can produce the best plants and flowers. After all, they are all beautiful and very interesting. I personally get a lot of joy out of growing clivias.

Best regards,

Gert.

Please won't someone classify the yellow clivia in tabular form (Ed).

..*..

Suggestions to brighten up the newsletter

From Lynette Lotz

22 Tarentaal Road., Stellenbosch 7600

9 April 1997

Dear Meg,

Its sad that I've foregone so much pleasure for so long by not joining earlier when Christo Lötter and Fred Gibello wrote to the Burger about the Clivia Club and yellow clivias. Now I have finally taken the step, and have also joined Ibsa. Fortunately we have Jim Holmes, Gert Wiese, two Lötters, Fred Gibello and now the cherry on the top (judging by the show results), Toy Jennings. I've started my collection with yellow seedlings, having more patience than common sense and money! I've finally got all four represented albeit in baby form, and even a *cyrtanthiflora* x variegated specimen. Orange seeds, then yellow, and now *gardenii* have germinated in margarine containers, using damp Carlton paper after the cottonwool got too entangled with the roots. It worked wonderfully - 'sommer' on the sunny lounge window sill, and seven weeks later - voila! Best of all I didn't have to dig them up to

find out if they were still alive or see if they planned to be orange or yellow. My latest batch has a red plant, without green or chlorophyll, so it won't live long, unless I can encourage a symbiotic relationship planting it with some green siblings. Earlier orange seedlings produced cream leaves that gradually died away as the nutrient from the seed was depleted.

You have so much information in your newsletters/mags. Why not publish expert articles on a regular basis in South African Garden and Home and GET PAID FOR IT!! The Club has a vast store of photographs among its members. In this way we can all buy the magazine and gain colour illustrations of SHOW WINNERS - perfect pompom yellows - like the one on the cover of S.A. Gardener Vol. 5 no 11 November 1986. (August 1986 also has some ads and a write up of Coromandel Nursery, P/B 1017, Lydenburg 1120). I still haven't got an illustration of a peach colour. We could even feature the various yellows, variegates, gardeniis, caulescens, nobilii - the whole spectrum of what is available out here. After all YOU HAVE ALL THE INFO., so please, please we need illustrations and advertising. Granted we can't outdo Nakamura, but articles like that will certainly spread the message and boost attendance at shows. S.A. Garden and Home March 1976 had an article by Nancy Gardiner on the Kildare Estate near Stanger, about Kingsley Hamlyn, along the Mfenga river - 12 different colour shots and a full page black and white photo showing them growing in the wild. Maybe they are no longer there as I haven't seen their name on the membership list. Mention was also made of variegated plants and that there were several cream clivias!! Maybe the lot was sold, as so often happens with a deceased estate. If it still exists, that's another new member to be enlisted! I've asked Sean Chubb to check out the perfect Pompom photographed at FOX HILL by Chris Bently - a perfect sphere and creamy yellow flowers. S.A. Garden and Home Jan 1979 also had an illustration of a pastel pinky orange clivia with a white centre, but it could merely be a lack of yellow ink on the printing roller. One needs to photograph various shades in one group to show the various shades. Maybe even better to use a standard orange flower with every variety and shade, so that one can compare the same plant on the various photos and not be misled by printing errors, as in the Gardiner article where the leaves became mauve - too much red ink! Kirstenbosch regularly advertises their annual plant sale with a yellow clivia photo and write up in the local tabloids, and boy! does it draw the crowds at R120 a seedling, guaranteed yellow - they even have waiting lists. Having just started I've not the knowledge or photos to do the job, but it can be spread over several issues - starting at Eshowe to Kew to Nakamura's 'Vico gold'.

MAYBE ONE DAY I'LL MAKE IT NORTH TO SEE PLANTS IN SITU. MAYCAT

Lynette Lotz

Thank you for your letter, Lynette, which has many points to comment on.

I would like to start by translating the name of the street in which you live for the benefit of our overseas members. A 'tarentaal' is a guinea fowl. I have several in my garden who create absolute havoc with many of my plants, and with the impatiens in particular, and if anyone would like to have some, but not for the pot, they can contact me. They are the French or domesticated variety and are larger and more territorial than wild guinea fowl. We have trained our dogs not to touch them.

It is not unusual for a few seedlings in a batch to germinate without chlorophyll. However, I have not heard of any symbiotic relationship which may exist with another Clivia plant which does have chlorophyll. Would anyone like to comment on this?

Regarding your suggestions for coloured photographs, etc. We are a very small club and since the membership fees have been increased to R40 the numbers have dropped to under 300. All the committee members give of their time free gratis and for nothing and this amounts to many hours a month dealing with correspondence, typing the newsletter, getting it printed, having it stapled, putting it into the envelopes, posting it etc. Now it would be lovely to have everything in colour but it just not feasible at the moment with the small circulation and publishing costs. To get a publishing firm to do the printing of the newsletter just as it is now would double the costs, and just to staple the newsletter would cost more than the printing. Koos Geldenhuys staples every newsletter with a long arm hand stapler to save on costs. We are all working men and women and love doing our bit for the club, but time is also money.

*There certainly have been suggestions to have some colour photographs included, and once the costs have been investigated, there may even be a centre fold or some other way of illustrating the beautiful varieties. There is the possibility of producing a book on clivia at some stage, and this would have colour illustrations. * STOP PRESS - PLEASE SEE THE CHAIRMAN'S NOTE ABOUT COLOURED SUPPLEMENT!*

The Clivia Club photographs are available to the branches and these are regularly sent down to Natal for their show and Wessel Lötter also took them to Bloemfontein when he addressed the local branch of the Garden Club there. Plans have already been made to send them down to the Cape for a meeting, and if there is a show at Kirstenbosch or thereabouts, I'm sure you 'Capiers' will see them on display there too.

The name Coromandel keeps on cropping up in newsletters. Coromandel is a large estate situated near Lydenburg and belonged to Sydney Press, a very wealthy South African businessman. It had a horse stud, fruit farm, dairy farm and a wholesale nursery. Plants from this nursery were not available to the public, but were sold to such nurseries as Malanseuns, Keith Kirsten and others. Amongst other plants, they had a very good selection of Belgian hybrids growing in pots under pine trees which were a sight to behold when they were in flower. When Coromandel was sold in 1995 and the nursery closed down many of these plants were bought by Clivia Club members. Hopefully the progeny of these plants will be available to Clivia enthusiasts when their new owners have extra seed and offshoots to spare. I don't think I have ever seen such a variety of different shades of reds - and I mean REDS, not just dark oranges! Perhaps other members can give more information about this magnificent collection. Sydney Press died this month at the age of 83 years. Many of you will remember him as being the entrepreneur who changed Edgars from the small stores they were in the 1960s to the empire they command today.

Another of your suggestions was that we should submit articles to gardening journals. Well, don't you think that it would be very altruistic of any member to go to all the trouble of submitting an article for the Clivia Club when they could earn that amount for themselves to help pay for some of the costs that they have undergone in buying expensive seed, raising it etc. Anyway, thank you very much for your suggestions - perhaps someone will help me to type the next newsletter and help Koos to staple it and someone else will place them all into envelopes! Just remember, poor Nick had to do this all single handed when he started the Clivia Club! (Editor).

..*..

A search for botanical information on the Belgian Hybrid

From Les Hannibal

4008 Villa Ct., Fair Oaks, California 95628-7423

10 April 1997

Dear Fellow Members,

I have just flowered a Clivia which sent me on a species search. Finally I found what I wished to know in the December '96 issue of the Newsletter under Alan Tait's comments, which saved the day! There must be a number of geographical variants which need cataloguing as to locality, environment and major morphological features. In my instance I probably have a parental form of the old Belgian hybrids, which I was once told was raised for its foliage as well as deep red blossoms. But my plant is distinctive in that the 10 to 12 strap-shaped leaves are sheathed at ground level and spread out distichously like a lyre. These are about 40-45 cm. long x 5 cm. in uniform width, and with blunt apices. From the stiff foliage I assume the plant comes from a windy area, also at high elevation since the sheathed portion of the foliage is essentially sub-surface and resembles an ovate-columnar bulb 6-8 cm. long x 5-6 cm. diameter, and has a fairly distinct basal plate.

The blossoms are typical *miniata* funnel-form with the tepals 6.5 cm. long x 3 cm. wide. The bases are fused together for 2-3 mm. and the span is coloured a RHS 17/1 Poppy Red. This colour progressively migrates down the tepals as they age. The central eye is amber-green.

Two items are of interest: The lack of strong yellow pigmentation which gives one the poppy-red colour in the tepals, and the attractive foliage. On comparison with a Belgian hybrid of unknown history, the latter has longer leaves which are semi-laurate in width and are well sheathed to a height of 8 to 15 cm. above the ground. Obviously I have selfed my specimen and notched the foliage to promote bud sports; and have intercrossed it onto the Belgian hybrids to see what happens. The latter can take some improvement. In fact, both can.

Sincerely

Les Hannibal

We wish you luck with your Belgian hybrids, and hope they produce some wonderful plants. The flowers of the Belgian Hybrid differ from the normal miniata in that tepals do not open as widely and

they are therefore more tulip-shaped. The seed pods are big and round, and there are generally more pods on an umbel and more seeds in a pod than in the ordinary miniata.

I think that many members would like to know exactly how you notch the foliage of a Clivia to promote bud sports. Should it be done at any particular time of the year, and should any precautions be taken to prevent fungal or other infections? (Ed.)

..*..

Clivia morphology and *Amaryllidaceae* genetics

From L.S. Hannibal

4008 Villa Ct., Fair Oaks, California 95628-7423

26 April 1997

To my Clivia Club Friends:

I have just received my April newsletter and Two items came to my attention. Apparently the broad-leaf parental form of the 'Belgian Hybrid' has never been described in botanical literature, nor in garden literature that I can find, either. Yet, morphologically it is fairly distinct differing from the better known *Clivia miniata*. Since the bulk of the encased leaf column is subsurface it is semibulbous and suggests a high elevation form, or else subjected to extended dry periods. I consider its foliage more attractive for an off-season display plant. So, where is it native, and how diverse can the form be?

And having bred *Amaryllis* and *Crinum* for near 50 years I obviously took note of Kees Sahin's comments on bigeneric hybrids. In the last century a number of hybrids (?) were reported. I have tabulated many, particularly *Crinum*, and have bred a number of my own like *Amarcrinum*, *Brunsvine* and similar. There are two terms, 'apogamic' (or parthenogenic) and 'androgenetic' which commonly apply to a number of these assumed crosses. Apogamic defines that the maternal seed develops merely by the presence of male pollen, that no true hybridization occurs. *Crinum moorei* is notoriously so inclined. If you want a *moorei* hybrid use it as a pollinator. *Amaryllis belladonna*, some *Brunsvigias* and *Nerines* yield quantities of apogamic seed with other *Amaryllideae* pollens. *Hippeastrum solandriflora* is another example, and many *Zephyranthes* set similar seed despite all efforts to the contrary.

'Androgenetic' in turn is the development of the male gametes in the female ovum without the female gametes taking part. I have had it happen in *Crinum*, and there is a valid record of some *Brunsvigias* being recovered from an *Amarygia's* pollen being applied to *A. belladonna*. So abnormal genetic occurrences are not unusual.

In 1888 J. G. Baker divided the genus *Crinum* into three subdivisions: *Stenaster*, *Platyaster* and *Codonocrinum*: an easy classification based on floral forms. But genetically there are six forms, depending upon whether the blossoms are pedicellated or sessile. The pedicellated blossoms flower sequentially, often one-a-day, while the sessile flower in groups of 3 to 6 buds at-a-time on several day intervals. This distinction is based upon a spiral cyme arrangement or structure within the umbel: First the pedicellated umbel is a determinate structure with an apical bud to the spiral, while the sessile umbel is an indeterminate type with grouped buds. This may not appear of much significance, but genetically it results in numerous interspecific *Crinum* hybrids having or not having viable pollen. For example, *C. scabrum* on *C. americanum*, which involves two distinct subgenera, but both with sessile blossoms, yields hybrids with semiviable pollen capable of yielding back crosses with the parents. But *C. moorei* x *C. americanum* gives runt hybrids resembling a small *C. moorei* which are completely sterile. In this instance two distinct umbel types as well as subgenera are involved, so genetically you have the basic equivalent of a wide genetic cross.

I can site other examples, but numerous tropical *Crinum* can be keyed out into Sessile-Codonocrinum interrelated groups like *C. scabrum*, *C. zeylanicum* and *C. abyssinicum* as members of a common series which intercross readily and yield fertile hybrids capable of farther diversification, as if merely intraspecific. In contrast, the Pedicellated-Codonocrinum forms which are typical from southern Zaire to the Cape normally intercross freely and give vigorous hybrids, but these hybrids appear disinclined to self, and only a few have pollens viable enough to backcross onto their parental forms, or variants of the parents. In some instances polyploidy is a problem, particularly with the Orange River *C. bulbispermum*, a hexaploid, and some *C. macowanii*, which are tetraploids. I crossed the two to obtain the huge sterile pentaploid 'Cape Dawn', and 20 years back I crossed the Orange River form tetraploid *C. moorei* to obtain a huge polyploid *C. x powellii* which finally flowered last year, and produced seed. But I'm inclined to think that these F2 seedlings may take 20 years to flower too. Thank Heavens *Amarcrinum* and hybrid *Clivia* aren't quite that slow.

I have lost track of the various *Amarcrinum* combinations attempted here. The old *A. howardii* is a *C. moorei* on *A. belladonna major* cross. I have used *C. moorei*, *moorei* tetraploid, *C. bulbispermum*, *C. macowanii*, *C. abyssinicum* and several hybrids on various *A. belladonna* forms as well as the Bidwill *A. x multifloras*. *Crinum americanum* and *C. asiaticum* have been failures, while *macowanii* and *abyssinicum* rarely flower. The tetraploid *moorei* gives huge triploids with dominant *Crinum* features. But I'm sorry to say, Kees, there has been no indication of viable pollen, apogamic seed or other means of reproduction with these many bigenerics.

Sincerely

Les Hannibal

Well, that's going to give everyone lots to think about! Thank you for sharing your findings with us Mr. Hannibal (Ed.)

..*..

The search for the white *Clivia*

Extract of a letter from Kees Sahin to Maris Andersons of California

28 April 1997

Today I received the April 1997 issue of the *Clivia* Club newsletter, in which I found your letter and I herewith try to answer your questions, in as much as I can.

The only white *Clivia* that I heard of was supposedly found in the "Kildare Estate" somewhere in Eastern Natal. Somehow the owner of the place got to correspond with me some 20 years ago. I passed the information on to my dear friend the late Dr Shuichi Hirao of Japan. He never told me whether he eventually got hold of a plant. So I believe that we may still consider the white *Clivia* to be an elusive one.

Less elusive is the micropropagation of *Clivia* clones. Miyoshi & Co., Ltd. of Tokyo is currently offering tissue cultured plants of *Clivia miniata* clone 'Vico Yellow' in view of propagating this desirable and

very slow to naturally multiply clone in vitro. This attempt failed. Now the propagation of Sir Peter Smithers' clone is a success.

Also please do let me know how red your reddest *Clivia miniata* form is. The reddest *Clivia miniata* that I possess is 'Merkin's Flame'. I obtained this clone from Hodge Amemiya in Los Angeles in the early seventies. It is slow to propagate but is a fine broad leafed plant with nicely shaped red flowers.

Kees Sahin

The committee followed up on 'Kildare', and the first that they were able to trace was 'Kildare Farm' near Nottingham Road, northwest of Pietermaritzburg. The owners, who have been on the farm for many years, say that their farm is too high and too cold for clivias. Then member Lynette Lotz of Stellenbosch, in a letter to the club, referred fortuitously to 'Kildare Estate' near Stanger in Zululand. This estate, at that time owned by Kingsley Hamlyn, featured in S.A. Garden & Home, March 1976. We spoke to the Hamlyn family, who say that the clone concerned was very pale cream, but not white (James Abel).

Clivias grown in deep shade will often have much paler flowers than if grown in a semi-shady position. Some members have bought pale pastel shades, only to find that they darken once they are more exposed to sunlight.

What is the RHS colour of 'Merkin's Flame'? Perhaps members can submit their RHS colour findings to see who has the darkest red? (Ed.)

..*..

Correspondence from the famous 'pollen-dabbing' breeder

From Sir Peter Smithers

in di Pradon 19, 6921- Vico Morcote, Switzerland

28 March 1997

Dear Meg,

The very interesting items in the Clivia Club newsletter about Yellow Clivias, notably that of Wessel Lötter, prompts me to say that *Clivia x Kewensis* 'Vico Yellow' can be seen at the following Internet address, which is that of the International Bulb Society's E-Mail Bulb Robin:-
<http://garden.crystalball.com/amaryllids/>

You will then see an option for a Clivia page where 'Vico Yellow' is to be seen, and a Nerine page with some of my Nerine hybrids. Click on Clivia. The image of Vico Yellow was taken from a Japanese nursery catalogue scanned in the USA and inevitably is not of first quality, but it gives an idea of the character of the plant. The outer portions of the corolla of the flowers are somewhat burnt out (too white), probably because the photographer used top lighting.

'Vico Yellow' is now micropropagated by Miyoshi & Co., Japan, contact Kimiaki Murasaki, fax:- (81) 551-36-5900. I have no commercial interest but am pleased that the plant will be widely distributed.

I have a distinct recollection that Lewis Palmer's yellows came from Eshowe, and if so that would be the origin of the lost Kew Yellow. The plant *C. x Kewensis* 'Cream' was recovered by Charles Raffill at Kew, crossing amongst the seedlings raised at Kew from orange parents which had been pollinated from the lost yellow. These intraspecific crosses gave rise to the *x Kewensis* grex from within which in turn 'Vico Yellow' is bred. Opinion at Kew seems to support the name *C. x Kewensis* 'Vico Yellow' and Lord Aberconway, who also used the Kewensis Cream and Kewensis A and B seedlings, is evidently of the same view.

Latest opinion from Yoshikazu Nakamura is that 'Vico Gold' is sufficiently distinct from 'Vico Yellow' to be worth a parallel breeding program.

Any comments on the Vico Yellow image by those more learned in Clivia genetics than I am would be most welcome.

Best wishes

Peter Smithers.

Note: 'Grex' is the botanical term for all the seedlings of a particular cross. I'm sure our reader's would like to know how 'Vico Yellow' and 'Vico Gold' were given their names. What does the word Vico mean? Is it in any way connected with your address? (Ed.)

..*..

From Sir Peter Smithers

in di Pradon 19, 6921- Vico Morcote, Switzerland

4 April 1997

Dear Koos Geldenhuys,

At the age of 83 I thought I should superannuate myself from the Clivia Club and some other bodies. But the last and very interesting issue of the Newsletter makes it clear that I cannot do this.

I enclose my cheque for \$40, to pay for back dues.

With best wishes,

Peter Smithers

..*..

Extracts from the e-mail message sent by Sir Peter Smithers to Clivia Club members with e-mail addresses

22 April 1997

Meg

The list of members of the Clivia Club with e-mail addresses is most valuable. I have made them into a group in my computer and this message goes to all of them. No cause for alarm! It is unlikely to be repeated because it will say all that I have to say right now.

Some notes about Clivia x Kewensis 'Vico Yellow' appeared in your pages at various times. This is just to say that the plant can be seen at :- <http://garden.crystalball.com/amaryllids/>

I have just tried to access the Clivia Club's WWW site, but without success. The response was "the requested URL/-telp/asi.htm was not found on this server" I have checked my typing carefully against the text in the Club journal, and it seems to be right.

Best wishes

Peter

Well, how is that for an octogenarian using e-mail on his computer and surfing the WWW!? The information about Clivia x Kewensis 'Vico Yellow' in the IBS e-mail appeared in the September 1996 issue (Vol. 5 no 3: 14) of the Clivia Club Newsletter. The image of 'Vico Yellow' on my colour screen was excellent and gave me such a thrill. Even the black and white printout was very good. I'm sure there are many other members who have internet who would like to try to get it. To find it directly without clicking onto other sections, try: <http://garden.crystalball.com/amaryllids/clivia.html>

The Clivia Club does not have a WWW site. This may well be something which could be instituted at some future date. Just imagine being able to order seeds, send through your contributions to the newsletter etc. on it. However, where would it be located? With the chairman, the secretary, the treasurer or the editor??? (Ed).

..*..

Research on Clivia

Extracts of a letter from Keith Hammett

488c Don Buck Road, Massey, Auckland 8, New Zealand

9 May 1997

Dear James and Connie

I am shocked and not a little ashamed to realise that it was last July (31st) when you sent me a fax, asking about our MSc project on Clivia. Indeed I am not sure whether you are still in Zimbabwe or back in South Africa. I may well try to be with you for the conference and tours in 1988.

I will make no excuses for not answering earlier. However, I was overseas for two months and your fax arrived while I was away. I am trying to catch up on the paperwork which has built up.

We had a false start with the Clivia MSc. The original student on the Clivia project became ill and gave up his studies. Recently we were able to put a mature Chinese student onto Clivia and he is making remarkable progress and was here today collecting more samples.

Basically we expect him to get a good understanding of the caryotypes of each of the species. Using some of the newer DNA techniques he may be able to work out the phylogenetic relationship between the species. He should also be able to throw some light on the development of the various "hybrid" strains such as the German, Belgian and Daruma hybrids. Have these arisen by selection within *C. miniata* of broad leafed forms or might they have arisen by back-crossing *C. cyrtanthiflora* with *C. miniata* once or more times? Thanks to my travels and the extraordinary generosity of people involved with Clivia, I have a good genopool on which to carry out such studies.

This year Joe Solomone's Yellows were brought into New Zealand from the USA by Ian Duncalf who promptly gave me six plants in bloom so that I could make crosses between these and my existing British and Australian Yellows which flowered very well. Currently the plants are bearing very impressive trusses of very large fruit. The importance of Solomone's material is that it has arisen quite independently of the British, South African and Australian strains.

Incidentally, I was able to drop in to see Joe and his wife when I found myself closer to Watsonville than I had expected one evening. He really has done a great job over a long time in isolation.

I would also like to acknowledge the help Lisa Mannion gave me last year in pollinating my plants for me. She is keen to get into Clivias and has joined the Clivia Club.

A year ago I built what seemed to be a large shade house especially for Clivias. At the time I thought that I would never fill it. Now I am having to plant out extensively under trees as I saw in South African gardens, as the shade house is full and overflowing. How is it that a slow growing plant can take over so completely?

My apologies again for lack of communication. Far too many irons in too many fires. However, be assured that I am far from dormant Clivia wise.

Kind regards,

Keith Hammett

..*..

Further suggestions on the origins of Belgian hybrids

From Bill Morris

P.O. Box 17, Medowie, NSW 2318

May 1997

Dear Meg,

In the Clivia Newsletter of December 1996 the question was raised of the origin of the short broad leaf type of Clivia miniata known in South Africa as Belgian hybrids. As I mentioned in my letter in the April 1997 issue these plants may have different names in different countries but the strain now seems to be known world wide. As well as the short and broad leaves they have numerous leaves (often 20 to 30 or more) which are close together and generally stacked one on top of the other.

Overall the plants are about half the height of normal *C. miniata*. Also the leaves recurve instead of being upright and often the plants are wider than they are high. The flowers however are much the same in size and general appearance to most other strains.

There seem to me to be three main suggestions for the origin of these plants.

- 1 Mutation of narrower leafed forms of *C. miniata*. Tait (in the December 1996 issue) suggested chemical induction (colchicine?) but spontaneous mutation is also possible.
- 2 Les Hannibal (personal communication) has suggested a high altitude, semibulbous form with broader leaves as a parent which, crossed with the narrower, long leafed form, followed by selection, gave rise to the broad leafed type.
- 3 Evolution through selection.

I believe that nothing more is required than continuous selection over many generations (10 - 20?) leading to the slow evolution of the form as described above. In general all improved strains have wider leaves than the wild types (except that I am sure that some wild plants will have wider leaves than others). In this country and in South Africa there is no pressure on growers to produce short compact plants as most clivias are grown outdoors in gardens or large pots planted out under trees etc. Under these conditions there is no real space problem and in fact large plants are an advantage as they can compete better with other plants such as shrubs etc. and they are less likely to be totally overgrown. Wider leaves (but still long) are either more attractive or confer some advantage to the plant itself, so that these garden plants have either been selected for wider leaves or have survived better under cultivation leading to natural selection for the wider leaves.

However under artificial (glasshouse) conditions where cost of heating and raising the plants is important, together with the fact most plants are sold in relatively small pots, it is obvious that smaller more compact plants are a big advantage. The more plants one can fit in a given space, the cheaper each one is to raise. The stacking of leaves one on top of the other is obviously tidier than having them go in all directions. This also reduces competition between plants, due to leaves of one plant growing into and over the leaves of an adjacent plant. As well, most growers and purchasers prefer a tidy compact plant, particularly for indoors. And finally with closely stacked leaves, one loses leaf area available for photosynthesis particularly in plants that are already adapted to conditions of low light. Thus both more leaves and broader leaves are an advantage as well as selection for these types by the grower and purchasers who appreciate appearance.

Thus I see no reason to assume either mutation or the involvement of a hypothetical wild, broad leafed type is required to produce the "Belgian hybrid" strain. Their development, by continuous slow selection seems both logical and likely.

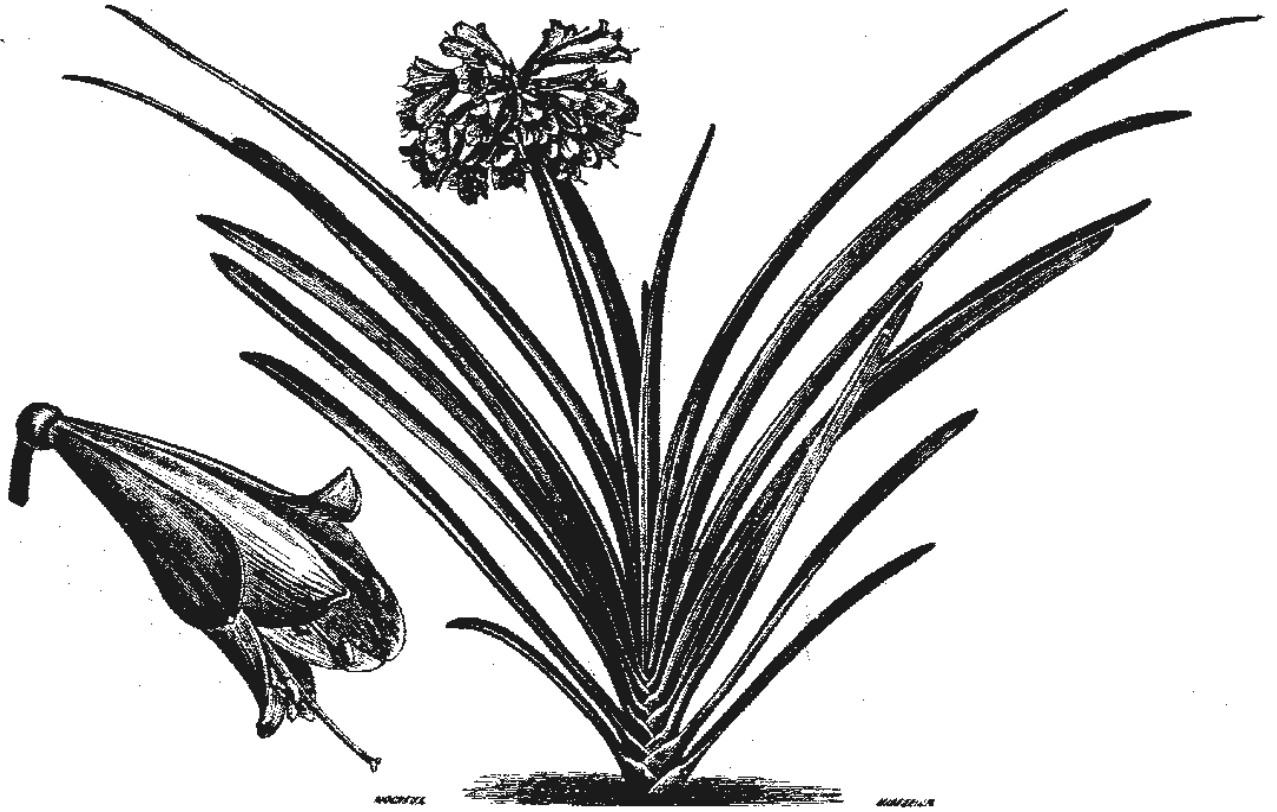
I would be very interested to hear Kees Sahin's views and information about this strain. Also, I would be interested to hear of any information supporting either of the alternative suggestions.

Yours sincerely

Bill Morris

Thank you for clearly summarising the possible origins of the Belgian hybrids. I recently saw a very beautiful yellow obtained from the wild which had many of the characteristics of the Belgian hybrid. It had a wide base and the leaves were wide and stacked on top of one another. Although I did not see the plant in flower, a photo of it showed the typical full flowering head of a Belgian hybrid. Although the flowers themselves were not tulip-shaped (as is usual with most Belgian hybrids) the seed pods on the umbel were large, squarish and plentiful - another feature of the Belgian hybrid. I am inclined to favour your idea of evolution through selection (Ed.).

..*..



Growing clivias hydroponically in vermiculite

From Jakes Naude

101 Bronkhorst Street, Groenkloof, Pretoria 0181

27 May 1997

Dear Mrs Hart

I am commencing commercial propagation of clivias on a limited scale in my backyard and any information members can give me on where seed can be obtained will be appreciated. I will also pay reasonable prices for any seed that they may have available.

I am at present experimenting germinating seed in vermiculite and growing seedlings and plants hydroponically in vermiculite using Chemicult hydroponic fertiliser administered in a diluted form by rose spray on the seedlings and also full strength by drip irrigation on the number of control plants both fully grown and seedlings. So far the results have been very promising. When more conclusive results have been obtained I will advise.

Could you, at some stage, give us unenlightened newcomers information on pests and diseases and the treatment thereof in the newsletter.

Thank you very much.

Kind regards

Jakes Naude

We wish you luck with your experiment. It will be interesting to hear from you how long the seeds take to germinate, and what the growth rate is like compared to those grown in soil or compost. I wonder whether they will flower earlier?

There is a report of the lecture given by Mark Laing at the last KwaZulu/Natal Clivia Club meeting on Clivia pests and diseases which I hope will answer any queries on that subject. Editor.

..*..

GAUTENG CLIVIA CLUB MEETING (24 MAY 1997)

After lovely warm autumn weather in May, it rained the night before the Clivia Club meeting. May 24th dawned cold and overcast. Despite the weather 18 members were present at the meeting which was held in the Nestlè Environmental Education Centre at the Witwatersrand National Botanical Garden.

Some members brought special Clivia to the meeting. Pat Gore had a large *C. cyrtanthiflora* (*C. miniata* x *gardenii*), bred and thrown out by Wessel Lötter! It had a very striking umbel of orangy-yellow flowers. Nick Primich had brought three very interesting *C. cyrtanthiflora* to the meeting. All were grown from seed obtained from Yoshikazu Nakamura in 1991. Nick says that Mr Nakamura only uses top plants for crossing.

The first was a *C. miniata* x *gardenii* cross. It was a large plant with two flower heads, one with a magnificent umbel of orange flowers and the other about to flower. This plant had flowered for the first time in July 1995 and Nick had brought it with him to a meeting on that occasion (see Vol. 4, no. 4, August 1995:11). The flower head was far more spectacular this time.

The other two plants were both from the same umbel of a *C. nobilis* x *miniata* cross (mother plant - *nobilis*, pollen - *miniata*) and were six years old. One was a very large plant, \approx 500 cm (2 ft) high with a flower starting to shoot. The leaves were like that of a *C. miniata*. The other plant was small with leaves \approx 10 cm long like those of a *C. nobilis*. This may be a cross or it might have been selfed but it will be interesting to see how long it takes before it flowers and what the flower looks like!

After admiring the plants, Henrietta Ströh and Frikkie Marais spoke about pests and diseases affecting Clivia. Members had brought along their diseased and damaged plants so it was interesting to see the damage done to them.

They emphasised that prevention is better than cure. One should not cut or touch a diseased plant, then go to another plant. Until you know what you've got, be careful. Never reuse a dirty pot.

Sterilize pots before use by washing them in a solution of HTH (5 tablespoons in 10 litres of water) or 10% Jik and then dry them in the sun.

If a diseased plant is not a special clone it may be better to dump it in the dustbin. If it is a special clone, one can try and save it. Isolate the diseased plant from the other plants. Leech it to flush out excess fertiliser as some fertilisers can cause a deficiency of another element. Wash the roots till they are absolutely clean and place the plant in washed river sand and treat with a fungicide such as Captan (20 grams per/10 litres).

Henrietta Ströh recommended a book *The layman's guide to garden pests and diseases in South Africa* by W.W. de Villiers & A.S. Schoeman, published in 1988 in Cape Town by Struik. A description of pests and diseases and their control given by Mark Laing at the KwaZulu/Natal meeting is given later on, so these points will not be repeated here. However, one not mentioned by him is *Phytophthora* which is a very common fungal disease spread by water in the rainy season. The fungus is of great economic importance with diseases such as early blight in potatoes and root rot in avocados. It attacks Clivia plants at soil level. The rhizome rots and the leaves yellow. Treat by rinsing off the rotted area. Dust with flowers of sulphur or any other fungicide e.g. Mycota. Place the plant in sterile sand (H.S. boils her sand) and place the leaf stem in it. It will probably start shooting at the leaf base.

After the meeting the Clivia Club members were taken on a conducted tour of the Witwatersrand National Botanical Garden to see the *Clivia gardenii* in flower.

Meg Hart

..*..

KWAZULU/NATAL BRANCH GARDENII WORKSHOP (7 JUNE 1997)

The original date for this meeting was to have been 21 June, but the *C. gardenii* flowered early this year, so the date was brought forward to 7 June 1997. The workshop was held at the Pietermaritzburg Botanical Garden and was very well attended and enjoyed by all.

Brian Tarr gave a very interesting demonstration on the preparation for seedlings and the repotting of Clivia and seedlings. Various potting mixtures and their merits and demerits were discussed.

Esme Hennessy gave an informative talk on the taxonomy of Orchids which could also be applied to the classification of Clivia.

Mark Laing was very helpful in discussing the various diseases that cause problems with Clivia and other plants. Methods and how to control these diseases were suggested, and hopefully we can all now have healthier results from our plants.

A raffle was held and a prize of the three different types of pendulous clivia was won by Robin Holmes of Howick.

Unfortunately, time ran out and we were unable to have the talk by Sean Chubb on record keeping, but it is hoped that this talk can be presented at our show in September.

Val Thurston

..*..

CLIVIA PESTS AND DISEASES

NAME	DESCRIPTION	CONTROL
Amaryllis worm	Striped green and black caterpillars eat the interior of leaves, right to the core. They also attack other lilies. Can be devastating.	Bexadust Pyrethroid: Karate, Ripcord, Ambush Applied weekly
Cutworms	Small brownish/grey worms attacking germinating seeds. Serious losses of seed possible.	Pyrethroid: Karate, Ripcord, Ambush Applied weekly to the soil/medium surface, or use commercial cutworm bait
Scale	Small reddish brown bump, with a yellow halo	10% oleum suspension sprayed or rubbed onto the scale insects with a

		sponge; fatty acid; Confidor
Mealie bug	White fluffy "growth" on the underside of leaves	As for scale
Snails and slugs	Leaves eaten away from the underside, leaving the cuticle	Hand pick off snails, then use snail bait regularly
Moles & termites	Clivias disappear suddenly after wilting	Do not grow clivias in the ground; keep them in pots or bags above ground
Bacterial soft rot	Crowns of plants go soft and mushy, killing the plant	Usually follows waterlogging, resulting in fungal root infection and secondary bacteria. Avoid waterlogging growing conditions.
Black leaf spot	A black, circular spot, rather like tar. Probably a smut?	Denarin (triforine) should suppress it
<i>Macrophoma agapanthi</i>	Brown leaf die-back, is recorded by du Plessis & Duncan	Denarin (triforine) or Benlate (benomyl) should suppress it, applied every two weeks. Dithane (mancozeb) could be applied preventatively every week. Avoid coppers.
Sunburn	Edges and tips of leaves turn pale brown	Keep clivias in semi-shade and avoid north facing slopes and afternoon sun

Mark Liang

GAUTENG CLIVIA CLUB SHOW

Judging Rules:

- a The judges will make awards according to their assessment of the merit of the plants benched in each class and their decision is final
- b A maximum of three plants per class per entrant will be accepted, and they must be delivered between 07:00 and 08:00 on the show day. Pots must have no visible labels at all, except on the underside if so desired, and the judges will ensure that an anonymous identification is attached to each plant for the show. Plants may not be removed before the official end of the show.
- c A benching fee of R5,00 per plant for the first two and R10,00 for the third in each class is payable on entry.
- d With flowers of near equal quality in classes 1-7, the foliage may be taken into account, and with foliage of near equal quality in classes 8 & 9, any flowers may be taken into account. Entries in class 10 must be mature, as evidenced by flowers or seed heads.
- e All entries must be in pots, not bags. The judges will be arbiters on the class that each plant will be entered into, and, depending on their assessment of the quality, they may decide to not accept specific entries. The number of awards, if any, in each class will depend on the quality and number of entries.

Classes:

- | | | | |
|---|-------------------------------------|----|-----------------|
| 1 | <i>C. miniata</i> orange | 7 | Display plant |
| 2 | <i>C. miniata</i> red | 8 | Variegated leaf |
| 3 | <i>C. miniata</i> yellow | 9 | Broad leaf |
| 4 | <i>C. miniata</i> pink/salmon/peach | 10 | Miniature |
| 5 | Interspecific hybrid | 11 | Most unusual |
| 6 | Pendant species | 12 | BEST ON SHOW |

..*..

KWAZULU/NATAL CLIVIA CLUB SHOW

The classes will be as follows:

Miniata - Best yellow

Best pendulous

Miniata - Best orange

Most unusual

Miniata - Any other colour

Best on Show

Best broad leaf

Runner-up

Best variegated

..*..

PERSONALITY PARADE

Charl Malan

Charl Malan hails from Grahamstown in the Eastern Cape. He acquired the love of plants from his parents. Clivia always took pride of place in their beautiful gardens and his late father's hybrids are still admired every Spring.

After attending university in Port Elizabeth, Charl's municipal career took him to Jeffreys Bay, to Eshowe and on to Grahamstown where he has been with the City Council for 12 years. He is married to Le-Né and their children are Charl (18), Deon (15) and Tessa (14).

His Clivia collection consists mostly of hybrids grown from seed acquired from Mr Yoshikasu Nakamura, our very generous friend from Japan. Grahamstown has many gardens with Clivia hybrids which probably originate from the Blackbeard sisters' activities in the 1950's. Most property owners are not aware of the significance of these plants and their collection remains a challenge for Charl. Between his two brothers in Stellenbosch and himself, they grow Clivia, Streptocarpus and Alstroemeria on land in Grahamstown, Jeffreys Bay, Stellenbosch and Betty's Bay.

Charl also has a special interest in the cultivation of traditional medicinal plants (*amayeza*) which is gaining momentum as populations are being plundered to extinction.

Charl has assisted with the arrangements for the Nobilis Tours since 1994, and has visited numerous populations in their habitat throughout the Eastern Cape.

..*..

NEW MEMBERS

Welcome to the club and MAYCAT

AUSTRALIA

Daryl Geoghegan, 6 Waratah Way , Wodonga, Victoria 3690

FRANCE

Mr & Mrs El Ouahchi Karim, Champ Dore, Nanthiat 24800

SOUTH AFRICA

Colin Cook, 16 St Thomas Road, Claremont 7700

Martine de Beer, Palmietrylaan 38, Westville, Durban 3630

Rolf Horsthemke, P.O. Box 368, Ferndale 2160

H L A Moller, Posbus 29084, Danhof 9310

Keith Rose, PO Box 782-393, Sandton 2146

Richie Rose, PO Box 782-393, Sandton 2146

John & Valerie Sadler, 19 Glamis Close, Maitland 7405

Chris Scribante, Christolaan 5, Birchleigh, 1618

Roly Strachan, Box 57, Highflats 3306

Rinie Voges, Scharfia 9, Katjeeperinglaan, Wonderboom 0182

ZIMBABWE

P Hougaard Snr., 21 Paarl Road, Mabelreign

..*..

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Sir Peter Smithers 100436.163@compuserve.com

E-mail correction:

Louisa Liebenberg ejll@nbipre.nbi.ac.za

..*..

FORTHCOMING EVENTS

GAUTENG

- Sat 26 July 1997 Member's meeting - 'Growing tips for all seasons'
Venue Pretoria National Botanical Garden
Time 14:30
Entrance fees R5,00 for the Pretoria National Botanical Garden
- Sat 6th September Gauteng show and annual general meeting
Venue Pretoria National Botanical Garden
Entrance fees R5,00 for Pte.Nat.Bot.Garden + R2,00 for the Clivia Club
Times 09:00 - 15:00 Open to public
07:00 - 08:00 Acceptance of plants (R5,00 benching fee per
plant, 3 plants per class)
08:00 Judging
11:30 Annual General Meeting
- Sun 7th September 11.30 Clivia Club visit to Dr & Mrs Meltzer's Clivia garden at Britz. Bring
and braai to follow afterwards in the garden.

KWAZULU/NATAL

- Sat 13 September KwaZulu/Natal show.
Venue Pietermaritzburg Botanical Garden
Times 13:30 - 16:00 Open to public
11:30 Acceptance of plants
12:00 Judging

WESTERN PROVINCE

- Sat 13 September Plant breeding, producing seed crop
Venue Kirstenbosch National Botanical Garden
Time 09:00
- Sat to Tues, 4 - 7 Oct. Western Province Clivia Club Show
Venue Sanlam Hall, Kirstenbosch National Botanical Garden
For details contact John Winter: Tel. Home (021) 762 2416
Work (021) 762 9120

Sat 15 November 1997 Annual general meeting

Other dates and details to follow.

..*..

FOR SALE

Membership lists. Full membership lists are available from the club for R20 (\$10 US dollars or equivalent).

Seeds. Please remember to send R50 seed deposit to Koos Geldenhuys if you wish to purchase seed from the Clivia Club.

C. miniata and *C. gardenii* plants for sale at all ages - R12,00 and down. Phone Sean Chubb at (0325) 81978

C. nobilis seed for sale @ 50c/seed. Phone Charl Malan at (0461) 311086 after 18:00

Quality Clivias at reduced prices for sale at *CLIVIA HOUSE* in Pretoria. Contact Glenn on cell: 083 284 7223 for more information and orders.

Fertilizer. For the convenience of Gauteng members, a supply of 1:0:1 and 4:3:4 fertilizer (recommended by Gerhard Reyneke) has been obtained and is available at cost - contact Connie Abel on (012) 476406.

..*..

BEGINNER'S LUCK

Now is a good time to be protecting Clivia from frost if you live in an area where the temperatures dip to below freezing. Clivia will withstand a certain amount of cold, but the leaves will be affected

if exposed to very low temperatures. If your plants are in pots, bring them into a protected area under a tree or onto a covered verandah. If they are outside in the open, it is a good idea to mulch them with leaves. Not only will the leaves protect them from excess cold, but they will provide the much needed leaf mould in the Spring.

..*..



ON THE COMPOST HEAP I seem to have featured quite a bit in this edition of the newsletter, although I wish it wasn't always to do with pests and diseases. Incidentally, I don't care whether a plant is 'apogamic' or 'androgenetic' - they're all the same to me as long as they belong to the Amaryllidaceae! Our family have certainly had a wonderful year here in South Africa with all the rain. We're all hibernating at the moment, but hope to see you again in the Spring. How do you like my new look?

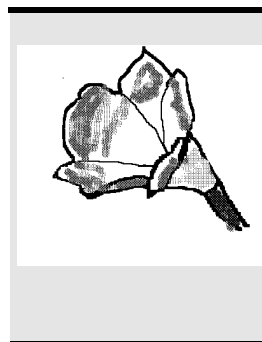
Yours

Lily Borer.

Clivia

Club

PO Box 74868 Lynnwood Ridge 0040 South Africa



US\$20.00 (or equivalent) p.a. overseas

R40.00 p.a. RSA

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EDITORIAL

Following the Winter solstice, the colder weather predicted in the last newsletter failed to appear and we had a relatively mild winter in South Africa. As a result, our Clivias generally flowered earlier than usual. The KwaZulu/Natal and Western Cape shows were brought forward, the former being held on the same day as the Gauteng show (6 September 1997) and the latter a week later. Much of this newsletter covers the activities at the shows and the annual general meetings.

Correspondence is from South African members only. Our Technical Advisor, Louisa Liebenberg, confirms what Dr Piet Vorster commented on in a previous newsletter on the nomenclature of *Clivia miniata*. We are aware that the different species of Clivia have distinct seed pods, but has anyone noticed the different types of berries which are exhibited by *C. miniata*? Dries Bester has identified these differences. Ian Vermaak confirms that there is a 'Karkloof Yellow' and calls it a 'true yellow'. Brian Tarr has comments about more yellow clones of *C. miniata* and Wessel Lattar offers clarity on the nature of a 'true yellow'. There is an appeal for Clivia seed to be grown for future distribution to herbalists so that Clivia in their natural state will hopefully not be plundered. There is a summarized version of Gerhard Reynecke's "Fertilisation of Clivia", which should be useful for those who do not wish to look it up in a previous newsletter, as now is the time to feed your Clivia.

Koos Geldenhuys is our personality in this issue of the Newsletter - yet another member of the committee coerced into contributing to this section. The editor battles to get contributions for "Personality Parade". How do you members feel about getting to know other members in this way?

Our Clivia Club secretary, Elda de Witt and her husband, recently had their Volkswagen Combi stolen from their property. More upsetting was the fact that it was packed with 70 beautiful Belgian Fynbos! The Combi had no battery so the thieves had to push the vehicle off the property. Fortunately it was found the

next day about a kilometre from their house and the Belgian Hybrids were still inside. Considerable damage had been done to the vehicle's wiring and there were burns from a battery on a seat. As most stolen vehicles in South Africa are not recovered they were extremely luckily to find it - especially with the plants intact.

Publishing deadlines for the 1988 Newsletters are on 15 March, 15 June, 15 September and 15 December to enable it to be published on time. We would like to publish minutes of branch meetings, discussions, lectures and other contributions, so please remember to send your contributions to the editor in good time. There have been a few problems with Clivia Club members not receiving their newsletters or us not being able to contact them because they have not informed the Membership Administrator of their change of address or telephone number. Please inform us of any change of address (especially changes from street addresses to box numbers), telephone numbers (home, work, fax) or e-mail addresses.

The Clivia Club is now five years old and there are about 30 founder members who are still subscribers. Those from Australia are Cliff Grove, Ron May, Bill Morris, Ken Smith, Kevin Walters and John Henderson. Others from overseas are Yoshikazu Nakamura (Japan), Dr Keith Hammett (New Zealand), Borje Svenson (Sweden), Sir Peter Smithers (Switzerland), Tony Gosden (UK) and David Casebier (USA). The founder South African members are Dr C Barker, Howard Cook, Denise and Russell Currie, Renee Deschamps, Fred Gibello, Andrew Hankey, Jim Holmes, Claerwen Howie, Lien Joubert, Mary Lynne Lubke, Nick Primich (founder), Michael Stevenson, Laila van Heerden, Celia van Heerden and Dr Piet Vorster.

Wessel Lotter gave a lecture and slide show on Clivias at the Garden Festival at the Witwatersrand National Botanical Gardens at Roodepoort on 27 September which elicited much interest. Cape Flora Nurseries had a stand at the Garden Festival and they donated a yellow Clivia which was raffled after the lecture.

~~We welcome the new Clivia Club members, most of whom were enrolled at the recent Clivia Club shows (39 members before the shows, 309 on 10 October). We hope that you will enjoy your new hobby and show all your Clivias always thrive (MAYCAT). Our oldest member who has recently joined the Clivia Club is Margherita Blaser who was born on 14 October 1904 and lives in the Western Cape. Congratulations on your 93rd birthday in October, Mrs Blaser -may you see many more Clivias bloom and may you help with the catering at many more~~

Western Cape Clivia functions. As Clivias take so long to flower from seed, it gives me hope to realise that I may even see some of the results of my cross pollinating to the F1o generation!

Subscription renewal reminders will be enclosed in the next newsletter and we request that you send your membership fees as soon as possible. The end of the year approaches all too rapidly and this newsletter comes to you all with best wishes for the festive season.

Meg Hart

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CHAIRMAN'S REPORT

September 1997

Membership has dropped slightly. Perhaps because of the increase in subs a number of members fell into arrears and they are no longer receiving the newsletter. However, 42 new members have joined, giving a current total in good standing of 319 (1996 = 334). The geographic distribution is as follows:

Overseas	No.	South Africa	No.
Australia	20	Eastern Cape	17
Belgium	2	Gauteng	136
France	1	KwaZulu/Natal	43
Japan	2	Mpumalanga	5
New Zealand	3	Northern Province	16
P.R. of China	1	North West	3
Sweden	2	Free State	5
Switzerland	1	Western Cape	44
The Netherlands	1		
UK	6		
USA	9		
Zimbabwe	2		
Overseas Total	50	South African Total	269
Grand Total			319

It is encouraging that South Africa has three active branches, namely the Western Cape, KwaZulu/Natal and Gauteng, and that Australia and the USA are taking the first steps towards combined activities. As with any voluntary organisation, members will only stay on if their membership is enjoyable and fun, and one of the determinants of such fun is being involved and swept along with fellow enthusiasts. Meetings, shows, mini-shows, exchanges of ideas and experiences all count, and give momentum to our Club.

The newsletter has again been the centrepiece of the Club, with our editor producing four issues totalling 112 pages. We are delighted to have received a number of spontaneous compliments on the contents, and, as you have been informed, we are planning an annual full colour supplement, so that we can start sharing the beauty of show winners, named clones and others (please send in your photographs). As ever, we should try to swamp our editor with contributions so that she has a real challenge in selecting those which will be published.

The Club's financial support for research is somewhat on the back burner, as we devote available funds to the colour supplement.

Reports of the branch shows will appear separately in the newsletter. The unseasonably warm weather in South Africa this winter resulted in Clivia flowering early this year so that the KwaZulu/Natal and Western Cape shows were both brought forward. The Gauteng and KwaZulu/Natal shows and AGMs are now both on the same date (6th September) and the Western Cape show will be held on the 13th September (three weeks earlier than originally planned).

Shows and generous seed donations from Yoshikazu Nakamura and Nick Primich in particular have given us most of our discretionary funds. Planning has started for the 2nd Clivia Conference, combined with a habitat tour and shows, to be held from the 2nd to the 16th of September 1998. Costs will be kept to a minimum and part participation for those unable to take two weeks off will be accommodated. Early

preparation is essential if success is to be achieved, and members are again urged to let us know (without commitment at this stage) whether they are likely to join in. It is again my privilege to thank the committee and other members for their enthusiastic contributions, from which we all benefit -time-consuming but generally fun, and long may it continue.

With best wishes to you all
Wim de Beer

* **** *

CORRESPONDENCE

Confirmation of the nomenclature of *Clivia miniata*
From Louisa Liebenberg

National Botanical Gardens, Pretoria
Private Bag X101 , Pretoria 0001
22 September 1997

Here is my comment on the letter from Dr Piet Vorster, published in Volume 6 Number Four, December of last year. Although I have taken a long time to put pen to paper I have kept my eyes and ears open to all the information that came in from all the club members as well as any scientific papers I came across.

The information in Dr Vorster's letter is absolutely correct. I thought long and hard about the way to explain the "rules" of taxonomy in such away that even I can understand what I wrote and I decided to proceed as follows.

The first person to find a yellow *Clivia* and decide to describe the plant in the correct way, took the plant out of the wild, made a herbarium specimen (later known as the type specimen), a distinct note of the location where it was collected, and wrote a description of the plant. He also wrote the accepted Latin description and published it in a recognised botanical publication. After the description was read by the taxonomic fraternity it was accepted and the name and publication was filed with the *Clivia* specimens in the herbarium they curate. This *modus operandi* is followed by all taxonomists allover the world. They meet every 4 years, and during the meetings the rules are discussed and revised and hardly ever changed.

The name as given by Dr. Vorster is taxonomically correct and reads as follows:

Clivia miniata for all the plants with the similar inflorescence (flower head) no matter what colour. These plants all belong to the same species. The definition of species has been described in different ways by different people and the simplest way I can think of putting it is to say that it is a group of plants which inter-breed. *Clivia miniata* var. *citrina* is the name given for all the plants with yellow or cream coloured flowers. It is not a subspecies or a different species because it is not separated by breeding barriers. The plants with all the other coloured flowers are considered to be *Clivia miniata* var. *miniata*.

It should be clear from this explanation that only a few plants have been described and accepted as type specimens.

I plan to go through all the scientific explanations that seem to be necessary to make all the phenomena which are talked about in the Newsletters as clear as I possibly can to everybody. My fellow scientists will just have to skip the letters or scrutinise them for mistakes. Both most welcome! I also welcome any question concerning a fact which I did not explain well enough, or the use of unfamiliar terms.

I have scrutinised the Newsletters in my possession (I still do not have some of the early numbers) and I couldn't find major scientific misinterpretations. I do believe that there are some theories and terms I could put in better perspective.

I would love to know what you would like to know!

Best wishes,
Louisa Liebenberg (Technical Advisor)

..*..

Differences in types of Clivia berries

Translated by Frances Haxton)

Barsbult Farm, P.O. Box 75, Levallois 1909

Hello, Koos
I see the holes in the polystyrene shipping sheets are being done more and more professionally. Are you planning to patent them?

Thanks for the seed of good quality, not like the previous lot that looked like raisin Clivias, compliments of the so-called Post Office (Postal Service).

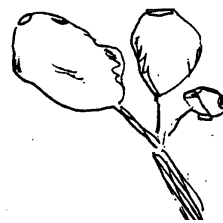
I now have a **BROAD LEAF YELLOW CLIVIA** (accidentally) from my own seed.

By the way, what is the record for the number of seeds in a berry? Bertie Guillaume and I

I have also noticed something interesting: the **broader** the leaf, the **rounder** the berry and the **larger** the scar where the flower was. This type of Clivia has **very many small** angular seeds packed tightly (like *C. nobilis*). The **round** berries from the broad leaf type cultivars, indicate to me as a layman a connection with *C. nobilis/gardenii* and possibly also *C. caulescens* influence in the breeding line because **only** *C. miniata* usually has oblong berries, and the "pure" *miniata* seeds are round/semi-spherical.



Broad leaf type cultivars



c. miniata

The pulp (flesh) of a *c. miniata* berry is dark yellow when the berry is red/purple/green/pink/black (when the berry is ripe). The colour of the pulp = colour of the pollen. The colour of the pollen of *C. nobilis*, *C. caulescens* and *C. gardenii* is lemon yellow while their flesh/pulp of their berries is also dark yellow like that of *C. miniata*.

Therefore, tabulated:

	Broad Leafed Cultivars	Caulescens /gardenii / nobilis	Miniata
Berry Skin	Broader than long Purple/red/orange/ pink	Broader than long Pink/red	Longer than broad Purple / red / yellow / maroon / greenish pink
Membrane around pip (seed)	Transparent	C. nobilis always has dark red in membrane	White - transparent
Pulp/flesh	Greenish to yellow	Dark yellow	Dark yellow - greenish
Pip/seed	Pearly beige, some with brown marks	Some have stripes/ dots/blotches on the main pearly white colour	Pearly beige, some with brown marks

Thanks for al your efforts

Regards
Dries Bester

Those of you who have received seed from Koos Geldenhuys will know what Dries Bester means when he refers to the neat polystyrene packaging. Koos burns little holes into polystyrene boards. Each seed then is popped into its own hole in the polystyrene so that it is well protected in the post.

The question has often been asked "Is there a broad leafed yellow?", so thank you for answering it.

Can any member beat 79 seeds in a pod? My best has been 13.

*I have often wondered why my C. miniata have different types and colours of seed pods. Thank you for your observations Dries. Would anyone else have an explanation for their different shapes and colours?
Editor.*

..*..

Proof that the Karkloof Yellow is a true yellow
Ian & Geraldine Vermaak

P.O. Box 4802, George East 6539
August 1997

Dear Meg

With reference to Gert Wiese's letter on page 6 of your newsletter of July 1997 re true yellows.

I read with interest the above letter. In the late seventies and early eighties I visited Mrs Watkins at her Hilton home on many occasions. We shared a common interest - orchids and clivias.

She sold me a Karkloof Yellow and I repeat a Karkloof Yellow. She only had a few, but I managed to buy one from her. This "Mother" plant of mine has produced beautiful yellow blooms and every seed has produced flowers of the same yellow. When we moved away from Hilton I lost contact with Mrs Watkins.

Gert Wiese admits that little is known about what he terms the so-called Karkloof Yellow. As there seems to be some doubt in his mind about the Karkloof Yellow let me state quite categorically that there is a Karkloof Yellow and this I have.

I enclose a photograph of my original plant in full bloom which was taken in October 1996. The blooms are a deeper shade of yellow than the photo depicts. Note my Red Clivia in the foreground and also offsprings of my Karkloof "mother" plant on the left of the photo.

I trust that this letter will clarify the position as to the Karkloof Yellow. With kindest regards Ian Vermaak

Thank you for this information about the Karkloof Yellow. Your letter was forwarded to Wessel Lotter as he was clarifying the origins of the various yellows. I am sorry that I am unable to reproduce the photograph in the Newsletter. Editor.

..*..

Some very subjective observations on Yellow Clivias at the Natal Botanical Gardens in Pietermaritzburg

From Brian Tarr

Natal National Botanical Garden, Pietermaritzburg 15 July 1997

For the past 16 years I have been collecting yellow Clivia clones, particularly those with some collecting information.

To date we have plants that are said to be offshoots of plants collected in the wild, as well as several of unknown origin. For want of a register of clonal names, I have given them the names of donors or localities where they were collected, so as to be able to identify them. They could as easily be A, B or C.

Clivia miniata var. *citrina* cv 'de Villiers Yellow'

According to Mrs de Villiers, late of Umlaas Road, this is an offshoot of the original plant collected in the Tongaat/Stanger area and sent to England for naming. The plant is fairly slow growing and does not make many suckers. It breeds true when selfed (observations of our plant indicate that it has a virus as its seedlings show limited signs of variegation and this would also account for its slow growth). The flowers are a rich yellow fading slightly with age, the petals and sepals are fairly broad and the head of flowers very full. (I have not counted the number of flowers per head).

Clivia miniata var. *citrina* cv 'Mare's Yellow' (= Howick Yellow)

In 1896 Miss Grace Mare bought the original plant from an Indian gardener who had collected it at the foot of the Howick waterfall. The plant was grown at her home Silver Oak in Howick and over the years, offshoots were sold for five shillings and then seven shillings and sixpence (expensive even in those days).

The plant is vigorous and sends out a lot of side shoots but is self sterile. Further notes on the breeding can be found in the discussion of 'Watkins Yellow'. The leaves are more straplike than the other clones and the flowers more trumpet shaped. The colour of the flowers seems to be affected by the amount of light it receives, being almost white in full sun and a deep butter yellow under 60% shady netting. This clone is the first to flower in our collection, beginning in mid August and finishing in early September.

C. *miniata* var. *citrina* cv 'Transkei'

This is a recent acquisition and certainly distinct from the Natal Plants. It suckers freely and is the second clone to flower in our collection (early September). The individual flowers are shorter than either of the previous clones and the colour tends to pale yellow.

It is the fruit that is distinctive, as it is neither red nor yellow but a mixture of red, yellow and green and very attractive (the fruit also seems to be extra large). As we have not had it long its breeding characteristics are not known.

C. *miniata* var *citrina* or 'Noyce's Sunburst'

This plant was obtained from the late Mr Noyce of Hillcrest and in a letter from him it seems the plant originally came from Eshowe in Zululand. It is a vigorous plant with wide leaves that arise in a definite fan shape at the base. This characteristic is evident even at an early age. It flowers from mid September through to early October. The heads of well-formed flowers are carried well above the leaves on a stout peduncle.

We have not yet flowered seedlings but it is said to produce all yellow plants.

Clones of unknown ancestry

C. *miniata* var. *citrina* cv. 'Natal Yellow'

This is a wonderful plant for the trade as it makes lots of suckers and the seed always gives orange progeny. The flower is well formed and a good yellow. As the buds open, the flowers have a definite green hue that disappears as the flowers mature. The tips of the well-formed petals reflex more than in the other cultivars.

As mentioned, when selfed or cross pollinated with another yellow, the progeny are almost all orange.

C. *miniata* var *citrina* cv 'Watkins Yellow'

This is a mystery plant and like 'Natal Yellow' does not seem to have a history. The flowers are well formed and an excellent shape, although not as campanulate as some of the other clones. The head of flowers is carried on robust peduncles well above the leaves. When selfed, the progeny is mostly yellow with a few orange plants (sorry no percentages). In a recent discussion with a Clivia grower, it would seem that this plant is from a strain that may have come into existence by crossing one of the dominant yellow cultivars with the plant collected in Howick -(I would appreciate comments, as this is speculation on my part). If this is the case, then what I know as the 'Watkins Yellow' would not be a cultivar but rather a strain that has given rise to a number of cultivars through the years.

If members have additional information concerning the various forms of *Clivia miniata* var. *citrina*, I would like to include it in our file so that the Jigsaw puzzle of the Yellow Clivia (and possibly the white) can be completed.

Thought should also be given to a register of clones and cultivars so that we all can talk the same language when discussing the breeding of Clivias.

Butator

Thank you for describing these clones and their origins so succinctly. Would the "Karkloof Yellow" referred to by Ian Vermaak in the previous letter not be the same as the Watkins Yellow?

Wessel Lotter has replied to this letter below.

..*..

Reply from Wessel Lötter

P.O. Box 48520, Hercules 0030
22 September 1997

Dear Meg

Thank you for referring Brian Tarr's article (Some very subjective observations on Yellow Clivias at the Natal Botanical Garden in Pietermaritzburg) to me. I regret that I am neither an expert on Clivias ex habitat nor a collector thereof and have to rely solely on information from other people. I must however, admit that for the Botanical Gardens, it is of the utmost importance to have the original ones in their collection.

I am interested in the improved varieties as well as oddities like the "Natal Yellow", the breeding behaviour of which I have just been able to solve. The Transkei plant to which Brian refers may be related to the "Natal Yellow" and I would like to obtain some pollen for research. What is of further interest to me is the colour of "Howick Yellow" under different conditions which explains the different colour varieties which I saw at the Pietermaritzburg show last year.

Regards
Wessel

..*..

Clarification on "true" and other yellows

By Wessel Lötter

P.O. Box 48520, Hercules 0030
22 September 1997

It seems to me that there is still a lot of misunderstanding as to what a true yellow is. I shall, therefore, explain briefly the difference between the true yellows and the others.

8. True Yellows

This is a yellow which under controlled conditions, if selfed, or crossed with another yellow, will give you 100% yellow progeny at least up to the F2 generation.

9. Yellow with hidden red gene

Plants with this genotype may produce a little red pigment that the flowers appear yellow but it may show up a state in the berries when ripe. It very seldom shows the flowers as well but if it does it can be extremely beautiful as in Chubb's Peach.

It is said that if a yellow with a hidden red gene is crossed with a true yellow, the progeny will be 100% yellow, of which 50% will be true yellows and 50% yellows with a hidden red gene. If a yellow with a hidden red gene is selfed or crossed with another yellow with a hidden red gene, yellow as well as orange flowering plants are produced. A geneticist says 75% yellow (50% hidden red gene and 25% true yellow) and 25% orange, while breeders reported 20-30% yellow and 70-80% orange. Such results are often due to the fact that pollination was done within a mixed collection

and no precautions were taken to avoid inadvertent pollination. Whatever the case may be, proper research under controlled conditions is now necessary.

If I interpret Gert Wiese's letter (page 6 of Newsletter July 1997) correctly, then "Howick Yellow" could be a yellow with a hidden red gene. I have seen a number of these yellows with dull orange-yellow berries, almost a beige colour. Recently I was shown a "Pat Bennett Yellow" and a "Watkins Yellow" with such berries. According to Brian Tarr's article "Watkins Yellow" is the result of a "Howick Yellow" crossed with another yellow. I have never seen the berries of a "Howick Yellow" and, therefore, I have just bought two "Howick Yellows" for proper research. One I selfed in complete isolation away from all other Clivias and the other one I pollinated with true yellow. It will soon be known whether it does self. According to Brian Tarr's article in this issue, it does not.

10. Par Yellows (Natal Yellow) [*On a par with other yellows*]

Unlike the yellows with a hidden red gene, the par yellow is completely incompatible with the true yellow. The good news, however, is that this has been sorted out and the odd breeding behaviour of "Natal Yellow" is no longer a mystery. This will be dealt with in the next newsletter together with a coloured supplementary. The reason for substituting the name "Natal Yellow" for "par yellow" will also be given.

4. Picotees

These are yellows with faint red edging or tips to the petals. They are very rare. I know only of three. The breeding of these plants is not yet known. One is in the Botanical Gardens of Pietermaritzburg and the other two ex hort Miriam Meltzer. Experiments have already been done to see whether they are a variety in their own right or merely aberrant forms of par yellow or yellow with a hidden red gene. Hopefully some results will be available for the next newsletter as well as coloured photos for the supplementary.

Wessel

Thank you for explaining the differences between the various yellows. I hope that once we have our colour brochure we will be able to see the differences between the various cultivars. Editor.

..*..

Request for Clivia seed for conservation purposes

From Toy Jennings

P.O. Box 37742, Vallyland 7978
22 September 1997

The Clivia Club is involved in a big programme to try and save the country's Clivia habitat as a result of uncontrolled removal of plants by herbalists. Please send as many seeds as possible (except *C. nobilis*) to the Clivia Club, PO Box 74868, Lynnwood Ridge, 0040 for distribution to growers. The plants will not be planted in the habitat as this would disturb the gene pool. At the correct stage of development the plants will be made available to herbalists and *muti* trade doctors.

Here are some other suggestions for the Newsletter.

How about every member sending:

1. At least one hint about Clivia that they have found useful;
2. Interesting contributions for the editor to choose from;
3. Information about interesting personalities and collections;
4. Photos with descriptions of their Clivias.

Could all the informative material from the different meetings be sent for publication in the Newsletter. Maybe a person attending the meeting can be appointed as "Secretary" for that meeting. Then we can all share and enjoy the information and advice.

How about photos and info about "big guns" Toy Jennings

I'm sure the articles and hints will come pouring in now! Ed.

..*..

Perseverance pays

From Meg Hart

70 The Valley Road, Parktown, Johannesburg 2193

7 October 1997

On 17 May this year I received some Clivia seed from Yoshikazu Nakamura via the Clivia Club. The seed had been posted from Japan to South Africa in February, but due to postal delays it was only received in the middle of May. I planted the seed in between paper towelling in Tupperware, sprayed them with a fungicide solution and waited for them to germinate.

The multi-petals, cyrtanthiflora, variegated and "Vico Gold" seeds germinated within 6 to 8 weeks, but nothing at all happened to the "Vico Yellow" and Daruma seeds. After a few months my patience began to wear thin, especially as they cost R8 each! The only consolation was that the seed did not rot, and although it was not germinating it did at least look healthy. Each week I would check the container, top it up with the fungicide solution if necessary and put it back in the warm broom cupboard.

About a month ago one of the seeds began to look less shrivelled, and at the beginning of October a radical appeared. It will soon be ready to plant out into a pot in potting soil. After all this trouble, I only hope that it does turn out to be the beautiful "Vico Yellow". (I think the other seeds will also germinate soon as there are bumps forming on them).

The moral of the story is to persevere with growing your seed especially if it is something worthwhile cultivating.

Good luck with your Clivia growing.

Meg Hart

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NUTRITION OF CLIVIA

As the attraction of the Clivia is not only in the once a year flowering period but also in the lush dark green leaves and the strikingly beautiful seeds, cultivation practices should be aimed at all three aspects.

Although all the macro nutrients are active in the whole plant the major three are as follows:

NITROGEN: Mainly responsible for lush vegetative growth and deficiencies are first seen in yellowing of lower leaves.

PHOSPHATE: Necessary for good root growth and development. As competition can be very high it is essential.

POTASH: Definitely the most important nutrient as it affects not only the size and lifespan of the flowers and leaves, but also increases resistance to disease and drought.

MATURE PLANTS

Starting the growing season with a compound like 4:3:4 (33) will give enough Nitrogen to stimulate long leaves and especially a long flower stem and enough Potash to have a better quality flower and better seed setting.

Apply approx. 5 gram per plant at the beginning of the season and repeat every 4- 6 weeks. At the end of the season the same amount of 1:0:1 (36) can be applied for winter reserves. Foliar feeding of micronutrients every 4- 6 weeks with Folifert Horti at a 2% concentration will supply all the micro nutrients needed especially for container grown plants as they can become deficient over time.

SEEDLINGS

Never apply fertilizer on newly planted seedlings or seed. It is always safer to use liquid fertilizer more often at a 2% concentration until the plants are well established before using dry granular fertilizer.

Gerhard Reynecke

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CLIVIA CLUB ACTIVITIES IN SOUTH AFRICA

Gauteng Clivia Club Meeting (26 July 1997)

The meeting was held at the National Botanic Garden at Pretoria. The agenda discussed the 1997 show, the newsletter, and 1997/8 activities, medicinal plants and club efforts to propagate surplus seed, fertilizer, frost protection and general club matters. Six plants had been brought in for discussion. Foliar fertilizer and donated seed (C. Abel) sales raised R136.

James Abel

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Gauteng Clivia Club Show (6 September 1997)

Saturday 6 September dawned fine and sunny in Pretoria. Workers organised tables, benches and displays from 06:30. Judging started at 08:00. James Haxton took photographs of the prize winning plants! When the gates opened at 09:00 the crowd flooded in and there was a very busy period between 09:00 and 10:00. When Princess Diana's funeral proceedings started on television at 10:00 the crowds thinned out but a steady stream of visitors attended from then onwards. Food and refreshments were provided by a Dutch Reformed Church (N.G. Kerk) group. It was very nice to be able to take a break and have a pancake or a boerewors roll. The AGM was held in the Conference Room at 11.30.

The photographic section, species table and morphological display attracted much interest, as also did Geoff Meyer's demonstrations on growing Clivia seeds and repotting. He uses "Tub & Terracotta" imported from Australia for his growing medium and plants his seeds directly into this. Gerhard Reynecke had "Folifert Horti", a micronutrient fertilizer for sale with directions for use on Clivia. Anna Meyer of Safari Nursery had a magnificent display of Clivia in her section -all different colours and cultivars of *C. miniata*. Many Clivia growers had plants for sale, and yellows in flower were going for R300 each. One year old yellows were much in demand and sold for R50 each.

Thank you to everyone who helped at the show: the organiser, Frikkie Potgieter and his team, the many helpers, the judges (Wessel Lotter, Koos Geldenhuys and Elda de Witt) and all the show entrants, without whose Clivia the show would not have been so spectacular. A special thanks to Geoff Meyer for providing the banner advertising the show at the entrance gate.

Approximately 750 people attended the show (t 1000 in 1996) and the profit amounted to t R7500 (R15 000 in 1996).

Results

Class	1st	2nd	3rd
<i>C. miniata</i> orange	Tino Ferero	Tino Ferero	Anna Meyer
<i>C. miniata</i> red	Tienie Holtzhausen	Pat Gore	Pat Gore
<i>C. miniata</i> yellow	Koos Geldenhuys	Koos Geldenhuys	-
<i>C. miniata</i> pink/salmon/peach	Frans Gerber	Anna Meyer	Pat Gore
Interspecific hybrid	-	-	Rudo Lötter
Pendant species		Pat Gore	-
Display plant	no entries		
Variegated leaf	-	-	Anna Meyer
Broad leaf	Kerneels Buitendag	Pat Gore	Frikkie Potgieter
Miniature	Tienie Holtzhausen	Anna Meyer	-
Most unusual	Anna Meyer	Anna Meyer	Anna Meyer
Best on show	Tienie Holtzhausen	Kerneels Buitendag	-

Despite the limitation on entries, 55 plants were entered for the show. Although all the entries were beautiful, mention will only be made of a few of them. My general impression was that most of the entries were cultivars and that there were very few, if any, of the type of *C. miniata* which one would find in the wild. The best 'orange' was a *C. miniata* cultivar with big compact flowers with white centres. The best 'red', which was also the best on the show, was a Belgian Hybrid with very large flowers and greenish/cream centres. There were not a great many yellows, but they were as usual very spectacular. The best 'yellow' had large lime coloured flowers. What really stole the show were the pastel shades (peachy/salmons) of which there were many. I think that the judges must have had a difficult time deciding which were the best. The first prize was awarded to a pastel with variegated petals of vertical dark and lighter peach stripes (from *C. miniata* stock). The second prize went to a peach whose petals were tipped with cream, and the third was a pure well-shaped peachy/salmon. The best 'Broad Leaf' (runner-up to best on show) had leaves 12 cm in diameter with a spectacular orange florescence on a long stem. The 'Most Unusual' specimen was a *C. miniata* with curly petals.

Meg Hart

..*..

Clivia Club - 4th A.G.M. (6 September 1997)

- Agenda: 1. 1996 AGM (Vol 5. no.4. p3)
2. Report
3. Financial Report
4. General
5. Election 1997/8

The meeting was attended by 29 members. The chairman's and financial reports were presented, discussed and approved. Under general, a review of sales margins at shows, reports on papers presented at branch meetings and the submission of photographs of prize plants were requested.

The committee members (see front page) were nominated and re-elected *en bloc* and unanimously. Tino Ferero and Renee Deschamps were coopted to assist with the 1998 Clivia Club Show.

James Abel

The financial report will be reflected in the next newsletter. Editor.

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Gauteng Clivia Club outing (7 September 1997)

The day following the Clivia Club Show in Gauteng, 21 people gathered at the home of Dr & Mrs Meltzer near the Hartebeespoort Dam on the northern slopes of the Magaliesberg range in the Brits District. It was another lovely sunny day and the ambience of the venue was magnificent with over 5000 Clivia in bloom under the dappled shade of indigenous trees. There were amongst others *Celtis africana* (White Stinkwood), *Dombeya rotundifolia* (Wild Pear) in flower, *Rhus lancea* (Karee), *Mimusops zeyheri* (Moepel), *Euclea crispa* (Gwarri), *Acacia caffra*, *A. karroo*, *A. robusta*, *Pappea capensis* (Wild plum), *Euphorbia ingens* (Naboom) and *Cussonia paniculata* (Cabbage Tree).

The beds were slightly raised and the Clivia were set off by other attractive foliage plants. It is amazing to see how Clivia thrive in this dry Bushveld climate provided they are watered. There was an odd yellow sport or two amongst the orange Clivia, and Miriam had potted a few special yellows into pots. One of these was a particularly interesting sport, a cream with a pink border. After a tour of the property and a walk to a grove of Wild Fig trees (*Ficus ingens*), where Miriam is going to start another Clivia patch, the company enjoyed a hearty braai before returning to their respective homes on the Witwatersrand. It was really a lovely day in the countryside. Thank you very much for allowing us to have our outing in such a lovely environment.

Meg Hart (Trees identified by Dr Richard Poynton)

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KwaZulu/Natal Clivia Club Show (6 September 1997)

Due to adverse weather conditions the Natal Show was brought forward to the 6 September as most of the exhibitors felt their plants would be over by the following weekend. This unfortunately clashed with the Pretoria Show.

About 40 plants were entered for the show. A good selection of yellow clones were presented including the lovely new "wild caught" Tsolo Yellow belonging to Brian Tarr of the Natal Botanical Gardens. It has a most pleasing shape with large seeds.

A beautiful display of oranges was exhibited showing a full range of the different colours, shapes and sizes which occur naturally amongst clivia.

There was a good selection of seedlings and plants for sale including Nakamura variegated plants and Daruma Broadleaf.

A photographer was invited to take photographs of the different clones. We are hoping to gather all the original and new clones together, name them and give the history behind each find. Once a full set is available this would be offered for sale to the members of the Club.

Approximately 50 people attended the Show and new members were enrolled. The entrance fee of R2,00 included tea and approximately R1000 profit was made at the show, mainly from the raffle. The winners of the raffle were:

1. Tony Hunt -Flowering yellow
2. Mrs M Hein -Watkins seedling
3. Carol Beckett -Daruma Broadleaf

Judges: Des Andersson, Carol Beckett, Sean Chubb, Dave Moon, Brian Tarr and Carol Thurston

Show results:

Miniata Yellow			Miniata Other Colour		
		Point			Points
1	Natal Bot. Gardens	3	1	Sean Chubb	3
2	Natal Bot. Gardens	2	2	Olive Naude	2
3	Dave Moon	1	3	Sean Chubb	1
Miniata Orange			Variegated		
1	Dave Moon	3	1	Sean Chubb	3
2	Dave Moon	2	2	Sean Chubb	2
3	Dave Moon	1	3	Sean Chubb	1
Miniata Broad Leaf			Pendulous		
1	Des Andersson	3	1	Sean Chubb	3
2	Val Thurston	2	2	Des Andersson	2
3	Natal Bot. Gardens	1			
Best on show: Natal Bot. Gardens			Runner up: Sean Chubb		

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KwaZulu/Natal Clivia Club A.G.M. (6 September 1997)

Emmy Wittig and the Natal Botanical Gardens were thanked for the Clivias donated and raffled which yielded R766.

Appreciation was expressed to the Committee for their hard work and to Brian Tarr of the Botanical Gardens for the use of their facilities for the Clivia Club meetings and Show. Membership has risen to almost 70 members and is growing rapidly.

The Club's yellow clones now represent a broad range which need classification as is the case with other colours. It was suggested that the origins of the breeding clones be identified together with their geographical location.

An extra meeting will be arranged next year for members to air their views and provide further interaction.

The problems of weather in KwaZulu/Natal and setting dates for shows was discussed and greater flexibility suggested.

Brian Tarr suggested establishing colonies of Clivias in the Botanical Gardens representing all the clones from Natal. He asked for donations.

Also of importance was Robin Holmes' suggestion of a record of the available clones with their characteristics. Such a record of yellows is presently being put together by Val Thurston and Brian Tarr. More information from members would be appreciated, especially colour photographs.

Robin Holmes questioned the practice of exporting good genetic material.

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Western Cape Clivia Club Show (13th September 1997) Report by show committee chairman

By all accounts the Clivia Show organised by the Western Cape Branch has been a great success. The attendance was good and the response from the general public very encouraging.

Considering the effort and cost of arranging a show, the response justified staging the show over a four day period.

I was amazed at the enthusiasm of the public to purchase plants which is a very positive way in which to promote Clivia.

The finances of the Show look most encouraging. However we are most grateful for our main sponsors, namely, Kirstenbosch Branch of the Botanical Society for their generous donation of R2000 and the National Botanical Institute for providing the venue free of charge.

Unfortunately the arrangement for photographing the prize plants at the Show did not happen and my efforts were a total disaster! A 100% improvement is required next year.

There was a total of nine exhibitors which, considering the size of the branch, was most encouraging. However it is important that we encourage other members to exhibit and participate in the show.

Publicity coverage was very good in the press, radio and of course Eric Marsden's posters are areal eye catcher.

Letters of thanks have been sent to the Clivia Club in Pretoria for their support, the judges (Nick Primich, Chris Latter and Graham Duncan) and our sponsors. I would also like to thank Phyllis Watson for offering to hem all our tablecloths before they are laundered.

Finally I thank you all for the support you have given me in coordinating the Show, particularly the members of the Show Committee, Gert Wiese, Ian Browne and Claude Felbert. It was a great team effort

which is reflected in the success of the Show and hopefully enjoyed by all those involved. My sincere thanks to Joy Woodward for all the support she gives us and for wrapping up the Show at the close.

Judges: Nick Primich, Chris Lötter and Graham Duncan

Results:

Class	Best	Runner up	Third
Clivia miniata: in flower yellow	John Winter	Kirst. Bot. Gardens	Ian Brown
Clivia miniata: in flower orange	Gert Wiese	John Winter	Jim Holmes
Clivia miniata: in flower red	Jim Holmes	Gert Wiese	Toy Jennings
Clivia miniata: in flower pastel	Gert Wiese	-	Fred Gibello
Clivia miniatas in flower: broad leaf any colour	John Winter	Toy Jennings	Jim Holmes
Clivia miniata: in flower variegated any	Gert Wiese	Mrs Kriek	Gert Wiese
Clivia miniata: in flower miniature any colour	Ian Brown	John Winter	Jim Holmes
Any specie other than Clivia miniata: in flower any	Jim Holmes	Toy Jennings	-
Any unusual form: in flower any colour	Ian Brown	John Winter	-
Interspecific hybrids: in flower any colour (eg crosses or different forms of C. Miniata): no entry			
Pot plant (3 or more crowns)	Gert Wiese	Eric Marsden	-
Best on show	John Winter	Gert Wiese	

John Winter

..*..

Comments on the Western Cape Clivia Club Show

The Clivia Show was excellent, and hats off to the Western Cape Branch, particularly as it is the first that they have put on. The indoor venue, with the show plants displayed on covered tables, was ideal. The quality and number of plants was good and the prize winners are to be congratulated.

Commercial sales also added to the attraction for visitors, and we look forward to the official details on numbers from the Branch.

Naturally the whole show was superbly set off by the gardens and the surrounding Table Mountain -Kirstenbosch in its own right always deserves a visit from visitors to the Cape.

Connie and James Abel

..*..

Western Cape Clivia Club Meeting (13 September 1997)

A variety of issues were discussed relating to publicity, the need for bilingualism, interest shown by pensioners, the judges comments, technical aspects and financial matters. The show was a great financial success and the profit amounted to approximately R10 000.

Suggested dates for the next Show are 17- 22 September 1998 or the week prior to that. It was suggested that the Clivia Club International Conference scheduled to be held in Pretoria in 1998 be held at Cape Town instead, thus linking it to the Botanical Gardens Conservation Congress at Kirstenbosch.

An additional 21 members were recruited at the show. The Annual General Meeting will be held on 15 November 1997.

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PERSONALITY PARADE

Koos Geldenhuys was born in Groblersdal on 11 June 1947 where he also attended school until the 10th grade (Std. 8). The family then moved to Cradock and he matriculated from Cradock Boy's High. He joined Nedbank when he left school and after 15 years and many moves he called it a day and joined the Department of Agriculture where he is still employed in the Directorate of Finance and Provisioning Administration as a Deputy Director in charge of the department's budget.

Koos inherited his love of growing plants from his late father. He started collecting Aloes at a young age, but being a bank clerk had to break up his collection many times as he was frequently transferred from one town to another. When he left Nedbank in 1981 and moved to Pretoria, he settled and started growing orchids (Cymbidiums). However, when he discovered Clivia in 1993 there was no stopping him and many an orchid landed on the compost heap to make way for the pride of all flowers.

Like most of us he is building up his collection mainly through growing Clivia from seed. He has a large box in which he places his seed trays for germinating Clivia seeds. The box is fitted with a light bulb which supplies the necessary light and heat. The bigger plants are neatly potted in used plastic Coca Cola bottles and everything is meticulously labelled. Bigger flower pots have coke at the bottom of them for drainage. The overall impression is one of extreme neatness and order.

Koos has had a few mishaps with animals this year. He was on a trail near Nylstroom and was nearly trampled by an ostrich. When collecting shade netting for the Clivia Club Show he was bitten by a tame meerkat, and as he couldn't take a chance of it not being infected by rabies, he has been on preventative treatment for it. More recently he was nearly bitten by a snake at Oribi Gorge when it slipped between his legs!

Koos' wife Fransie hails from the Karoo (Steytlerville) where they were married in 1969. Their only child Francois has recently qualified as a dental technician.

Koos is our Clivia Club Treasurer and Seed Bank Administrator and was also one of the judges at the Clivia Club Show in Pretoria. He was awarded prizes for the best and second best yellows on this Show.

When a judge has plants on the show he stands aside for the category which is being judged with his plants in it. Ed.

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NEW MEMBERS (AS AT 1 OCTOBER 1997)

RSA

Lisa Atherstone, Box 1542, Tzaneen 0850, N Province

Brian & Jill Bell, 12 Antbear Street, Esther Park, Kempton Park 1620, Gauteng

Marietjie & Eduard Beukman, Burgerstraat 14, De Rust 6650, W Cape

Margherita Blaser, 58 Landsdown Road, Claremont 7700, (Cape Town), W Cape
 Danie Botha, Comosastraat 679, Dorandia, Pretoria-Noord 0182, (Pretoria), Gauteng
 Denis Clack, Westoe, Mowbray 7700, W Cape
 Tony Clark, PO Box 1068, Hilton 3245, KwaZulu/Natal
 Christopher Dalzell, Durban Botanic Gardens, PO Box 3740, Durban 4001, KwaZulu/Natal
 Minnie De Klerk, Posbus 35386, Menlopark 1020, (Pretoria), Gauteng
 Theo Dekker, Borcherdstraat 23, Potchefstroom 2531, North West
 Anita Duvenhage, Beryllaan 1002, Iyttelton 0157, Gauteng
 Jean Ehlers, Alexandralaan 11, Oranjezicht, Kaapstad 8001, W Cape
 Schalk & Cokkie Erasmus, Posbus 23132, Innesdal 0031, (Pretoria), Gauteng
 Claude Felbert, 8 Waterloo Road, Wynberg 7800, (Cape Town), W Cape
 Mr BH Gemmell, 2 Sandringham Avenue, Pietermaritzburg 3210, KwaZulu/Natal
 Mrs AC Handley, 'Misty Mountain', PO Box 755, Hillcrest 3650, KwaZulu/Natal
 Shirley Head, Cluster Box 1528, Forest Hills 3610, Kwazulu/Natal
 Robin Holmes, PO Box 855, Hilton 3245, KwaZulu/Natal
 Quentin & Rhoda Jansen, 2 Steen Avenue, Die Wingerd, Somerset West 7130, W Cape
 George Jillings, "Dalham", Dalham Road, Strawberry lane, Constantia 7800, W Cape
 Bill Kennedy, 10 Willow Road, Newlands 7700, (Cape Town), W Cape
 Riel Lötter, Weltevrede 8, Kuilsrivier 7580, W Cape
 Henriette Louw, Posbus 159, Malmesbury 7299, W Cape
 Chris Malan, Cynaroidesstraat 14, Paradyskloof 9500, (Stellenbosch), W Cape
 Berrie Marais, Posbus 3527, Witrivier 1240, Mpumalanga
 Rona & E.G. Marais, Helderbergweg 7, Valmary Park 7550, (Durbanville), W Cape
 Leon Martin, Posbus 482, Piet Retief 2380, Mpumalanga
 Awie & Fransie Matthee, Theo Slabbertstraat 849, Booysens 0082, (Pretoria), Gauteng
 Thinus & Elsie Matthee, Theo Slabbertstraat 849, Booysens 0082 (Pretoria), Gauteng
 Mrs CA Melly, 7 Fiona Place, Gillitts 3610, RSA, KwaZulu/Natal
 Johan Mostert, Deborahstraat 9, Westering 6025, (Port Elizabeth), E Cape
 Estelle & Burger Nortje, Posbus 15605, Lynn East 0039, (Pretoria), Gauteng
 Janet & Gawie Pieterse, Posbus 319, Rustenburg 0300, North West
 Phil Pieterse, Posbus 1109, Durbanville 7551, W Cape
 Rene Raff, 22 Upper Sidmouth Ave, Bishops court 7700, (Cape Town), W Cape
 Gene Rhodes, Box 3143, Dalview 1544, (Brakpan), Gauteng
 Sybilla Schelpe, Westfield, Lemon Lane, Newlands 7700, (Cape Town), W Cape
 Cyril & Anjenika Scrooby, Posbus 828, Ermelo 2350, Mpumalanga
 Morgana & Frank Seewald, PO Box 2924, Brits 0250, North West
 Mr FC Smith, Box 324, Estcourt 3310, KwaZulu/Natal
 Mariana & Willie Stander, Posbus 2384, Noordeinde 6056, (Port Elizabeth), E Cape
 Mary Steyn, 2 Wisteria Road, Claremont 7700, (Cape Town), W Cape
 Lena van der Merwe, Posbus 28542, Sunnyside 0132, (Pretoria), Gauteng
 Johan & Annalize van der Westhuizen, Lawsonlaan 1436, Waverley 0186, (Pretoria), Gauteng
 Maureen & Tim van der Westhuizen, Posbus 35133, Menlopark 0102, (Pretoria), Gauteng
 Ernst van Jaarsveld, Privaatsak X7, Claremont 7735, (Cape Town), W Cape
 Jannie & Hannelie Venter, Meyerstraat 785, Rietfontein 0084, (Pretoria), Gauteng
 Chris & Madel Viljoen, Moultonlaan 1213, Waverley 0186, (Pretoria), Gauteng
 Rita & Louis Visagie, 22ste Laan 918, Rietfontein 0084, (Pretoria), Gauteng
 Louis Vogelpoel, 7 Sunnybrae Road, Rondebosch 7700, (Cape Town), W Cape
 Phyllis Watson, 4 Vredenburg Avenue, Rosebank 7700, (Cape Town), W Cape

UK

William Wharton, 5 Gibson Gardens, Paignton, Devon TQ4 7AJ, UK

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E-MAIL NUMBERS

John Morris, jmorris@loom.com.au

Rene Raff, raffs@iafrica.com

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FORTHCOMING EVENTS

1997

7 & 8 November 1997 Clivia Club week-end at Levubu to view *Clivia caulescens* in their natural habitat.

Contact person: Dries Bester. Tel. (015) 5830299

15 November 1997 Western Cape Annual General Meeting
Venue National Botanical Gardens, Kirstenbosch
Contact person: John Winter. Tel. (021) 7621166

?? November 1997 KwaZulu/Natal Clivia Club meeting
Contact person: Val Thurston. Tel. (0322) 41316

Provisional Dates for the 1998 Clivia Club Conference and Show

3- 4 September 1998 Clivia Club Conference -It days of discussions of matters technical and general. How many will attend and how many will want accommodation at the Conference venue? Who will offer to read a paper?

5 September 1998 Gauteng Branch Show

6- 16 September 1998 The tour, where we need to have an idea of the number to be accommodated in the bus and hotels, and the number travelling independently and making their own arrangements.

Please write to James Abel regarding the probability of being able to attend the above in September 1998 as preparation is necessary for all aspects. Please let him know directly by:

Letter: 89 Brampton Road, Lynnwood Manor, 0089 Pretoria

Telephone: +27 12 476406

Fax: +27 11 4636542

e-mail: jabel@omnia.co.za

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BEGINNER'S LUCK

It is not quite known how Clivias are pollinated, but it is thought that wind pollination plays a big part. In order to increase the number of seeds or to control breeding, it is advisable to cross pollinate. Pollen from

the stamen of one plant is transferred to the stigma of another. This can be done using a paintbrush, cotton bud, feather, the corner of a handkerchief or even the thumb and index finger.

If the stigmas are dry and pollen does not stick to them easily, receptiveness can be enhanced by doctoring them artificially. This can be done by breaking off a piece of leaf and by placing a drop of the sap from the leaf on to the stigmas. A sugar solution can also be used to increase the stickiness. Dissolve six teaspoons of sugar in one cup (250 ml) of water and place the sugar solution in the fridge overnight. Place a drop of the sugar solution onto the stigmas, wait for 5 minutes, then pollinate. A much larger crop of berries should occur and there should be more seed in each berry.

Toy Jennings

ON THE COMPOST HEAP

Time seems to have caught up with the editor and the Newsletter is rather late. I hope that the Committee decides soon where the 1998 Clivia Club Conference is to be - in Pretoria or Cape Town? Please just organise the dates so that I can attend all three shows!

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