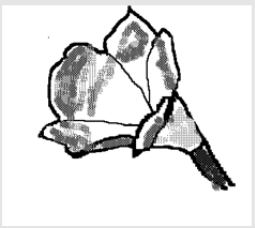
Clivia
Club

PO Box 74868 Lynnwood Ridge 0040 South Africa



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CONTENTS

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EDITORIAL

I am beginning to feel that this is the 'Year of the Clivia'. When I opened the January 1998 *Arena* (the magazine for Alumni and Friends of the University of the Witwatersrand) I was pleasantly surprised to find that the cover had a copy of a painting by Barbara Pike, a former staff member and an alumna of the Botany Department of Wits University. It was amongst other botanical works of art which were exhibited in the Gertrude Posel Gallery in November 1997 to celebrate the 80th birthday of the Department and the 75th birthday of the University. The painting shows a head of flowering Clivia, a head of seed pods, an offshoot with roots and a leaf with a withered brown tip - typical of most Clivia one sees in the wild (not at all like our show specimens). Fancy them choosing the Clivia rather than any other plant!

Inside the December 1997 *Veld & Flora* (Journal of the Botanical Society of South Africa) was a flyer from Cape Seed and Bulb Nursery advertising a Christmas Gift Special. This was a yellow *Clivia miniata* due to flower the coming season, packed in an attractive gift box with full planting and care instructions. The cost of the plant including VAT was R125,00: insurance and speed services delivery within 24 hours in South Africa was R35,00, i.e. R160.00 in total! Now this is a very reasonable price for a yellow Clivia - an ideal gift for your mother-in-law!

Val Thurston has completed her book on Clivia which she has been busy compiling for several months. She describes the various species, their cultivation, diseases and pests and a suggestion on standards for showing. Of particular interest are the illustrations and descriptions of the various yellow clones found in South Africa and already mentioned in some of our Clivia Club newsletters. Val has produced the book on her own computer using a colour printer. Congratulations Val - this has really been a labour of love.

This issue of the Clivia Club's newsletter continues to provide reflection on the thorny matter of terminology. Here Nick Primich raises various issues and invites comment from Club members. If this matter is pursued vigorously and enthusiastically by those who have entered the debate in the past it should be possible to iron out the problems, perhaps by forming a small group that could gather at the Kirstenbosch meeting of the Club in the Cape Town later in the year. Their findings could be published in 1999.

Two of our new members are embarking on research projects on Clivia. We wish them luck in their endeavours. More is said in this issue about the Clivias remarkable qualities in resisting drought, and its ability to grow in the shade.

Genetics continues to hold pride of place in the newsletter with the ball being thrown back and forth from the professional geneticists to the enthusiastic amateurs. Obviously this is an important contribution to our of Clivia culture because understanding the genetics of the genus ultimately leads to our understanding of its flowering habits, colour and characteristics, the thrust of many club members enthusiasm and interest.

An interesting article comes from Grahamstown on the late Gordon McNeil, doyen of Clivia growers in past decades, who has left a magnificent legacy of his work on the slopes above Lekgalameetse, situated on the eastern escarpment of the Northern Province. This is probably one of the largest collections of Clivias in the world, now under the watchful eye of his widow, Margot McNeil.

There is feedback of workshops and meetings and dates and details are given for forthcoming meetings. Please remember to bring along any interesting plants to Club meetings. Even though they may not be that special to you, they may be interesting to someone else. Please note that Dr David Mycock will be talking on micro-propagation of Clivia at the July, instead of the May meeting, of the Northern Branch. There is a long list of new members who we welcome to the Clivia Club.

A brief itinerary of the 1998 Clivia Club tours in different parts of the country is listed and members may want to start planning their participation and allocating time and funds to these tours which should be informative, rewarding and congenial. We hope that some of our overseas members will be able to join us.

My apologies for giving the incorrect dates for the Northern and KwaZulu/Natal shows in September 1998. They have been corrected in this issue. I am most grateful for all the contributions which have been rolling in from all over the world for the newsletter. I am sorry that I have not yet replied to some of these personally. Please keep them coming in. I also apologise for this newsletter being a bit late. Mastering the new computer and Word Perfect 6.1 has been quite a challenge.

Editor.

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NEWS FROM THE COMMITTEE

From the Chairman

1. The financial report for 1997 appears elsewhere in the newsletter, and the audit statement will follow in the next issue. We are pleased that it is not necessary to increase the subs for the year ahead.

2. The Club is growing well, and it is clear, particularly with the development of branches, that it has outgrown the original constitution. The various committees are reviewing the challenges that lie in amending the constitution for the future, and we ask members to send in their suggestions covering any aspect at all, including the structure of the Club and its committees and the method of election of committee members.

3. The Clivia Review has generally been well received, being the first colour illustration for members. It will be published annually at the beginning of each year. We look forward to competition from members for the inclusion of their photos of prize winners, named clones or other special specimens of our genus, and illustrated articles on Clivias are also welcome.

4. We also look forward to your support of the conference and tours in September - our thanks to the Cape Branch for organising the former and to all regions for the interesting programme that lies ahead.

5. Please note that Charl Malan, who is organising the Eastern Cape tour for the 16th and 17th September, has had his contact numbers changed to area code 27-46- tel 6227283 fax 6361086.

James Abel

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From the Public Relations Secretary

Except for editorial articles, please address all correspondence to the Clivia Club address.

If subscriptions are paid directly into the Clivia Club bank account, please fax the bank details to the public relations secretary for confirmation. The Clivia Club's bank account is at Nedbank, Montana, account number 1553-001-087. The bank clearing number is 15-53-45-06.

Elda de Witt

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From the Membership Administrator

Will members please use the latest renewal notices with the latest subscription fees.

Those who have not yet paid 1998 subscriptions have been given a second chance and will receive this newsletter. However it will be the last newsletter you are sent this year unless your remittance is received.

Adri Haxton

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From the Editor

Please remember the deadlines for submission of articles or reports for the newsletter:
15 March, 15 June, 15 September and 15 December.

Meg Hart

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FINANCIAL REPORT FOR 1997

Expenses:	R	Income:	R
Seed/plants	12 454	Sale of seed/plants	18 565
Newsletter	7 964	Subscriptions	14 496
Post/telephone	3 182	Sale of promotion items	2 089
Stationery	1 974	Investment interest	1 296
Audit fees	513		
Travel	95		
Bank charges	63		
Computer	6 999		
	33 244		36 446

Surplus for the year	3 202
Opening balance 1/1/1997	15 489
Closing balance 31/12/1997	18 691

Notes: 1. 1997 is the first year of separation of the Clivia Club and the Northern Branch accounts.
2. Equipment is written off in the year of purchase. Such items owned by the Club are the computer and printer and the fax/answering machine.
3. The accounts have been submitted for audit and the auditor's report will be included in the next newsletter.

Koos Geldenhuys

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RESEARCH PROPOSAL

The Club has received a research proposal, with a request for funding assistance, from Craig Honiball, an MSc Horticulture student at the University of Pretoria. Craig sent us the following covering note:

> "*Clivia miniata* is a fascinating plant about which much can still be learnt. This is the basis of an MSc Project which I am undertaking at the University of Pretoria. Specifically, I will be testing overseas methods of forcing plants to flower out of season, under South African conditions. For instance, by using a cold treatment of 10/15 °C for as few as 11 days, it was possible to bring plants into flower with fully elongated flower stems during March. Furthermore, I hope to develop some recommendations for post harvest treatment of Clivia cut flowers which would enhance vase life and to investigate the market demand for these. I will also be re-examining tissue culture which by most accounts is still rather tricky. I also hope to be attending some of the Club's meetings soon and look forward to sharing any of my findings"

Craig Honiball will be talking to the Northern Branch members at their meeting on 16 May.

The Club and Branch committees will decide on what support they can offer, and members are also requested to make contributions in cash or in kind (flowering size plants) directly to Craig at P O Box 12485, Hatfield, Pretoria, 0028 with a covering letter to the Club. A contact telephone number for Craig or Professor Hannes Robbertse (project supervisor) is (012) 420 3665.

James Abel

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CLIVIA REVIEW

The first CLIVIA REVIEW received positive comment from many readers and recipients. We also had some valuable suggestions from members on how to improve on our first issue. To those folk a big thank you - you will help us bring you better (and hopefully bigger) reviews in the future.

As the coordinator of the CLIVIA REVIEW I am requesting each of you, our members, to participate by sending us photographs of your Clivia.

What we look for in choosing photographs for publication:

- Crisp, clear photographs
- Close ups of a particular aspect of a plant or flower
- An uncluttered or dark background for the subjects
- Interesting forms of Clivia
- Photos of spectacular specimens
- Photos of Clivia which have won competitions

Further, we require that you send us written copy explaining your photo, stating when the photo was taken, where it was taken and who took the photograph.

The next issue of the CLIVIA REVIEW will be sent for layout in November 1998 to be ready for printing at the end of 1998. It will be distributed with the first issue of the newsletter for 1999.

Please ensure that your photographs and material are sent to us **AS SOON AS POSSIBLE**. A reminder - all material sent for consideration to the CLIVIA REVIEW is kept by the Club as part of the photographic library.

Please address your entry to:
Reneé Deschamps
P. O. Box 74868
Lynwood Ridge
0040

Reneé Deschamps

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CORRESPONDENCE

Terminology

By Nick Primich P.O. Box 6240, Westgate 1734

11 March 1998

I would like to make a few remarks about word usage in several articles/letters that have appeared recently from members such as Ian Vermaak, Brian Tarr, Wessel Lötter, et al. Sometimes the use of certain words is unsatisfactory or causes confusion. I cast no aspersions upon these members or the use of these words, but feel that we should strive for the clearer usage of words in certain instances. Brian Tarr makes a good point when he calls for a register of clones and cultivars so that we can all talk the same language. Let us please start to do this right away.

First the word **CLONE**. This is a set of plants reproduced vegetatively from an original plant. All the members of a clone have the same **GENOME** (the full set of chromosomes of an individual). There has been no **MEIOSIS** (the splitting of a cell into two) as happens when **POLLINATION** (fertilisation of plants) occurs and the **CHROMOSOMES** (the strands that carry the genetic codes) cross over between **POLLEN** (male plant cells) and **OVULE** (female plant cells). Only **MITOSIS** (the splitting of plant cells in two) has occurred during cell multiplication. **MITOSIS** is the normal process during plant growth (cell division). Thus a clone would be however many plants that have been separated from the parent plant etc. Therefore you could not have two separate clones from one source.

A **STRAIN** is a line of descent, or a population that has been isolated for many generations. It would have a fairly standard genotype, but not quite so tight as that of a clone. One could expect to find small variations. One can imagine in a colony of plants that may have originated from one plant, that firstly there would be the progeny that developed from seed. These are not members of the clone, and have a slightly different genetic message in their cells.

DOMINANT. This would mean that in the F_1 generation this character would take precedence over the **RECESSIVE** character. That is, the **DOMINANT ALLELE** has the same effect in the **HETEROZYGOUS** and **HOMOZYGOUS** conditions. Put simply this means that when a **RED ALLELE** (**DOMINANT**) lines up with a **YELLOW ALLELE** (**RECESSIVE**), in the F_1 generation there will be only **RED** (**ORANGE**) progeny. Thus, I could not at all be certain what term Dominant Yellow would mean in the breeding of Clivia.

A **TRUE YELLOW**. Surely this would mean a clivia that has, as flower colours go, a truly yellow colour? Is a yellow that breeds only yellows when crossed with a yellow of similar behaviour, not a **TRUE BREEDING** yellow? A yellow with red blotches or speckles such as referred to by Wessel Lötter, is my idea of what is **NOT** a true yellow. Some may think this is petty or nit-picking, but as Brian Tarr says, we do not speak the same language and therefore misunderstandings creep in. I am advocating the direct use of the English word in preference to the indirect, or implied sense.

A **PAR YELLOW**. Wessel says, inter alia, that this is equal to a yellow. Well, I just do not understand how a yellow can be equal to a yellow when it is already a yellow. I find this term utterly confusing. The dictionary gives par as meaning a state of equality, a norm or standard. Surely, this would not be a standard yellow? Perhaps Ernie Els could give us a pointer. I have a yellow that occurred in my breeding from a selfed orange. To date I have not been able to produce progeny from this plant with green bases. It is not self-sterile. I call it a rogue yellow as its behaviour is not normal. Let us at least get a term that is relative, and if possible, self-explanatory.

It is interesting to hear, albeit if one does not always agree, what others are doing with the breeding of plants. I certainly do not decry any efforts to uncover some of the mysteries of clivia. I whole-heartedly support it,

but before these words become fixed in Club usage I would like to hear if others agree or disagree with me. I am happy to abide by the majority decision. Let's come together and get a standard set of words that we need to describe clivias technical activities.

I endorse Wessel's remark about needing to keep records of one's breeding, but not only for yellows. I have found it necessary to number each plant, or else one finds that terms such as Natal Yellow are meaningless and subject to variation. I have plants which have been given to me as Natal Yellows, they do not like to bear yellow progeny, but they are certainly not self-sterile. I have kept records of my crosses for the past six years, and I find that they are now beginning to take on a whole new meaning, but more of that in another article.

Nick Primich.

Thank you Nick, for clarifying many of the terms used in our Newsletters. This is especially useful for those people who have not studied Botany.

When doing research one is often faced with having to describe phenomena which may not have been named before. In addition to this, Wessel has written his findings in English which is not his first language, and we must commend him for his efforts in describing what he has in the Newsletter. However, I would agree with Nick that some of the terms are confusing. 'True-breeding Yellow' is certainly clearer than 'True Yellow, have any of our Botanists suggestions for an alternative to the term 'Par Yellow'? Editor.

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Requirements for broad leaved Clivias

Gert Wiese 12 van der Westhuizen Ave., Durbanville 7550

13 January 1998

Thank you very much for a very interesting newsletter. I again wish to thank you and the whole committee for all your hard work. Somebody recently made a very complimentary remark to me, about Clivia growers. She said, "Is it not wonderful that all Clivia growers are such nice people". So there you are. Let us try in the new year to improve on that, and in the process get a lot more joy out of it. I wish you all a happy and prosperous new year.

Congratulations to Dries Bester with his broad leaf yellow Clivia. Please add my name to your seed list Dries, but now for a few questions. Has the Club laid down the requirements for any broad leaf or for that matter a semi-broad leaf? If so, can we have details please, if not, can it please be done.

Best regards,

Gert Wiese.
I am sure that the committee laying down standards for the various classes will let us know the standard for a broad leaf. Ed.

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Proof that the Karkloof Yellow is a True Yellow

By Gert Wiese 12 van der Westhuizen Ave., Durbanville 7550

13 January 1998

I read with interest Ian Vermaak's remarks about the plant he obtained from Mrs Watkins. After reading this again I wrote to Mrs Watkins. She does not comment on your relationship with her, maybe she forgot about it. At any rate she again confirmed that she only had a plant that came from the Strapp family who lived in the Karkloof on the farm ROCKFORD.

Now this plant is the Howick Yellow, and she crossed this plant with one she received from a Mr Sumner in the Stanger district. (Her remark about this person is: "He knew he was dying of cancer and wanted to see that someone would not let his plant die.") So whether you like it or not she never had a Karkloof plant. I mentioned to Mrs Watkins that a story is doing the rounds that she personally collected her plant from the Karkloof. Her reaction to this was to use a South African expression; BULL DUST. She only visited a farm in the Karkloof once in the early 1950s.

In 1993 I obtained eight yellow plants from Mrs Watkins, three of these plants produced all yellow seedlings when selfed, but were different in leaf growth as well as seed berries and size of seeds. A fourth one had bigger flowers as well as bigger seeds and produced about 90% yellow when selfed. The other four were plain Howick yellows (I lost one and one has never produced any seed). I still maintain there is no Watkins' strain, but that it is a cross between two strains which was improved by selection. If someone wants to call it a Watkins' strain, please tell me which one I must call by that name.

With reference to Brian Tarr's descriptions of the various yellows, I wish to thank him for a more friendly description of the HOWICK YELLOW. I gave the history of this plant in 1994, and also named it Howick Yellow. I prefer the name to the area where the original plant was found to a person's name. The first person who asked me about the name Mare, already pronounced it MARAIS, so let us stick to the name Howick Yellow.

It has also come to my notice that certain people call the Howick Yellow the Howick Karkloof Yellow. When I asked why 'Karkloof' is added to 'Howick' I was told that there must be plenty of Clivias on the Strapp's farm in the Karkloof. As I know the farm ROCKFORD very well and farmed it for about 15 years and have crisscrossed that bush hundreds of times, I can give the assurance that there are no Clivias in the wild on the farm.

I do hope that this will now settle the misconceptions about the Howick Yellow and the Watkins Yellow for good. I did ask Mrs Watkins for her permission to publish her two letters but she asked me not to. She fears a lot of correspondence and due to bad health she cannot cope with it.

But to Ian and Geraldine Vermaak - enjoy your plants, they are beautiful and I will be visiting my son in Oudtshoorn within the next few months when I hope to meet you and I will bring Mrs Watkins' letters with me and let you read them.

Best regards
Gert Wiese.

I hope that this now lays to rest the controversy about the Howick Yellow and the Watkins's Yellow. I would agree that variants should be called after the area in which they were found rather than the person who found them. Editor.

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Clivias in Austria

From John van der Linde 1 Wheelan St., Newlands 7700. (Cape Town)

12 March 1998

On a recent skiing holiday (SKI = Spending the Kid's Inheritance) in Saalbach, Austria, I saw quite a number of clivia plants.

Our *pensione* had potted clivia on the inside of most windows in the public areas. Even though they weren't in flower the foliage was very beautiful, with shiny broad leaves about a foot in height. I would guess that they are Belgian hybrids.

I even saw clivia in two of the restaurants way up on the ski slopes, at about 1800 metres. I understand that the plants grow very well indoors in winter and that they are moved outside in the summer.

Purchase of yellow clivia seeds

I read in the last issue of the newsletter that an Australian member of the Clivia Club had bought seeds of Kirstenbosch Yellow from Silverhill Seeds in Kenilworth, Cape Town. As their premises are not far from here I went down to see them. They had certainly sold yellow seeds previously, but could not confirm that they were Kirstenbosch Yellow. The yellow seed that they are currently selling - they may be sold out by now - are from Mr Nakamura in Japan, and are priced at R16 each. They could not give me any further details of the seeds' pedigree e.g. Vico Yellow or Vico Gold, but I decided to buy a few anyway. There goes more of the kid's inheritance!

With best wishes,
John van der Linde.

Thank you for your feedback about the seed purchased from Silverhill Seeds. I hope that the seed you bought from them germinate well and that they will be superb yellows. Despite the price, growing clivia from seed is considerably cheaper than buying a plant and in addition, it is much more rewarding. Perhaps the kids will see it as an investment when you start growing your own yellows and selling them. Editor.

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Comments on Wessel Lötter's research

From Les Hannibal 4008 Villa Court, Fair Oaks, CA 95628-7423, USA

March 1998

To the Clivia Club

W. J. Lötter's report of January '98 is most timely. It has been commonly assumed that the red colouring genes are suppressed by a single factor, but these various yellow crossings and subsequent selfings indicate that several red suppressor genes are involved, or more likely that these red suppressors are located in different positions in relation to the red genes on the chromosome chains, such that they cannot pair up to be functional and suppress the red. I have suspected this in the past as I have had reds show up when interbreeding various yellows.

Likewise, I have noted that second generation hybrids do not show great diversification or the presence of

transgressive features digressing much beyond the common morphological features present in the original parents. Thus extensive pairing and chromosome exchanges seemingly do not occur in F_1 crosses. One has to go through several generations of seedlings before diversification starts to show up.

I have had a broad-leaf KwaZulu/Natal Clivia here with distinctive spherical seed pods which are normally over 27 mm in diameter. This large spherical shape carries into all our crossings as a dominant feature, even on yellows which at times have slender pods whose normal length is twice or three times the diameter. The complete dominance is striking. What the resulting seedlings may look like remains to be seen, but I wonder what other features may be similarly dominant like the broad stiff foliage?

Has anyone encountered this form?

Sincerely
Les Hannibal.

Bill Morris in the next letter has come to the same conclusion as you have regarding the fact that several genes or factors are responsible for the suppression of the red colouration in Clivia. Editor.

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A theory on the genetics of yellow clivia

From Bill Morris P. O. Box 17, Medowie, NSW 2318, Australia

1 March 1998

Dear Meg,

I would first like to congratulate Wessel Lötter for the excellent work he has done on the Natal Yellow Types of yellow clivias. There has been a lot of meticulous work and observation involved. I think particularly his demonstration of self sterility in Natal Yellow B should be an example of how careful we should be, before assuming that when we put pollen on a plant, the seed that we obtain came from that pollen. In other words, when we get strange or unusual results from a pollination we should be as careful as possible to repeat the cross under carefully controlled conditions to make sure that some other (extraneous) pollen isn't involved.

I would however like to comment on Wessel's results and suggestions regarding what is happening in these yellows and particularly his percentage predictions in section 10 of his article.

Earlier in Herbertia 46(2) 95-96 1990 my breeding experiments showed that my yellow plants behaved as simple Mendelian recessives. That is, orange was dominant over yellow and for the yellow to occur the plant had to be homozygous for the yellow gene.

The yellow colour appears when the plant cannot produce the red pigment that is normally present. The yellow pigment is an entirely different type of pigment that is also normally present so that the orange colour is produced by the combination (mixing) of red and yellow.

My suggestion of what is happening in the plant is as follows:

There is a precursor or starting chemical in the plant which is converted chemically to the red pigment. Generally this is not a single step process and a number of chemical steps are required. These steps are

dependent on enzymes (which are proteins), usually separate enzymes for each step. The "gene" which we say controls the presence or absence of the pigment is actually a length of DNA within a particular chromosome of the plant. This length of DNA contains the chemical information to produce the particular enzymes required for the production of the pigment. Let us assume that 5 steps are required and thus 5 enzymes (there may be more than 5 required).

We can visualise this as follows:

Precursor Enzyme 1 A Enzyme 2 B Enzyme 3 C Enzyme 4 D Enzyme 5 Red Pigment

Now a mutation is an alteration to the plant's DNA which can be caused by a number of different things. Most mutations are deleterious. That is they cause the plant (or animal) to lose the ability to do something. In the suggested scheme above the mutation altered the DNA in such a way that one of the 5 enzymes either wasn't produced or the changed enzyme couldn't carry out it's required chemical step.

The loss of any of the five enzymes could stop the red pigment being produced. So it is possible that different mutations could knock out different enzymes and thereby produce different yellow plants. They could all look the same but they wouldn't actually be the same. I suggest this is the case with the yellow clivias and possibly the "peach" types.

In the case of "True Breeding" yellows the plant is totally unable to produce any red pigment. In the case of the "Natal Yellow" type, very small quantities of red pigment may be produced. Wessel Lötter observed small spots or streaks of red on the flowers and very late pinkish colour occurring on the usually yellow seed pods. In these plants this suggests that the altered enzyme can still operate (i.e. produce its required chemical step) but at a very much reduced rate. It seems possible to me that the "Peach" plants may be another example of this but where a little more red pigment is being produced, just enough to tinge the flowers. If there are a number of peach plants of different hues it suggests a slight difference in the enzymes that have been mutated to give slight differences in final colour.

Now to return to the yellows.

We can call the normal orange plant RR, then the yellows can be called rr (absence of R). To indicate they are different the True breeding yellow can be labelled $r_1\ r_1$ and Natal yellow can be labelled $r_2\ r_2$. Now when we cross a True breeding yellow with Natal Yellow we get

$$r_1\ r_1 \ \text{x} \ \ r_2\ r_2 \ \text{----->.}\ r_1\ r_2$$

This cross is orange, not yellow. However, no red gene, R, is present. The explanation is that the DNA of the gene, originally producing the red pigment although altered, can still produce the other enzymes involved in the 5 step process. As the mutations in the two plants are different then the enzyme knocked out in the true breeding yellows is produced by the Natal Yellow and vice versa. Thus the $r_1\ r_2$ plant, by the activity of both genes can produce all the enzymes needed to produce the red pigment and thus the flower is orange.

But note, there is no R or unaltered gene present. It has been suggested that there is a "hidden" red gene in some of these plants. This requires that in some way yellow is dominant over red. This is not so and this is where we can test Wessel Lötter's predictions in section 10 of his paper. About half of his percentages (a to i) involve orange mostly split with yellow. That is Rr. But there is no hidden R. Both parents were homozygous r (i.e. rr).

Section 10(I) is also incorrect because Wessel stated "all signs of par yellow will be masked by the true

yellow factor" indicating that these plants would be yellow but unable to be distinguished.

We know this is incorrect because when both are present, as in the cross of true yellow x Natal Yellow you get orange, not yellow.

My predicted percentages would be:

F_1 orange x F_1 orange ----> 50% yellow + 50% orange
$r_1 r_2$ x $r_1 r_2$ ----> $r_1 r$ + $r_1 r_2$ + $r_2 r_1$ + $r_2 r_2$
True yellow Orange Natal Yellow

The two types of yellow can be separated by crossing each seedling with another True Yellow.

$r_1 r_1$ x True yellow -----> 100% unpigmented seedlings (= yellow)
$r_2 r_2$ x True yellow -----> 100% pigmented seedlings (= orange)

With regard to the peach plants, they seem to be producing a little more pigment than Natal Yellow types. In the colour supplement Naudé's Peach appears to produce almost yellow flowers on opening and turns peach with age. This resembles the behaviour of the yellow pods finally turning pink on Natal Yellow plants.

Some of the peach breeding results that I am aware of are as follows.

Chubb's Peach x Chubb's Peach seedlings ---> 100% peach
Chubb's Peach x other peach clones ---> 100% orange
Chubb's Peach x self and Chubb's Peach seedlings x self ---> variable results but up to 100% orange. Some peach seedlings may be obtained.
F_1 orange (from Chubb's peach) x Chubb's Peach ---> 50% peach + 50% orange

These results to me are very similar to the breeding results of Natal Yellows.

Another relevant point is that in general when different clones are crossed many seeds are produced but when plants are selfed few seeds are produced. Now it is only the selfings which produce strange results and particularly strange percentages. The other crossings are quite consistent with Peach being (like both types of yellows) another simple Mendelian recessive.

In the case of selfings I suggest it is similar to Natal Yellow results. Where 100% orange seedlings are obtained I suggest the plant is quite self sterile and only crossed seed sets (from extraneous **orange** pollen, as with Natal Yellow).

Where mainly orange seedlings are obtained but some peach seedlings also, I suggest the pod parent is not totally self sterile but under the influence of foreign orange pollen some peach selfing occurs but most seedlings are still orange.

As the various peach clones are not all exactly the same colour I would expect that by interbreeding peach seedlings a range of pale colours could be obtained up to and including yellow at one end and pastel colours at the other.

If, as reported, True Yellow x Chubb's Peach, produces 80% unpigmented seedlings, as against 100% pigmented seedlings when Natal Yellow is pollinated with Chubb's Peach, it suggests that the Chubb's Peach mutation involves mutation of a different enzyme to that affected in Natal Yellow. However it appears, from the results above, that the affected enzyme in Chubb's Peach and True Yellows may be the same. However the actual changes to this enzyme appear slightly different.

I suggest it would be instructive to cross all available peach plants with each other. If they all involve different enzymes then in all cases the offspring should be pigmented (orange). If any of the crosses produce unpigmented seedlings (peach or yellow flowers) then it suggests they contain the same enzyme altered. The offspring should be more variable than seedlings produced by selfing or sib crossing one particular peach or its seedlings.

One point I would be interested in is, what is the colour of the pods on all the peach clones?

Yours sincerely

Bill Morris.

Thank you for your very stimulating and interesting theory about the role that genes and enzymes play in the production of the various colours in Clivia. We look forward to having comments from other members. Ed.

..*..

Tissue Culture?

From Charl Coetzee 196 Great West Way, Port Elizabeth 6025

February 1998

Dear Meg

Since meeting a real plant lover, Gert Wiese of Durbanville, my own love of plants got a new kick start: Clivias! While on holiday I visited him and what an experience! When we walked into his plant houses and I sensed the peace, and saw the most beautiful plants I've ever seen (I learned it was the Howick Yellow), I experienced a mind shift!

I immediately started a learning curve, but what frustration for a new member. It seems to me that since the plant was named after Lady Clive 150 years ago, this simple plant is still a mystery. And this is exactly what makes this plant challenging.

For instance: Gert plants his seeds/plants in his own garden compost, neat without even mixing it with soil. The plants just thrive. But another expert warns against organic material in the medium!

What about cloning? One newsletter mentioned "Vico Yellow is now micro propagated by Miyoshi & Co., Japan". If this is true a whole new dimension is added to Clivia. What is the full story at this stage about bi-generic hybridization and tissue culture.

Best wishes
Charl Coetzee.

Your letter covers three important aspects of Clivia culture: the growing medium, tissue culture and bi-generic hybridization.

Firstly, the growing medium. Everyone seems to have their own theory about what is the best medium. This also appears to depend on what people are prepared to spend on it. Many will buy expensive name brands, others will use their own compost or washed river sand. It all goes to prove how very adaptable the Clivia is to all sorts of soils and growing mediums. Yoshikazu Nakamura does not like growing his seed in compost because he says the seeds are inclined to rot, Pierre de Coster, a big commercial grower in Belgium plants his in separate pots in the medium in which they eventually flower and are sold. Gert Wiese uses his own compost. What would be interesting to know is how many growers use fungicides to prevent fungal infections?

There has not been great success in propagating Clivia using tissue culture. The whole plant must be destroyed in order to do so, and it is still going to take four or five years for the new plant to flower, so no time is saved. Dr David Mycock is going to speak about tissue culture at the Northern Branch (old Gauteng Branch) Clivia Club meeting in July, and we will be publishing his lecture in the next newsletter, so perhaps we will have some answers for you then.

Bi-generic hybridization is another can of worms - some say it does not happen with Clivia, others say it does. This is another aspect which needs much research under strict control conditions. Editor.

..*..

Micro-propagation of Clivia miniata

From: "BAGPUS" <Styma1c@nottingham.ac.uk>
Date: 20 April 1998 11:48am
Subject: *Clivia miniata*

Hi, my name is Andrew Chapman. I am currently studying a Horticultural degree at the University of Nottingham, England. I will soon be starting my project work in order to obtain an honours degree. My project will be on the micro-propagation of *Clivia miniata*. This is a plant that I am particularly fond of. As it is a relatively expensive ornamental it is only enjoyed by those able to afford it. Of course there are now hybrids which are even more beautiful but these are even more beyond the pockets of most of us. Successful micro-propagation techniques would inevitably open these plants up to a wider audience.

Of course, as my project work is only one year I will only have time for a relatively small investigation. Nevertheless I still think it is an important and exciting field of propagation.

I require seed and plant material but I have a very tight budget. Do you know of anyone in the UK who may be able to supply me with such material? Without enough material I will be unable to undertake what I think is important research.

I have researched the scientific database of journals but have not yet found any published work regarding Clivia micro-propagation. If you know of any such research I would be very grateful for this information.

Thanks for taking the time to read my letter and I look forward to hearing from you soon. Thanks in advance for any help that you might be able to offer me!!

Regards,

Andrew.

PS I got your address from one of the Clivia Club journals. I am interested in joining, can you help?

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Reply from James Abel

Re: Clivia micro-propagation of miniata 21 April 1998 3:38pm

Dear Andrew

Thank you for your e-mail. It is pleasing to hear of more research being done on Clivia. We wish you good progress with the micro-propagation - it is a field where many have tried but with few reports of success. I hope that you succeed, since every advance which makes Clivias more accessible is a gain for the genus and for the Clivia Club.

Because Clivia are endemic here in South Africa and suited to the warm climate, they grow easily in our gardens and we take them very much for granted. In contrast, Clivia do not grow as easily in a country such as yours with a colder climate and therefore have been prized for many years.

Please let us have reports of your progress so that we can include them in the newsletter.

Plant material from here will be difficult, but my wife Connie will send you some seed of miniata. I will

also forward your enquiry to one of our members in the UK who may be able to help.

Dr Keith Hammett, one of our New Zealand members, will be presenting a paper on the subject at our quadrennial conference in Cape Town in September and will probably be able to help you with your literature search - e-mail him on khammett@clear.net.nz

Elda de Witt (kedewitt on your e-mail address list) will let you have membership details.

With all best wishes for you and your project,

Regards,
James.

..*..

Die mot van die Amaryllis-wurm

Van Gerrit Prinsloo Posbus 523, Kroondal 0350

27 Februarie 1998

Beste Koos,

Dankie vir jou e-mail boodskap en uitnodiging. Baie dankie vir die Clivia-saad wat ek weer ontvang het. Ek sluit ‘n tjek van R100,00 in om my saad-deposito aan te suiwer. Ek is spyt Vico-gold is nie beskikbaar nie, maar stel belang in die saad wat jy van gepraat het. Is daar ooit saad van die “peach”-tipes beskikbaar?

Ek is ‘n redelike nuutjie in die Clivia-club en ek leer dus nog kliphard aan al die moets en moenies. Wat ek al baie van gehoor het en ervaar het, is die amaryllis-wurm en sy skade. Wat ek egter dilwels oor gewonder het, was hoe hierdie wurm se mot lyk. Ek kon nêrens uitvind nie en het die ou goedjies toe maar liefdevol soos sywurms aangehou totdat die motte uiteindelik uit die papies gekom het. Ek sluit ‘n foto in. Ek besef die nuusbrief is nie in kleur nie en dus sal die mot ook nie mooi daarin vertoon nie - ek het egter al by myself gewonder hoeveel van die ou Clivia-hande weet hoe die mot lyk.

Baie groete,
Gerrit Prinsloo.

Your order for the Nakamura seed was received on the 8 February and the deadline was 6 February, so I am sorry, but you missed it by two days. As there were many orders most people received only a few of each of the types sent in the consignment. For R101,00 I received the following:

4 x Yellow x Vico Yellow @ R9,00 each = R36,00
4 x Variegated @ R7,00 each = R35,00
5 x Mixed breeding stock @ R6,00 each = R30,00

I am sure that seed of the ‘peach’ colours will become available as it becomes more popular. However, as with most propagation by seed, one can never be sure what colour the plants will turn out to be and the 'peach’ strains may only be present in the second generation.

Thank you very much for sending us the photo of the moth of the Amaryllis caterpillar. The moth in the photo has a greenish sheen which is not normally apparent - this was probably caused by the flash. Normally the moth is a dark greyish colour. The photograph will be sent to Adri Haxton to add to our photographic collection. Ed.

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CLIVIA

By Brian Baldwin Found on the internet

Anyone who has ever tried growing lawn under a spruce tree will know that the dry shade under a tree inhibits almost all forms of plant life. As a general rule, most plants that are suited to shade usually require a constant moisture supply, and plants that are well suited to drought require full sunlight. One of the few exceptions to this rule, is a house plant known as clivia, or kaffir lily. Unlike many other plants, clivias survive in bright or dim light, in soil that is moist or dry. The ability of these plants to survive under conditions unsuitable for most other plants makes them remarkably tough house plants, and ideal candidates

for growing in those locations where few other plants seem to thrive.

The clivia is native to forest floors of southern Africa. From Africa, it was brought to England in 1854, where it was named to honour Lady Charlotte Clive, Duchess of Northumberland. Because of the plant's natural ability to survive on shaded forest floors, it quickly gained popularity as a plant well suited to the large shadowy parlours of Victorian homes.

As a member of the amaryllis family, clivias share many common characteristics with the more familiar amaryllis. Like the amaryllis, the leaves of a clivia are strongly two-ranked. This means the long strap-shaped leaves arise from the soil, directly opposite one another in an alternating sequence. Because the leaves are produced in an alternating sequence and they arch directly over one another, a mature clivia plant will develop a strikingly formal silhouette with almost perfect symmetry, forming what looks like a large flattened vase.

Another unique feature of clivia leaves is the rare example they provide for students of botany to observe a mid-way point in the evolution of a bulb. Students are often somewhat sceptical when they are first told that a tulip, onion or amaryllis bulb is actually composed of fleshy leaves which tightly clasp the stem of a plant. While a clivia plant does not have a true bulb, the swollen clasping leaf bases of a mature clivia plant quite clearly demonstrate an incomplete development of a dense bulb-like structure, with roots emerging from the base, and leaves emerging from the crown. This same relationship can be seen by comparing a leek with an onion. The leaf bases of a leek clasp one another in the same way they do on an onion, but the leaves of a leek have not become swollen to produce a bulb.

Clivia roots are thick, fleshy and well-equipped for water storage. On a mature specimen the swollen mass of roots often becomes so large that it will completely fill the pot, forcing the growing medium up and over the container's edge. Only when this begins to happen should a clivia plant be moved to a larger pot. In general, the plants do best when their roots are somewhat constricted by a small pot, so it is best to resist the temptation to place the plant in a pot much larger than the one you are moving it from.

The fleshiness of the roots is a very valuable characteristic for water storage, granting the plant a remarkable level of drought resistance. The extent of this drought resistance was once clearly demonstrated to me when I was repotting a clivia. After having removed all traces of soil from the root ball, a distraction caused me to leave the bare-rooted clivia sitting forgotten in a warm and brightly-lit room for a full week. When the forgotten plant was finally discovered, it had hardly begun to show signs of wilt. After being returned to a pot and watered, the plant resumed growth with no obvious signs of its ordeal. While a stress test such as this is hardly recommended for any plant, it clearly demonstrates the ability of these plants to survive under conditions which would kill most other house plants.

For best results, clivias should be grown in bright diffused light, with the growing medium kept evenly moist during spring and summer. If the plants are allowed to become quite dry for two months in winter, and the growing temperature is lowered to approximately 10 - 15°C, the plants can also be encouraged to flower. Clivia flowers are orange, lily-like, and produced in crowded clusters on top of a thick stem. Once a flower stem has begun to emerge, watering can be increased, and plants moved to a location with normal growing temperatures. In some cases, a mature plant will attempt to flower even when no rest period has been provided. Flowers produced by such plants are seldom successful, however, because without the proper rest period, the flowering stalk often fails to elongate, leaving the cluster of flowers compressed between the leaves near the base of the plant. Where clivia plants are grown in low light conditions, they will rarely flower, but will serve as reliable foliage plants.

Propagation of a clivia is accomplished almost exclusively by separation of offsets. After three or four years, a plant will have reached maturity. At this point, it will usually begin producing one or more offsets each year. When an individual offset has developed three or four leaves of its own, it can be cut from the parent plant, being careful to include some roots, and placed in a small pot of its own. Clivia plants tend to be long lived, with individual plants surviving ten, twenty or even more years.

Many enquiries are received from new members wanting basic details about clivia. This article from the internet should provide some answers, especially as details are given about the leaves, bulb and roots.

Propagation by separation of offsets is the only certain way of ensuring exactly the same characteristics of the parent plant. Propagation from seed is very easy and successful but there is no way of knowing what the offspring will look like. They may however, be even better than the parent plants!

My thanks to Chris Vlok for sleuthing the WWW to obtain permission for the Club to reproduce this article. Ed.

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GORDON MCNEIL

Members will have heard in the Newsletter and in other journals of Gordon McNeil, a pioneer South African enthusiast in the growing of clivias. He corresponded widely and exchanged material with enthusiasts across the globe. The following biographical sketch has been sent to us by Adelaide McNeil, his sister-in-law, formerly from the North Eastern Transvaal and now living in Grahamstown.

> "Patrick Gordon McNeil was born in 1909 to an English mother and a Scots father practising in Benoni, Transvaal. His mother died when Gordon was five years old and soon after his father joined the S A forces to serve as a medical officer during the first world war. Gordon and his two younger brothers were sent to Scotland to be cared for by their aunts. He only returned to South Africa at the age of twenty to settle on the farm Cyprus in the N E Transvaal.
>
> From an early age, encouraged by his aunt, he showed an interest in plants and as a farmer was able to begin at once to carry out botanical experiments. His farming was interrupted when he enlisted to serve in the S A Cape Corps for the duration of the second world war.
>
> On being demobilised he applied for and was granted another farm Dindinnie, two miles below Cyprus. Here, among other crops, chiefly paw-paw and tomatoes, he established mango orchards. With some collaboration with the Nelspruit Research Station he developed some new mango varieties, a popular one being Sheil, named after his daughter.
>
> On Cyprus he extended his wide collection of indigenous plants, mainly Liliacea. With these he experimented by cross pollination and developed some interesting hybrids.
>
> Clivia cultivation became probably his main interest. Adding to his original stock he was able to buy a valuable collection from Miss Gladys Blackbeard in Grahamstown. It required a whole

railway truck to transport all the plants to his nearest railway station and then to Cyprus where in ideal conditions they continue to thrive.

He was always delighted with any of his new hybrids. Particularly valuable were his interspecifics.

Gordon was a good host and enjoyed entertaining and sharing his knowledge with growers from other countries. One interesting visitor to Dindinnie was the then curator of Kew Gardens, Sir George Parker and his wife.

Gordon died in 1986 leaving his wife Marguerite Rose caring for the scores of winding terraces planted to Clivia in the Cyprus forest where he lies buried."

James Abel.

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KWAZULU/NATAL WORKSHOP HELD AT THE CYCAD CENTRE, UMLAAS ROAD (30 JANUARY 1998)

A workshop was held at the home of Avis Merriman and Danie Nel at their Cycad Nursery in Umlaas Road. The weather was kind to us and many thanks to Avis who provided us with a very nice tea. There were 23 members in attendance.

Sean Chubb gave a talk on how to prepare seeds and seedlings for planting. He explained that the seeds should not be buried and that care had to be taken when watering them.

Brian Tarr gave a demonstration of how to repot plants for the purpose of showing them. This should be done after flowering. Des Andersson gave a presentation on the preparation of plants and pots for showing.

Mark Laing spoke about the many pests and diseases that plague Clivia. Diseased specimens were used to illustrate his talk.

Jean-Luc Bestel brought potting soil from Gromor which was for sale to members. Alex Panas of Highfield brought along a selection of pots, bags, shade cloth and birdseed for sale.

A good day was had by all.

Sean Chubb.

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NORTHERN BRANCH CLIVIA CLUB MEETING (14 FEBRUARY 1998)

The meeting was held at the National Herbarium, Pretoria National Botanical Garden, and was attended by 36 members. After substantial discussion and voting the name of the branch was changed from 'Gauteng' to 'Northern'. Much appreciation was expressed by members for the visuals provided by the Review.

There was a free raffle of a yellow Clivia seedling for new members present at the meeting followed by a fund raising raffle of two yellow Clivia seedlings and a broadleaf Clivia.

Wessel Lötter spoke on yellow colour inheritance which was followed by an animated discussion.

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NEW MEMBERS as at 28 March 1998

AUSTRALIA
Alf Barta, 7 Green Acre Crescent, Narre Warren, Melbourne, V 3805, Victoria.
Karen Bowler, 70 McClelland Avenue, Lara, V 3212, Victoria.
Allan & Judith Clarke, 5 Hawker Road, Aldgate, SA 5154, (Adelaide), S Australia.
Shelley & Jim Gage, 10 Webster Road, Goomboorian, Q 4570, Queensland.
Joe Mouyat, 1007 Old Northern Road, Dural, NSW 2158, New South Wales

SOUTH AFRICA

Marlize & Jan Badenhorst, Posbus 169, Hartswater, 8570, N Cape.
Bannie Bester, Posbus 15107, Lynn East, 0039, (Pretoria), Gauteng.
Mrs Phil Bowles, PO Box 10020, Aston Manor, 1630, (Kempton Park), Gauteng.
Harry & Zandra Coetzee, Posbus 905-149, Garsfontein, 0042, (Pretoria), Gauteng.
Linda De Luca, Random Harvest Nursery, PO Box 4216, Honeydew, 2040, (Randburg), Gauteng.
Chris de Vry, Posbus 11404, Queenswood, 0121, (Pretoria), Gauteng.
Anne & John Dew, PO Box 192, Constantia, 7848, (Cape Town), W Cape.
Abie & Helene du Plessis, Posbus 524, Sanlamhof, 7532, (Bellville), W Cape.
Gert Esterhuizen, Joanlaan 45, Murrayfield, 0184, (Pretoria), Gauteng.
Andrew & Carolina Forbes-Hardinge, C/B 14964 Trafalgar, Margate, 4275, KwazuluNatal.
Peter & Lorraine Haigh, 298 Cliffview Road, Bellair, Durban, 4094, KwazuluNatal.
Susan & Johan Hatting, Venterstraat 225, Capital Park, 0084, (Pretoria), Gauteng.
Michael & Gwenne Hoctor, 89 Hanepoot Crescent, Sonstraal, Durbanville, 7550, W Cape.
Craig Honiball, PO Box 12485, Hatfield, 0028, (Pretoria), Gauteng.
Jenny & Thomas Hugo-Hamman, 19 Cannon Street, Newlands, 7700, (Cape Town), W Cape.
Gienie Janse van Rensburg, Chris van Niekerkstraat 20, Generaal de Wet, 9301, (Bloemfontein), Vrystaat.
Andries Jansen, Posbus 12226, Die Boord, 7613, (Stellenbosch), W Cape.
Barbara & Brian Josselowitz, 19 Eclipse Street, Sanddrift, 7441, (Milnerton), W Cape.
Clint & Rose Kleynhans, 10 Drostdy Park, 4 Spilsby Avenue, Lincoln Meade, 3201, (Pietermaritzburg), KwazuluNatal.
Bert & Nellie Kruger, Posbus 949 , Phalaborwa, 1390, N Province.
Ulrich & Ericka Landman, Weststraat 12, Newtonpark, 6045, (Port Elizabeth), E Cape.
Wynand Malan, Posbus 2075, Randburg, 2125, Gauteng.
Ben Marais, 37 Ixia Street, Milnerton, 7441, W Cape.
Tommie Marais, Felsietstraat 533, Elarduspark X7, 0181, (Pretoria), Gauteng.
Esther & Pieter J. Meewes, PO Box 549, Groenkloof, 0027, (Pretoria), Gauteng.
Marianne & Wyndham Moore, Posbus 71, Durbanville, 7551, W Cape.
Danie & Avis Nel, PO Box 45, Umlaas Road, 3730, KwazuluNatal.
Pieter & Katryn Oosthuizen, Val de Rama no. 13, H/v Nina & Bosmanstraat, Val de Grace, 0184, (Pretoria), Gauteng.
Alexander & Christine Panas, PO Box 115, Laxmi, 3207, (Pietermaritzburg), KwazuluNatal.
Hendrik Potgieter, Posbus 49574, Hercules, 0030, (Pretoria), Gauteng.
Annatjie & Corrie Prinsloo, Roosstraat 237, Meyerspark, 0184, (Pretoria), Gauteng.
Hannes Robbertse, Astridstraat 167, Meyerspark, 0184, (Pretoria), Gauteng.
Alwyn & Miemie Roux , Marcuslaan 9, Morehill, 1501, (Benoni), Gauteng.
Johan Schoeman, Hoörskool Barberton, Posbus 116, Barberton, 1300, Mpumalanga.
Pikkie & Elize Strumpher, Posbus 839, Faerie Glen, 0043, (Pretoria), Gauteng.
Bernard & Wendy Toyk, PO Box 65, Milnerton, 7435, W Cape.
Ans van der Berg, Michelle Singel 33, Brackenfell, 7560, W Cape.
Pieter van der Merwe, Posbus 5071, Helderberg, 7135, (Somerset-Wes), W Cape.
Marina van der Schyff, Norietstraat 58, Elarduspark X2, 0181, (Pretoria), Gauteng.
Pieter & Desiré van Rooyen, Posbus 651, Greytown, 3250, KwazuluNatal.
Fritz & Emm-Bettie van Schalkwyk , Polarislaan 337, Waterkloofrif, 0181, (Pretoria), Gauteng.
Gideon van Staden, PO Box 614, Vanderbijlpark, 1900, Gauteng.
Hendrik Van Zijl, Posbus 320, Nieuwoudtville, 8180, N Cape.
I.P. & Miemie Venter, Kendalweg 111, Eversdal, Durbanville, 7550, W Cape.
Faan & Marlene Venter, PO Box 854, Phalaborwa, 1390, N Province.
Madeleine & Jan Victor, Lindenberglaan 41, Durbanville, 7550, (Tygerberg), W Cape.
Chris & Antoinette Vlok, Posbus 99583, Garsfontein, 0042, (Pretoria), Gauteng.
André & Annie Wiese, 14 Buitekant Street, Oudtshoorn, 6620, W Cape.

UNITED KINGDOM
Margaret Criddle, 5 Storeys Lane, Burgh le Marsh, Skegness Lincs, PE24 5LR, Lincolnshire.

UNITED STATES OF AMERICA
James Comstock, 711 S. Philadelphia Street, Anaheim, CA 92805-4746, California.

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E-MAIL ADDRESSES

Additional e-mail addresses as at 28 March 1998

Australia	
Ken Smith	cliviasmith@hotmail.com
New Zealand	
Keith Hammett	khammett@clear.net.nz
RSA	
Anne Dew	annedew@hotmail.com
Susan Hatting	hattisp@alpha.unisa.ac.za
Michael & Gwenne Hoctor	bies@intekom.co.za
Pieter Oosthuizen	nipbpso@plant2.agric.za
Bernard & Wendy Toyk	btoyk@tot.co.za
Hermann van Rensburg	hermanvr@mweb.co.za
André Wiese	andre@wiese.wcape.school.za

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FORTHCOMING EVENTS

NORTHERN

Sat 16th May 1998	Club meeting - 'Forcing Clivia to flower out of season' by Craig Honiball.
Venue	Floreum, Johannesburg Botanical Garden, Emmarentia, JHB
Time	14:30
Sat 15 July 1998	Club meeting - 'Propagation of Clivia' by Dr. David Mycock.
Venue	National Herbarium, Pretoria National Botanical Garden
Time	14:30
Entrance fees	R5,00 for the Pretoria National Botanical Garden
Sat 31 October 1998	Club meeting - Details of talk to be given later
Venue	National Herbarium, Pretoria National Botanical Garden
Time	14:30
Entrance fees	R5,00 for the Pretoria National Botanical Garden

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PROPOSED ITINERARY FOR CLIVIA CLUB SHOWS, CONFERENCE AND TOURS IN SEPTEMBER 1998

Sat	5 Sept 1998	Northern Clivia Club Show, Pretoria
Sun	6 Sept 1998	Northern Clivia Club Show, Pretoria
Mon	7 Sept 1998	Depart for Northern Province, Levubu
Tues	8 Sept 1998	Levubu
Wed	9 Sept 1998	Woodbush, Lekgalameetse
Thurs	10 Sept 1998	McNeil terraces, God's Window, Pretoria
Fri	11 Sept 1998	Depart for KwaZulu/Natal
Sat	12 Sept 1998	KwaZulu/Natal Clivia Club Show
Sun	13 Sept 1998	Karkloof, Kranskop, Greytown
Mon	14 Sept 1998	Eshowe, Zululand, Eston, a KwaZulu/Natal game reserve
Tues	15 Sept 1998	Depart for Eastern Cape, Kei Mouth
Wed	16 Sept 1998	Kei Mouth, East London, Port Alfred
Thurs	17 Sept 1998	Port Alfred, Bathurst, Grahamstown
Fri	18 Sept 1998	Depart for Western Cape, Cape Town
Sat	19 Sept 1998	Western Cape Clivia Club Show
		Clivia Club Second Quadrennial Conference
		Tour of Kirstenbosch
Sun	20 Sept 1998	Stellenbosch, Paarl, Durbanville
Mon	21 Sept 1998	How about a climb up Table Mountain?

The Northern Province, Mpumalanga, KwaZulu/Natal and Eastern Province tours will be concerned mainly with field trips looking at Clivia in their natural environs. At Lekgalameetse we hope to visit the legendary terraces of Gordon and Margot McNeil.

The Cape tour incorporates visits to wine farms, a tour of Jim Holmes' and Gert Wiese's Clivia nurseries and a look at the Cape Fynbos. There may also be visits to the Stellenbosch Botanical Gardens and the Arboretum at Paarl.

For details contact:

Northern:	5 - 10/9/98	Frikkie Potgieter	27-12-	tel 335 4590	fax 991 0843
KwaZulu/Natal	11 - 14/9/98	Val Thurston	27-322-	tel 41 316	fax 28 028
Eastern Province	15 - 17/9/98	Charl Malan	27-46-	tel 622 7283	fax 636 1086
Western Cape	18 - 22/9/98	Joy Woodward	27-21-	tel 762 1166	fax 797 0002

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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.

"THE CLIVIA" by V.A. Thurston, R95,00 a copy plus R5,00 for postage in South Africa. Payment with order. ± 3 weeks printing delay. Cheques to be made out to VA Thurston, Private Bag X6, Maidstone 4380, South Africa. Phone (0322) 41316 after 4pm.

***C. miniata*.** Yellow clivias (flowering size) at R250 per plant, excluding freight. Orange clivias, ex community pot, leaf length approximately 25cm - 30cm (5-6 leaves on the plant) at R4 per plant (excluding freight). Plants can either be collected at Hilton or can be shipped by courier service (customer to pay

freight). Sales through the Clivia Club will be on the basis of 15% commission to the Club. Orders are subject to availability of plants and orders will be processed in the order they are received. Telephone (0331) 433477.

Clivia miniata. A clump of ± 100 *C. miniata* plants for sale at R8,10 each. Phone Minnie de Klerk at (011) 964 1989.

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BEGINNER'S LUCK

At this time of the year the umbels with their seed pods are becoming very heavy, especially if they have been hand pollinated. The stalks often bend and break under the weight of the seed and valuable seed is wasted because it is too immature to germinate successfully.

It is a very good idea to support these heavy seed heads to prevent them from breaking off. Either use a stick or stake, secure it firmly in the ground and tie the stalk to it. Nick Primich uses number 8 gauge fencing wire to make supports for his Clivia stalks. The wire is cut with a strong pair of wire cutters into the required lengths and the top of the wire is wound around a pipe to create a good sized round ring. The stalk then rests in the ring.

These wire supports do not rust and can be used year after year. By making them oneself there is the added advantage of being able to cut different lengths for different sized stalks.

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ON THE COMPOST HEAP

Rumour has it that the Western Cape Branch is attracting members by giving each new member a yellow Clivia seedling when they join the Club and attend their first meeting. Perhaps this is how and why the Western Cape membership has increased so rapidly!

We have had a mild, dry autumn here in Gauteng. Clivia growers should mulch their Clivia well with fallen leaves before the cold winter nights set in to help keep me warm in my pupa.

Lily Borer.