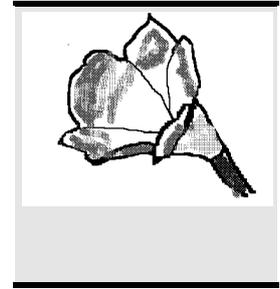


Clivia
Club

P O Box 6240 Westgate 1734 RSA



US\$10.00 p.a. overseas

R10.00 p.a. RSA

Volume 3 Number One January 1994

Dear Nick

When reading our letter in Clivia Club Vol 2 No.4, August 1993, we were concerned that the impression may have been created that Mrs. Giddy's yellow clivias were suspect or in some way, below standard. Please be assured that this was never our intention, and we apologise if this was the case. The statement was made to us by the curator of the Botanical Gardens, and we took it on its face value. What we really wanted to do, was to ask the "experts" out there, why a yellow would produce an orange seedling, so that we could better understand the reproduction of the plant.

In our own garden we have three distinctly different miniatas. The first, which some people refer to as the common wild miniata, is the most orange of the lot. It has slightly pointed ends to the petals compared to the following one. The second is paler in colour, and the tips of the petals are more round. The third one has much broader leaves, averaging 60-80mm width, compared with the normal 40-50mm of the standard plant. These leaves are shorter than normal, being approximately 350mm long against the 530mm of the standard plant. These short leaves have a rounder end compared to the pointed tip of the normal one. The flowers are also quite different, being a much deeper orange, not quite red; with the flowers not opening, or flaring as much as the other two.

One frustration with this type, of which four have flowered this season, is that two of the plants have produced very short stalks for the flower head. This means that the flowers are opening in between the leaves, which is not at all attractive. If anyone has any ideas as to the cause of the short stalks, we would love to hear from them.

An interesting miniata that we have seen this season is one with a distinctly green line on the inside of each petal. If one studies the inside of the miniata flower, one sees a white area at the bottom of each petal with a yellow line running through on the median. This plant has a distinct green line in place of the yellow, and we were assured that this had happened naturally, and was not through any cross-pollination. As we have photographed all four varieties mentioned above we are enclosing a set for you, and will gladly send a set to anyone else who is interested.

Our yellow has finally flowered and is a very creamy yellow in colour. Its flowers are far smaller and more delicate than the normal miniata, and as it is its first season to flower, we are leaving it to see if it produces yellow seeds or not. Should it not produce seeds, then next season will try out some of the tips we have

learnt from this newsletter. We only had one *caulescens* and one *gardenii* flower this year in July, and have three seeds on the former and two on the latter. As this is their first year, well will watch them with interest. None of our *nobilis* flowered!

We have also noted with interest, the number of *Clivia* that are flowering again this year after having produced seed in the previous season. We have a plant in our garden that is flowering again whilst it still has green seeds on it, it is definitely not an off-shoot that is flowering (with seeds on the other plant) but the same plant. In the office park in Pretoria where I (Michael) work, there is a single plant in flower, with seeds on from last season, and a stalk which shows that it flowered the season before that. Reading that many growers cut off the stalk as soon as it has finished flowering, to enable the plant to flower again the next season, makes me wonder if this is really necessary. Perhaps a definite feeding programme is what is needed to enable the plant to flower and produce seeds.

We recently spent a Sunday morning at the Witkoppes Indigenous Nursery, debating the distinguishing features of *caulescens*, *gardenii* and *nobilis* with Andrea and Barry (whom we've got to know quite well in our numerous visits to the said nursery). They both have a lot of knowledge on *Clivias* and are very willing to share it with one. It is always a pleasure to visit this lovely nursery. Apart from a lengthy discussion on *Clivia*, we have learnt that Mrs Giddy is probably THE expert on giving guidelines and distinguishing flowering characteristics.

Whilst inspecting the magnificent display of *Clivias* in flower at the nursery, Barry pointed out different characteristics of their *miniata* and mentioned that the nursery has been run as an indigenous nursery for the past 32 years by Mrs Bea Thompson. This nursery is definitely worth a visit, but be warned, this is not a flashy commercial operation, but a natural environment, displaying plants out in the open under a lovely canopy of trees.

As usual, we left the nursery having spent money on a *nerine* and a *cyrtanthus* that we don't have as yet - viz *C. falcatus* and *N. krigei*. We also saw their yellow which is growing in a pot and has three heads in bloom. The colour of these was a cream rather than a definite yellow.

Thank you for sending us the newsletters we were missing, Vol 2 No 2, April 1993, was however missing pages 7 - 10. Please could we have these.

Thanks again for the wonderful newsletter and we hope that everyone has enjoyed their *Clivia's* this season as much as we have.

Regards
Michael and Renee Stevenson
Tel. No. (011) 7634283

Dear Nick

Thank you very much for sending me this year's newsletters, and other information about the *Clivia Club*. I enclose a cheque for R20.00. being R10.00 for this year's membership, and R10.00 for copies of last year's newsletters if they are available.

I am very keen on developing about an acre of hill-side for a show of *clivias*. As a result I am growing *clivia* from seed from the few plants I already have. I have had considerable success in germinating seed in shady places in the garden, separating them from their capsules, pressing them lightly into loamy soil, and covering them with leaf mould. Nature takes care of the rest. The hill-side still has to be terraced so as to

control run-off, so what with the labour still to be done and the plants still to be grown, it will take a few years to establish. Should anyone have any spare seeds, I would be most grateful to have them.

I spent a few years tracing down someone from whom I was able to buy a cream clivia, and am still on a quest for a yellow clivia. In about 1986 I saw a bright yellow clivia at a nursery in Natal, but as I was not a clivia enthusiast at that stage, I felt that R15.00 was a bit pricey for one plant, so did not purchase it. I was also unaware of its rarity. In one of your earlier newsletters you indicated that yellow clivia seed could be obtained from Japan. I would be very keen to participate in any scheme to obtain seed of another colour, and would be most grateful to have more details.

Yours sincerely,
Meg Hart.

Dear Nick

The following two observations from an amateur may be of interest to other members:

- 1 I have not yet seen a key for distinguishing between the four species, and offer the following from observation of my collection.
 - 1) Flowers arranged spherically around the stalk end C. miniata
Flowers pendant from stalk end..... 2.
 - 2) Flowering in autumn C. gardenii
Flowering in spring 3
 - 3) Plant small, leaf edge finely serrated, leaf tip concave C. nobilis
Plant large, leaf edge smooth, leaf tip pointed. Older plants stem bare of leaves, and buttress roots develop C. caulescens

There are three other well-known forms:

- a C.miniata citrina, a sport of miniata, yellow (recessive) in colour, but otherwise similar.
- b C. miniata "hybrid", with very broad short leaves, and dark orange/red flowers.
- c C.x cyrtanthiflora, a cross between C. miniata and C. nobilis.

- 2 With regard to natural vegetative propagation, in dividing and repotting my collection I have found that in most cases the new sucker arises directly from the subterranean stem, or in a few cases from a stolon/rhizome, but I have yet to observe any stem originating from a root, whether exposed, damaged or not.

Best wishes
Connie Abel

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3. Please indicate alternatives in event of bulbs being sold out.
4. Minimum order:- R100.00.
5. Bulbs will be sent by surface mail.
6. All bulbs are nursery-grown, and do not contravene CITES
7. A quantity discount of 15% if 10 or more bulbs of one variety are ordered.

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BOOPHANE DISTICHA sore-eye flower	R7.50
CLIVIA MINIATA orange bush-lily	R7.50
CLIVIA NOBILIS orange bells.....	R6.50
CRINUM CAMPANULATA vlei lily	R8.50
CYRTANTHUS CLAVATUS yellow, white	R7.50
CYRTANTHUS OBLIQUUS orange	R8.50
CYRTANTHUS SPECIOSUS white/pink stripe	R8.50
CYRTANTHUS SPIRALIS cork-screw leaves	R8.50
CROCOSMIA AUREA orange montbretia.....	R4.50
DIETES GRANDIFLORA wild iris.....	R6.50
EUCOMIS UNDULATA smaller pineapple lily.....	R6.50
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HAEMANTHUS ALBIFLOS white paintbrush.....	R5.50
HAEMANTHUS MAGNIFICUS blood flower	R5.50
HAEMANTHUS INCARNATUS red paintbrush.....	R5.50
MORAEA SPATHULATA yellow tulp.....	R7.50
ORNITHOGALUM MINIATUM yellow chink	R5.50
VELTHEIMIA VIRIDIFLORA pink bush lily	R6.50

Seeds of the above items are also available.
Write for details.

--+--

Dear Nick,(or should I include Lily Borer too?)

Well, I see several members have mentioned Amaryllis belladonna hybrids, the Bidwell multiflora hybrids, xAmarcrinum and xAmarines. Since Plant Life Herbertia is seemingly extinct, at least we can't get a peep out of the secretary or any of the board members; so I am all in favour of the Clivia Club expanding a bit into other popular African Amaryllidaceae, and particularly now that my supply of the Crinum Bulletin of 1970-72 is completely exhausted. Crinum collecting, breeding and hybrids are having a comeback near equal to the yellow Clivias.

As an example, I had an inquiry from Bill Morris for xAmarcrinum 'Dorothy Hannibal', a small red flowered hybrid which I crossed around 1945. Since live bulbs are a near 'No-No' to Australia I promptly recrossed a small Crinum moorei onto A.belladonna rubra-bicolour, a small seven-flowered belladonna which is apparently the true Linnaean type-specimen with very short pedicels and slender blossoms. The other day I mailed the seed, carefully packed as they are extremely tender and bruise or freeze all too easily. These will be siblings of the original cross which my younger daughter still grows in quantity. It is a prolific form, and a popular cut flower in Tokio.

xAmarcrinum are easy to cross, provided one complies with certain conditions. Temperatures must be below 25 C when Crinum pollen is applied, and several days thereafter. Not all A.belladonna clones or hybrids accept the pollens. Better yields occur in shaded areas. Full heads of seed form, but most will be

parthenogenetic maternal non-sexual seed, not hybrid. I have never had success with the reverse cross of A.belladonna or Crinum. All xAmarcrinum are sterile.

Crinum moorei was used on A.belladonna major for xAmarcrinum howardii which won the 1911 Corey Cup Award from the R.H.S. Other Crinum pollens like C.bulbispermum, C.macowanii, C. abyssinicum and C. scabrum are all potent, as are some hybrids like 'Ellen Bosanquet', a scabrum x moorei cross. The Crinum like C.asiaticum or C. americanum, noted by their slender near linear petals, apparently fail to take. These Crinum are to primitive.

As stated in the October C.C. notes the Bidwell A. x multifloras and A. x parkerii are obviously A.belladonna x Cybistetes longifolia crosses. These hybrids, particularly the alba which have radial umbels are predominantly Cybistetes in genetic composition, yet they respond readily to Crinum pollens as easily as the belladonnas. But, I find some resulting hybrids very reluctant to flower, some never.

xAmarcrinum seed differs distinctly from Amaryllis belladonna. It has a light green cast and often starts growth while in the pod with radicals several millimetres long. Some care is required for their initial culture as the seed and small seedlings are subject to immediate damp off. The large radicals soon exhaust the small albuminous supply. The name Crinodonna does not imply a reverse cross. By the Botanical Code and valid hybrid name should consist of elements taken from the generic names involved, the xAmarcrinum complex, and the x indicates it is bigeneric. However, we have an interesting problem with those hybrids where the multiflora alba's have been crossed with Crinum as A.belladonna, Cybistetes longifolia and Crinum are all involved. Can any linguist combine elements from all three genera into a euphonic name?

Incidentally, a number of the above details have never appeared in print, previously. I learned by hit and miss, mostly misses.

(a late postscript)

Just a brief note, I was badly informed regarding Plant Life and Herbertia. The 1992 issue has been distributed to the board members, but so far not to the subscribers. Meanwhile I have received some intra-specific Crinum scabrum seed from a very prolific cross. If anyone is interested please let me know soon as they will undoubtedly be sprouting within a fortnight. Crinum scabrum is native to damp locations in Sierra Leone and Ghana. The crossing of variants has given a very vigorous free-flowering hybrid which gives excellent hybrids with C. bulbispermum album, these are known as C. x herbertii.

sincerely
Les Hannibal

Dear Nick,

I have just received the Newsletter October 93 and I felt I had to write straight away to correct the impression conveyed by Kevin's letter in that issue. Kevin said " it was sad to see the extent of stem rot on his Clivia. Big lush plants laid low on the ground."

To put the extent of the stem rot in perspective I had 10 to 12 plants rot off amongst many hundreds. I am not sure of my total numbers but I would estimate 200-300 plants mature or approaching flowering size, then many hundreds of seedlings. So on a percentage basis I would say less than 2%

Of the dozen that rotted I only lost three. The most important of these was my palest yellow. However, although the stem rotted totally the butt below ground still feels firm and I am hoping to see a shoot from

below ground still.

The majority of the plants that rotted off at ground level, I cut back to clean tissue and eventually re-rooted them. It was a set-back, but not a great tragedy. I would not like my friends and correspondents to think I had a major catastrophe .

Regarding the causes of this problem, our summer rains were quite heavy, we had 112mm, 212mm, 100mm, 50mm, 112mm from November to March '93. However, most of this occurred in quite heavy falls every week or two, separated by hot weather. My impression was that the plants affected had recently been potted (in late spring) and had mostly just been moved into larger pots. I think this might have had the effect of allowing the new roots penetrating the new (quick draining) mix to dry right out whilst the frequent downpours saturated and kept the old mix wet. The old root system rotted and the rot continued into the stem and is first noticed at ground level.

The lack of a new root system in the new mix made the problem worse. I find that in many plants that too much drying out causes the death of the root system which doesn't show up as rot until the plants become wet either from watering or rain. Thus, either too much rain or too little can cause rotting off.

One other observation that is important is that the rotting off did not occur amongst the seedlings. Seedlings are usually much more susceptible to rot than mature plants. Therefore I think their immunity is related to their root system being established in a mix which is still free-draining.

This year I have done my repotting early so that the plants have an established root system before the hot weather arrives, whether dry or wet. It will be interesting to see if the rot problem recurs this year.

sincerely
Bill Morris

GOD'S WINDOW

Friday evening, 29th of October, Connie Abel phoned me and asked what we were doing Sunday. As little as possible, I replied. Didn't we want to ride with to God's Window to see the caulescens in bloom? Well. I did, and after checking with the local management, all was arranged and wife and I left Roodepoort at 5.15a.m. on Sunday morning to drive to Pretoria.

We were soon at the Abel's house where we were joined by Laila van Heerden. We all climbed into James Abel's car and off we went. At shortly before 10am. we arrived at the Mount Sheba hotel where we partook of a hearty (or stomachy) breakfast. Thus handicapped, we then went for a walk in the Mount Sheba Nature Reserve which is about 1500ha in extent and preserves the last remnants of indigenous forest in this area.

We encountered an incredible amount of *Dietes* growing on the forest floor. We did find some caulescens, but not in any great quantity. Certainly not in the small portion where we walked. Some of the *C. caulescens* were in flower, but the flowers were small and dull. Quite a few of the plants were epiphytic, and noticing the samango monkeys in the trees, couldn't help wondering if they were the agents who distributed the seeds in these high places. Time was against us, so we had to make our way on to Graskop, and God's Window. We parked in the parking bay at God's Window, and couldn't help remarking on the informative notice which told us that the rainfall in this microclimate was in excess of 3000mm per annum. However, this was a warm sunny day, and hardly a cloud in sight. We proceeded up the stone stairways to the top of the escarpment. For the benefit of our overseas friends I will just mention that this escarpment, the western wall of the Blyde river canyon, is the Northern limit of the Drakensberg mountain range. The Blyde river canyon could be the southern extension of the Great Rift Valley. The escarpment

drops at this point in an almost sheer fall of some 500 metres.

It was not long before we started to see the *C. caulescens*. Certainly the biggest, and most vigorous plants I had seen. They were in bloom. They do not form serried ranks as *C. gardenii* and *C. miniata* do. This may be due to their growing style. Some were growing in the trees, many more were growing on solid rock, the roots clinging to the rock and covered in a thin network of moss or lichen. This no doubt trapped the detritus, and gave the roots a little cover and helped hold the water for a while. James counted the rings formed on the stem by the decaying leaves. This one of nearly a metre had seventy rings. Are these annual rings, or do they form irregularly? There did not seem to be much predation from natural sources, but we did see some small bugs consuming the flowers of one umbel. James thought the flowering percentage was very low, he mentioned twenty percent. I did not agree. These plants space themselves out, yet they are very competitive, seeming to dominate the other vegetation less than trees. They do not clump together as the other *Clivia* species tend to do, thus their flower stems are more remote. We shall have to study them a little more and come up with some factual answers.

We went on to a few more view sites in the area, but none of these were *clivia* country, but I must mention that at Bourke's Luck potholes, whilst walking down from the gate to the river, we spotted a most gorgeous *Ledebouria floribunda*. It was a very lush plant which had five racemes fully fifteen centimetres long. A stunning plant which made our Highveld *ledebouria* look like little weeds. (Bruce Knight eat your heart out!). How come this beautiful plant is not a regular member of our gardens?

Do let us hear from any other groups or solo expeditions who undertake any such visits to "Clivia Country".

N.Primich.

Dear Mr. Primich,

I have recently been in touch with Les. Hannibal, who advised me I should join the Clivia Club. I have enclosed US\$10.00. I hope this is correct.

Could you please forward me the current October issue on up.

I am breeding the multiflora strain of *Amaryllis belladonna* which originated here in Australia. Les is convinced now that *Cybistetes* was used in the initial cross. I am not so sure. I still think that they were produced by crossing different geographical races of *A. belladonna*, with hybrid vigour accounting for the increase in size and amount of flowers and foliage.

You might be able to confirm the variable forms of *A. belladonna* that occur naturally in South Africa. Do any have flower umbels which are radial? I located some growing here in old properties which possessed a small umbel of flowers which faced in different directions and these forms may have been the origin of the larger types with radial umbels which were produced later.

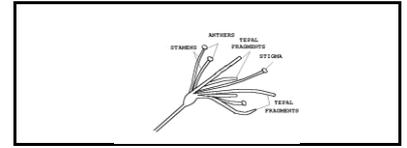
The books I have only mention *Cybistetes longifolia* as having pale pink flowers which become White with age. Are there viable colour forms in *Cybistetes*? Les mentions pale pink changing to red in a few days?

I am trying to obtain seed of *Brunsvigia* species, as well as different forms of *A. belladonna*. Could you advise of anyone I could contact, or you may be able to help if you grow any. I could swap seeds with you. Adelaide has the perfect climate for the *A. belladonna* and *Brunsvigia*, they grow like weeds here. I am also breeding the larger *Clivia miniata* hybrids

sincerely
Vic Abela.

Dear Nick

Thank you for the "mentioned in despatches" in the last issue. We enjoyed the visits to the other gardens, and the time spent with other enthusiasts. When we first obtained the "sport" it was in flower, and we speculated that the malformation may have been due to early insect damage to the buds. However, it has now flowered identically for the third successive year, and we would be very interested to hear from anyone who can explain the cause. Until a photograph can be distributed, the following tracing from a single flower will give readers some idea of its appearance.



Connie & James Abel.

Dear Nick

Thank you for the '93 newsletters and all the info on Clivia, and particular thank for the answers to all my questions. I have shades of Clivia varying from pink through orange to red, but no yellows or creams as yet. Those are the sought after ones it appears.

I attached a further cheque of R30.00 for

- 1) 1994 subscription R10.00,
- 2) possible back copies Vol 1, 1992 ?,
- 3) a donation for postage for a possible supply of yellow clivia seed.

Although I haven't had time to read all the newsletters yet, they do appear informative. Can one obtain yellow seed from Japan, or locally? Are there any other colours such as white? I hope you can assist. Have you heard of a purple variety yet?

I shall be on the lookout for seeds for club members,

Best wishes
Gerry Camp

Dear Nick

Enclosed is next years membership, plus postage for seeds that might be available during the year. The red ovary parent x yellow pollen parent seeds are doing very well. All but two germinated. I recently wired funds to Mr. Nakamura for a selection of his seeds. My banker felt that the transaction was a little peculiar, noting the bank's charges added about a quarter to the cost of the seeds.

A little more information on my search for *Clivia miniata* var. *lindenii*. Mr. Zimmerman's successor in Carlsbad, California may have been a Mr. Hummel. Two years ago I purchased a Hummel's select yellow clivia from Glasshouse Works in Stewart, Ohio. In a recent conversation with one of the owners, I discovered that Hummel was also based in Carlsbad. It may be that this plant is a descendant of those first crosses between *C. nobilis*, and *C. miniata* var. *lindenii*. Perhaps Mr. Hannibal could confirm or refute this plant succession?

Glasshouse Works offers clivias for sale among their many rare and unusual plants for the tropical and cold greenhouse. A recent listing in their Fall '93 catalog supplement is *Clivia Grandiflora*, which they describe as "a vigorous strain derived from Dutch selections crossed with Hummel's to produce a very early flowering group." In the past few years they have carried *C. miniata* Daruma, and Hummel hybrids that have red to magenta flowers. Most are seedlings, not offsets. There is usually more available than what they list. You just have to ask.

Monrovia Nurseries in Azusa, California is a large wholesale source of clivias in the United States. They sell potted clivias to the trade, mostly nurseries, garden centres, and florists. Two varieties are listed in their catalogue: "Flame", which is their red selection with a diminished yellow throat, and a French hybrid that has "tall stems". I made a copy of the page from their catalogue. It is redder than the original. I will continue to look for reliable sources of clivias in the United States.

Yours
Colman Rutkin.

Dear Friends,

*Another letter from the Stevenson's, this time Mr. doing the writing. They are very determined people, and I am happy to have them with us. It just shows how quickly one can learn when you apply yourselves. I do believe they are bending over backwards in their apology to Mrs. Giddy. What they said in the first place was adjudged by me to be fair comment. I would not allow any member to abuse another. It is no fault of Mrs. Giddy's that her clivia should be self-sterile. Indeed it is not a fault at all but, I think, a warning from Nature that the end of the road has been reached in this line and one must now deviate. What do you think of Meg Hart turning down a bright yellow *Clivia* for R15.00, in 1986!*

Connie Abel has produced this quite clever key, and while I do not always agree with her terminology, one can hardly fault her reasoning. Our anonymous friends from Cape Flora Nursery deserve a bouquet for putting some long overdue bulbs onto the market. The Eastern Cape is a virtual paradise for Amaryllid fans. I do hope you will support them.

*There is no stopping Les Hannibal. I think he told me some years ago that he was an engineer. Well, he has certainly engineered some plants. Personally, I do not care for *x Amarine*. I did grow them a few years ago, found that they multiplied profusely, but flowered poorly, no matter what aspect of the garden I gave them whilst the parents *Nerine bowdenii*, and *amaryllis belladonna* both flowered profusely. *x Amarcrinum* is a happier cross. I had believed all bigeneric crosses were sterile in Amaryllids, but read in *Herbertia* 1990, page 44, E.P. Zimmerman, *Clivia hybridist*. William Drysdale:-*

*"He is noted for his hybrid *Crinum x Zimmerman*'(*Crinum powelii alba x C. asiaticum*.) Now, as anyone who has visited me will know, I have about fifty of these *powelii*s and big magnificent plants they are, but certainly mules. I have tried their pollen and many others in all situations, but never a peep. What about this Les? I am certainly glad to hear that the APL has not died. They have put some great plant literature on the market, and I hope they will do so again. Why does RSA not have a great mag like *Australian Garden Journal*?*

*A welcome to Vic Abela. We have so many members dotted around the Cape, surely some of you can give comment here to help Vic and Les further their inquiry. I have grown *Amaryllis belladonna* for years, but really know very little about it. I was sent seed of the "multiflora" quite a few years back by Mr. Howard, USA. What we really want to hear is someone telling us what they are like in their natural habitat. Is there*

a great variation of colour from place to place etc.

Back to Mr. Zimmerman, this time in connection with Clivia miniata var. lindeni. Mr Zimmerman refers to this as a mutant, with broad leaves. This in 1935. Now here is a bit of substantiation to what I have always thought. The broad leafed Clivia is a mutant or sport, and not a result of garden hybridising. After all, what mix of normal leafed plants will give you a broad leaf. Bless Les Larsson for her index and xeroxed copies of "Clivia in APL & Herbertia". I would know a lot less about Clivia without them.

Connie and James Abel have definitely taken some active steps to get the club moving in the right direction. If the club is to get going it must grow and develop. Things do not stay static. They either go up or down. Let us get an upward momentum in our club and really make something of it. Anyone who is able to support the notion of an Open Clivia Day please let us know in writing, or by a phone call. I think this would really be a big thing for clivia in South Africa. The Cape contingent should consider making their own local group to get garden visits going. It is understandable that not many would be able to make a trip up to the Transvaal. It is kind of the Abels to offer their home to overseas visitors. Perhaps we may be able to help some of the South Africans with accommodation too?

To some of our members who do not always get a prompt answer from me, an apology. I do try to answer all your letters in good time. In a year I write about a thousand letters, and receive replies from about a quarter of these. There are quite a few people who should belong to our group, but do not. We need a few more kind souls like Mr. Gibello to drum up a bit more interest. Greetings to you all for the Season!

WHAT SIZE POTS DO YOU USE?

I have grown my Clivia plants and seedlings in just about any type of container that I had on hand. The plants are very accommodating when it comes to pot size and growing media. Large plants easily grow in 20cm or 25 cm pots. Seedlings can be kept in a variety of pots, for many years in fact, provided water is available. They don't progress much in these cramped conditions. The growth is rapid once potted up into their own containers. This tends to happen when potting mix and growing space are available. White foam crates are quite serviceable in the short term for allowing seedlings to develop over several seasons. These I get from the local supermarket once they unload the fruit and vegetables onto the shelves.

Just recently I have been sowing my seeds into "gro-tubes". These are either 5cm square or 7,5cm round pots, 12cm deep. Seedlings are able to make good growth in these pots, without competition holding them back. Regular fertilising will ensure steady growth, even to the point of flowering in them. I have had plants flower in 10cm standard pots.

Ken Smith, Australia.

Dear Nick,

I am of the opinion that if you want to attain the better gardener in Europe, you must go through the R.H.S. I have included a copy of "The Garden", which is their monthly journal, so you can get an idea of what they are and what they do. This is only given to members, and I have no idea what an advert in there costs. They also publish "The Plantsman", which is on sale four times a year. This has top class articles in it. Maybe you could try to work an article in about the yellow Clivias, by yourself or one of the big names in the club.

I succeeded, believe it or not in laying hands on 100 South American Eucrosia bicolor bulbs. I will send you a free sample later on. If some of your friends or club members would be interested, I can send them for US\$5.00 each. This is a once in a lifetime offer.

Do you have a couple of bulbs of Nerine duparquetiana and/or N. laticoma to spare?

The two *Cyrtanthus falcatus* you gave me flowered for the first time. Also starting for the first time is *Cyrtanthus herrei* which I bought from van Zijl a few years ago. I read in the IBSA bulletin that he is going to emigrate to Europe. Do you know more about it?

greetings to Rose and you,

from Jeanne and me,
Willem (Reuter)

Dear Mr. Primich

Thank you very much for the newssheets of the Clivia Club. I have found them very interesting. Since I have become a member of your club I have learnt such a lot about clivias. I have been growing them since 1960, but as I only have two varieties of *miniata*; a dark orange broad-petalled one from a local nursery, and an old narrow-petalled pale orange one grown in the local council's floral palace, hybridising is a bit limited.

Yet some of my results have been quite interesting. I have been told that back-crossing would eventually produce a yellow, but after all these years, I have had no such luck. I have written to Kew Gardens over the years, but was told that they would not sell yellow seeds, plants or pollen, as they were only available for scientific research.

Having become a member of the Clivia Club, I wonder if it is at all possible to purchase a yellow plant from you or any other member that you know. I realise that they are not cheap. I would really like a plant of *miniata citrina* but any yellow would do to help my hybridising. If not a plant could I purchase some yellow seed. Could you also tell me when it is time to pay my subscription for 1994?

sincerely
John Ranson.

Dear Nic (sic!)

Connie and I thoroughly enjoyed the garden visits in Pretoria and then the visit to the Eastern Transvaal to see the *Clivia caulescens* flowering in their masses in the rain forest.

Opportunities to discuss all aspects of the genus with other enthusiasts are of great value, but all too rare. Should The Friends of Clivia not consider holding an open day next September? With a few garden visits we should be able to view flowering *C. miniata*, *C. miniata* var. *citrina*, *C. nobilis*, *Clivia x cyrtanthiflora*, hybrids, and our "sport". There will also be, but not in flower, *C. gardenii*, (too late), and *C. caulescens*, (too early). The day could start with visits to several other collections, and the Connie and I would be happy to open our garden for the rest of the proceedings.

A panel of experienced growers could discuss various aspects of clivia cultivation, followed by question/answer session. Those participating could be asked to bring along any interesting potted plants to "brag" about, as well as any surplus plants to sell or swap.

This could be of greatest interest to our overseas members. Besides the open day, we could ask a travel agent to put together a tour to visit the Transvaal escarpment, Natal and the Eastern Cape so that they can see the species in their natural habitat. (An exclusive for South Africa, naturally). These visits could be interspersed with visits to our other attractions such as game parks. Connie and I would be able to put up several visitors while they are in Pretoria.

If you consider this suggestion has merit, feel free to publish this letter in the next edition of the newsletter, with a request that all members who are interested respond promptly so that overall interest may be gauged.

Best wishes
James (Abel)

WHY NOT WATSONIAS?

Sir William Watson (1715-1758), promoter of Linnaean nomenclature in Britain, was no doubt flattered when Phillip Miller named an attractive genus in his honour, even if somewhat disapproving of the species title *Watsonia follis ensiformibus floribus alternis*. Fortunately he had parted this life by a year when Linnaeus reduced the cumbersome title to a binomial, for while Watson heartily approved of binomials he may not have approved Linnaeus' reclassifying the type plant as *Antholyza meriana*. Miller renamed the species *Watsonia meriana* in 1768 but this tribute to his admirer was never accepted by Linnaeus.

Over the ensuing two centuries the genus was subject to the taxonomic confusion typical for the larger groups of Iridaceae. Those of us who like some degree of certainty in naming our plants therefor heaved a sigh of relief when Peter Goldblatt's "The Genus *Watsonia*" was published by the National Botanic Gardens of South Africa in 1989. Many gardeners feel that taxonomy and systematics are of little concern in their hobby but I strongly suspect that confusion and non-availability of information at this level can influence the popularity of a genus and are the underlying cause of our failure to tap the full potential of such genera as *Babiana*, *Gladiolus* and *Watsonia*. As a simplistic example: when your order *Watsonia brevifolia*, *caledonica*, *muirii*, *albertinensis*, *spicata* and *erubescens* and they turn out to be identical, all being synonyms for *Watsonia laccata*, you tend to be a little discouraged. All *Watsonias* are much of a muchness, you say. To most Australians they are those tall thing that grow wild in culverts, apart from "that nice white one" which no one ever seems to have for sale. No wonder we stick to hybrid Gladdies!

What then do *Watsonias* have to offer? Currently fifty-two species are recognised, as well as a number of natural hybrids. All are native to southern Africa and the various species occur in differing habitats - coastal or montane, poor sandy or rich granitic soils, dry or wet. There are winter growers, summer growers and evergreens. Height ranges from 15 - 200cm and flower colour, white, yellow, oranges, red and maroon. The diversity of colour, form and habitat promises well for showy adaptable hybrids. What has happened to the named Cronin hybrids developed at Melbourne Botanic Gardens? Are New Zealanders still growing the large-flowered hybrids developed there in the 60's?

The "Encyclopaedia of Australian Gardening" sums up the genus in less than a quarter page and mentions only three species!

Were they unattractive, difficult to grow or of a limited usage and adaptability this neglect would be understandable, but such is not the case. Try the taller varieties in dense stands along fence lines, as clumps in the lawn, behind shorter perennials or dotted through the shrubbery. Medium varieties can be similarly used or planted around the base of deciduous trees, the miniatures are suitable for bedding, ribbons, rockeries and containers. Flowers, foliage and some seedheads are suitable for the vase. Picked when the lower florets are open they have a vase life of a week or more and some are lightly scented. Culture is essentially as for *Gladiolus* - a sunny position in good well-drained soil, moist while in growth and dried off at the end of the season if deciduous. The majority do not require lifting when dormant and tolerate wet feet better than do *Gladioli*.

And so, persuaded by verbosity, you sally forth in search of *Watsonias* and find - virtually nothing, apart

from those rangy things in the ditch. Keep looking and keep asking and you may come across:

- \$ *Watsonia aletroides* - pendulous tubular flowers in red or pink. Several hybrids exist with larger, slightly flared horizontal flowers. 20 - 60cm. Winter Growing.
- \$ *Watsonia borbonica* - also known as *W.pyramidata*, has large open lightly perfumed flowers in pink or mauve. Subspecies *ardernei* is "that nice white one", sometimes offered as *W.alba* 80 - 200cm. Winter growing.
- \$ *Watsonia coccinea* - a chunky dwarf with large scarlet, purple or pink blooms. 15 - 40cm. Winter growing.
- \$ *Watsonia densiflora* - in summer the slender spike of pink, magenta or white flower waving well above narrow arching foliage is an eyecatcher. 100 - 130cm. Summer growing, evergreen in mild climates.
- \$ *Watsonia humilis* - variable dwarf in shades of pink. The beautiful white form, flushed pink, is known as *W.rosealba*. 15 - 30cm. Winter growing.
- \$ *Watsonia laccata* - the numerous colour forms are responsible for its wealth of synonyms - shades of pink, purple and orange. Multiplies well but not extravagantly and makes a showy border. 20 - 50cm. Winter growing.
- \$ *Watsonia marginata* - daintily cupped flowers set this apart from all other species. Dwarf, medium and tall forms occur, in lilac, pink or white. 40 - 200cm. Winter growing.
- \$ *Watsonia meriana* - a very variable species including the tall culvert growing form and the weedy cultivar known as *W.bulbifera*. Has some good medium and dwarf forms in red, pink and mauve shades. 50-200cm. Winter growing.
- \$ *Watsonia pillansii* - also known as *W.beatricis* and *W.socium*, bright orange or orange red flowers in summer. 80 - 120cm. Evergreen.
- \$ *Watsonia stenosphon* - a somewhat touchy dwarf but the beautiful salmon form is worth persevering with. 20 - 50cm. Winter growing.
- \$ *Watsonia tabularis* - two-toned red or pink, the choicest form being a uniform orange red offered as *var.concolor*. 100-150cm. Evergreen.
- \$ *Watsonia transvaalensis* - a slender montane species with pink flowers striped darker. 30-50cm. Summer growing.
- \$ *Watsonia vanderspuyiae* - a very robust plant worth growing for its broad, yellow-margined foliage alone. Flowers are large and rose red on stems to 200cm. Winter growing.
- \$ *Watsonia versfeldii* - a rare species with large purple-pink flowers. Plants offered under this name are usually
- \$ *W.borbonica*. 120-200cm. Winter growing

At present correctly identified plants are hard to come by in Australia (or overseas for that matter) but hopefully nurserymen will use Dr. Goldblatt's monograph to sort out what is what and the perhaps people will begin to say - "Watsonias? ...Why not?"

(reprinted from his article in *The Australian Garden Journal*, by kind permission)

Bruce J. Knight.

ON THE COMPOST HEAP

To grow Clivia for over thirty years and never to taste a yellow!

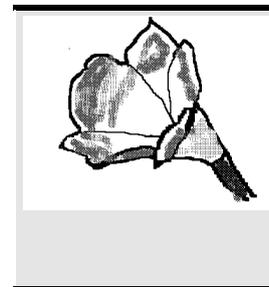
Ah! The profanity of Man. It is of course, the avowed intention of our editor, and me, that each of our members should have at least one yellow. The main reason I hang around here is that there are some yellows to munch inbetween the odd crinum or three. If any member has any yellow seed to give away or sell, please let us know!!!



Lily Borer

Clivia Club

P O Box 6240 Westgate 1734 RSA



US\$10.00 p.a. overseas

R10.00 p.a. RSA

Volume 3 Number Two February 1994

EDITION EXTRAORDINAIRE

January, the 22nd, 1994, was an auspicious date in the annals of Clivia. What is probably the first and only Clivia association was formed on that day. On that historic date, at the home of Mr. & Mrs. Abel, the following people were present.

Connie Abel, James Abel, Wendy Allison, Pat Gore, Yvonne Gore, Meg Hart, Adrie Haxton, Toy Jennings, Lien Joubert, Sumia Lombard, Wessels Lötter, Joe Pretorius, V Pretorius, Nick Primich, Roselyn Primich, Michael Stevenson, Reneé Stevenson, Laila van Heerden, and Miekie Vuyk. Apologies from Dan Mey, Lukas Otto, Grobbie Grobler, Cam McOnie, Arnold Prozeski, Bing Wiese, and Petro Lemmer. These people had gathered at the home of the Abel's for a meeting summoned by phone and post of Transvaal members only. It was thought that the logistics of others attending was hardly worthwhile, that is why only Transvaal members were asked. The main purpose of this meeting was to organise a Clivia day in September of this year.

Nick Primich called for the election of a Chairman, and proposed James Abel. Pat Gore seconded this and as there were no further nominations, James took the chair unopposed. All present thought this was very fair, as it was James' idea to have the Clivia Day, and he soon showed that he had definite ideas about it.

He proposed that the Day consist of various sections.

- 1) Garden visits. Suitable gardens would be sought out and visits arranged, tentatively for the afternoon. According to demand, several groups could be accommodated under different guides. Convenor, Toy Jennings
- 2) Seminar. A series of lectures would be arranged for the afternoon. Tentatively, a two hour program, with four to six speakers. Papers could be read from overseas members unable to attend. Some professionals, botanists and horticulturists, and a few from the amateur ranks. Convenor Nick Primich.
- 3) Brag Bench. Selected plants could be brought along and put on show. Plants could also be made available for sale. The Club would take a percentage of the sales. Plants could also be donated and sold. Convenor Connie Abel
- 4) Photographic exhibition. Selected photos would be called for from the international scene, and each picture would be displayed with a descriptive paragraph. This section leaves a lot of scope for both local and distant members. Convenor Nick Primich.
- 5) Tours. Tours could be arranged to suit the response. Either local tours to the Eastern Transvaal, or

extended into Natal and the Eastern Cape Province as demand required. Convenor Reneé Stevenson. Members in other areas are encouraged to plan similar activities. Depending on the interest from other provinces and in particular from other countries, some of the above can be combined. Even if it is out of season for some species, visitors will be able to see the species growing in their native habitat on a single trip.

It was mooted that this special newsletter be got out and that it would contain a questionnaire which we beg each and everyone of you to complete and return just as soon as you are able to. The Clivia Day would be moulded to meet the lines of the requirements. We would also hold a meeting and elect a more formal and permanent committee, where our members from all over the world would have a say, and not feel that they were dictated to by a Transvaal minority.

The members felt that the present incumbent of the editors chair was suffering an enormous financial load, and whipped up a quick round of donations. R110.00 was handed in. Pat Gore had brought a yellow along for raffle for Club funds. This raised R160.00, and was won by Laila. We expect to see two thousand yellows growing in her garden in ten years time! Toy Jennings brought along some trays of seedlings which she sold off for R49.00. Thus the Club suddenly possessed riches of R319.00. This fund will be directed towards the Clivia day.

Distant, and overseas members unable to come to the occasion could still take part, by sending photographs or writing a paper to be read on their behalf at the meeting.

There was great friendliness at the meeting, and good co-operation. Tea -time was called, and at the start of a welcome shower, we went inside and had tea. Several of the members then stood up and held forth on various aspects of clivia.

Wessels Lötter had brought two interesting plants with him. One had chunky short broad leaves with a strict distichous spread of leaves, which were a pale green. The tips of the leaves were pointed, and he had a photograph of the flower (in May) where the peduncle could be seen to have a pinkish-brown cast typical of *C. gardenii*. The base of the leaves were moulded into an almost bulbous shape. There were three offsets developing all on the one side in line with each other. An interesting and attractive plant.

The second plant was perhaps an even more interesting specimen, as Wessels felt this was a *C. caulescens* type. He had collected this plant some years back, and although it had the appearance of a young *caulescens*, it did not in fact develop a stem. It will be worthwhile going into this plant a bit further.

Pat Gore, besides the yellow seedling that raised R160.00, had brought a *C. nobilis*. This was a fairly young plant. Perhaps five or six years of age. It had a flower, and was fairly representative of the type except that perhaps the leaves were of a slightly lighter green shade. This of course can be influenced by the growing conditions. The leaves were stiff, the margins rough, and the growing pattern fairly distichous. The flowers were short, and curved, but being a young plant were not that numerous. Perhaps twenty plus, although a count was not taken.

This practise of bringing plants to meetings for evaluation and discussion can only be beneficial. There is still a great deal of confusion out there, particularly at the Nurseries where chaos is king. These are the people who should be teaching us! We shall just have to teach each other and instill knowledge and confidence in our members.

QUESTIONNAIRE

Please fill this in and return it to us at the earliest opportunity.

Name.....

Address.....

Will you be attending? (No strings attached).....Yes/No

If not, would you have liked to attend?.....Yes/No

What sections would you enter?.....1/2/3/4/5

What sections would you like to see that are not offered now?.....

Would you like to see any of the sections modified, and if so how?.....

What fees would you expect to pay for the various sections ?.....

Non-members will be encouraged to attend. Do you approve ?....Yes/No

Do you approve of the idea of a Clivia Day.....Yes/No

If not, why?.....

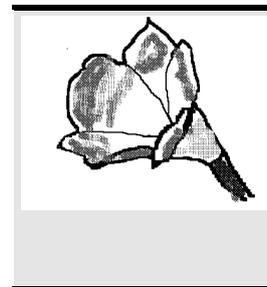
What name should the Clivia Association adopt? This will be for the international association

.....

Any further comment, criticism, or ideas will be welcomed. Please attach a separate letter to this form and forward it to us.

Clivia Club

P O Box 6240 Westgate 1734 RSA



US\$10.00 p.a. overseas

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THE RARITY VALUE OF THE YELLOW CLIVIA

I enjoyed Bruce Knight's letter in the August issue on Amaryllids in Australia. He mentioned that the true Amaryllid aficionado in Australia discounts Clivia as not worthy of their collector interest unless they happen to be a good form of C.citrina or C.caulescens, but that any citrina type, no matter how wishy washy can fetch up to A\$35 an offshoot. You are a brave man Bruce to take on the Clivia Club!

However it might be as well to get a perspective on the rarity value of yellow Clivia. Don't let us get bogged down on C.aurea/C.citrina/C.sulphurea/C.aurantiaca and the all the other non valid names. Nor let us be too finicky about "yellow", "cream", "white" etc. Colour is very dependant on the amount of light/sunlight available when the flowers open. My yellows at a Garden Show progress (regress?) from yellow to cream to white depending on whether it is a 3 or 5 day show. Likewise I am unimpressed with the various golden yellows produced on underexposed colour prints depending on the particular brand of colour film used.

No, for the purpose of this article, lets confine ourselves to price only. The price of any item, even plants, is wholly dependant on what the buyer is prepared to pay and what the seller is prepared to accept, in fact, the Johannesburg Stock Exchange works on more or less the same principle.

From letters in the Clivia Club Newsletter I notice the following values:CCN source

Van Lyncker Nursery Cape R300 (limited number)		Vol1:1
Item on page 10-yellow offered at R60*	Vol1:2	
Bruce Knight wishy washy citrina A\$35 an off shoot. (=R85)		Vol2:4
M & R Stevenson paid R75 in 1990 for a Natal yellow		Vol2:4
Meg Hart a yellow at R15 in 1986		Vol2:1

Giddy's Nursery has for the past 10 years exported yellow offsets at a constant US\$25 (=R85) (US\$ keeps pace with inflation and the depreciating rand). Note this is not an advert!

* In the next issue our editor reported "strangely enough there was not an unprecedented rush on the R60 yellow". Was the price too high or do most members of the Clivia Club already have a yellow?

Can we compare these prices? Not unless we know what size the plants were, as R300 for a flowering size plant is well worth it in terms of potential offsets in a year or two compared with R85 for a 15-20cm plant which will neither flower nor offset for 3-4years.

Whenever yellow Clivias are mentioned people usually say "Well, I will never be able to afford one". Given the prices quoted above, I think they are very affordable if one considers the price people pay for bedding plants or groundcovers. Gazanias sell at R6,99 for 3 easy to grow cuttings. However in other

countries the yellow Clivia is certainly a rare and very expensive plant. A newspaper cutting from "The New York Times" dated August 13, 1992 states in an articles on Clivias.

"in 1981 at the first annual Rare Plant Auction of the Wilmington Garden Centre an unusual yellow bloomer was offered. And the garden world has yet to recover. Among those attending was MacRae Parker Jnr. who recalled that his successful bid was something over \$1000. Since that time he has succeeded in propagating a few and it is expected that at least one plant will be offered at the 1993 auction"

Well, given that \$1000 was worth R950 in 1981, one wonders what price the 1993 plant realised? If the price had doubled to \$2000 after 12 years, at today's depreciated Rand it would be R6800. Astronomical in our view but not in terms of American values.

The following item relating to Clivia prices in Japan to many may appear outrageous until one compares it to the price of food and accommodation that South African tourists to Japan have to pay.

In the Oct 1993 issue of " Africa Environment and Wildlife", Leslie Riggall wrote after a visit to Japan:

"The prices of some South African plants cultivated in Japan and sold at nurseries there are astonishing. A single plant of a yellow-flowered form of Clivia miniata, the bush lily, was on sale at one nursery at a price of one million yen (approximately R27,000) South Africa is not capitalising on the horticultural potential of its flora"

Well back home we too have great discrepancies in prices for the same item and given that any importer has enormous overheads and plant losses on imported plants which are usually very small plants at the time of importation, the above price must be seen in its perspective. While locally we grow plants without any selection, overseas breeders will apply rigorous selection procedures and cull 95% in order to produced truly outstanding cultivars of our plants.

I have seen named cultivars of our common Agapanthus at Wisley Garden in England which astounded me and equally outstanding named Kniphofias in New Zealand. "Ballet Girl" was a delicate pink and white miniature. A far cry from the bright orange Red Hot Pokers with messy leaves that we grow. Such plants are worth the price charged as they are light years away from the original species. Please don't read this as a slighting of the species, but in horticulture, selection for size, colour, disease resistance etc is of great importance.

The Clivia hybrids that Yoshikazu Nakamura is producing are incredible in terms of texture, substance, colour and diversity. I do not know of any other plant group where such exciting new forms have been bred in recent years. We owe him a debt of gratitude. He has put our Bush Lilies on the world map.

Cynthia Giddy

CRYPTOSTEPHANUS REVISITED

Ian Coates started it,I tried to follow it up, then Ken Smith had a go at it. My Cryptostephanus plant was stripped by hail after it had a good set of seed pollinated by Clivia nobilis. Ken had a whole lot of seed set, of which he sent me some. But was this cross ever on? Ian Coates could shed some more light on the subject, but for the time being he is keeping us in suspense.

When the C. vansonii came into flower again this year, I reassessed the position. I cut off one of the flowers and dissected it with the aid of a small 12x magnifier. Right away I could see that the anthers were

blocking the entry of any pollinating instrument I could use. I soon came to the conclusion that to remove the anthers so that the plant could not self-pollinate would require a most delicate feat of surgery beyond my ability. I decided that the best method would be to cut through the tepals so that the blade passed between the anthers and the stigma. Thus the tepals and the anthers would fall to the ground and the stigma would remain affixed to the style. After a few tries I found the right position, and over a period of time, as each new flower developed, I guillotined each promising set of tepals plus the anthers. After the cut, quite a bit of fluid oozed out, but soon dried up. The tiny stigma was visible, and after daily squints through the magnifier I could see it mature and become ready to accept the pollen.

Fortunately, *C. nobilis* seemed to keep in step with *C. vansonii*. I was able to apply a ongoing dusting of pollen to the stigmas. Most of them did not "take", and soon withered and fell to the ground. But some did take, and at the moment there are five out of some twenty-four ovaries that are showing promise. Of course, this still does not mean the cross has taken. We could still end up with a case of parthogenesis. Yet I feel that I have turned the odds a little more in favour of a successful cross. I did try the reverse cross, but as the anthers I removed were too immature to have ripe pollen, I did not have sufficient other flowers to get a reasonable amount of pollen to dust the *nobilis* stigmas. The *Cryptostephanus* anthers are so very small. Let's hear what Ken Smith has to say.

Nick Primich.

CRYPTOSTEPHANUS VANSONII X CLIVIA MINIATA UPDATE #5

November 1993

Nothing is up yet! The bulk of the seed has been sown now for eight weeks, and no sign of germination. Individual seedling tubes with the same potting mix I use for the other plants. Weather has been hot and cold, but nothing really out of the ordinary. I will have to wait, and tell you about them when they show. Seed is also in America, Japan, and South Africa, so we will compare notes later on.

The flowering of my ***Cryptostephanus vansonii*** is in full flight again so I pollinated six flowers with ***X cyrtanthiflora*** pollen. It is interesting to note that it appears that more seed is setting on the other flowers that I did not pollinate. Is an insect involved, or does this plant self-pollinate?

Does anyone else have experience with *Cryptostephanus*? I would like to hear about it as I am sure other members would.

Ken Smith. Australia.
(Come on Ian Coates! Ed.)

Ken Smith has sent to me, and to some other cliviers, batches of *Cryptostephanus* seeds that he has pollinated with *Clivia* pollen. He sent me 21 seeds, and twenty are up and growing, but far too small to give an honest opinion as to their appearance at this stage. (Ed.)

Dear Nick,
Apologies (as usual) for delay. I had been trying to get the seed and prints to you for six months. (see editorial for explanation. Ed.)

The seeds were from a plant which I have not seen elsewhere, but until someone makes a definitive register I can not be sure. I raised it from seed from a *Clivia nobilis* as you recognised. However, it is

remarkable in quite a few ways. The leaves are by far the roughest I have come across, both on their edges and on their surfaces. I have previously self-seeded this in 1988, and all seedlings show this characteristic which is strange. Your seeds(the ones I posted) are from this same original sport. The tips of the leaves are distinctly retuse which is why I have called it "Retusa" until someone corrects me. The flowers are evenly distributed at the top of the stem rather than to one side (? ed.) as in regular nobilis. Most interestingly, these flowers exude nectar which drips down the stem. It seems to cross readily with other Clivia species, and I look forward to these results. I hope that yours prove of interest.

I will get a hundred pictures to you next time. The membership must be growing. The photos are of course of C. miniata Flava/Citrina/Aurea/yellow,etc. of which so much nonsense is written. " Flava" may take precedence as a name, but this is hardly the wild variety. Flowers are about four and one half inches across, and the colour is somewhat paler than the pictures show. Let me know if you think that any particular picture would be of interest. Maybe the "Retusa" mentioned above, or Clivia miniata "Margarite Rose" with its striped flowers which is also, I believe unique, until someone tells me otherwise.

Ian Coates.

Dear Nick

Thank you for your letters. I must apologise for taking so long to reply, but I have had an extremely busy year on a number of fronts, and time never seemed to be on my side. Earlier in the year I attended the Royal Horticultural Society's show at Westminster. There was a great deal to see, not the least a superb collection of Clivia. This display was to mark Lord Aberconway's eightieth birthday. He and his ancestors having grown Clivia for a long time, developing a number of good cultivars some of which were on display. These I must admit were impressive. A leaflet which visitors were being given was reported in the magazine, the author being a Mr. Puddle whom I spoke to about the Clivia Club and my intention to set up a National Collection. I need to write to him to establish another useful contact, and I'll keep you posted on progress though I gather many people have written to him in the past and not had a reply. (He does appear to be a very busy man). The leaflet is useful because it explains two of my acquisitions, " Lady Holford" and "Westonbirt Perfection".

The second thing I should mention is that I have had a letter from Ian Coates along with his article and some photographs. I need to reply to his letter and arrange to meet him. I am particularly interested in some of the named varieties he mentions. Again I will let you know how things develop.

Now, I have written to and received a reply from the Royal Botanical Gardens at Kew. They have put me in touch with a nursery in the USA who grow a number of varieties of Clivia. This year they are able to offer a red form of miniata, and "Grandiflora". Further cultivars are to follow. I am exploring further on this front also, and will keep you informed.

In your last letter you suggested that I write an article about my plants and their environment. I have not forgotten this. I will write it and send it as soon as I can. Generally, my plants from RBG Edinburgh are beginning to make progress but slowly. Divisions seem to take a long time to recover! Thank you so much for the seeds. These are progressing well, particularly the yellows which are looking very good. I am waiting for seed from Japan, which I hope will include variegated forms.

Regards
Carl M Atkinson.

Dear Nick

Under separate packet I am sending you some *Amaryllis* x *Cybistetes* seed (Ex *Brunsdonna*) to pass about. I am proposing the bigeneric name of x*Amaristites*. The original cross dates back to 1841 at the Sydney NSW Botanical Garden when J.C. Bidwell crossed *A. belladonna* with what he assumed was *Brunsvigia multiflora*. It was an easy error to make as *Cybistetes* was considered everything from *Crinum* to *Ammocharis*, *Brunsvigia* and *Amaryllis* until Milne-Redhead and Schweikerdt recognised it as a distinct genus. The hybrids go under the names of Bidwell's *A. multiflora* hybrids to *A. parkeri* in England where W. Watson considered it a *Brunsvigia josephinae* cross when naming it. Since x*Amaristites* would be a new bigeneric hybrid name we can adopt the original Bidwell "Multiflora" epithet quite legally naming the hybrid x*Amaristites multiflora* (Bidwell) Hannibal hyb. genus et spec. nov.

Recognition of the *Cybistetes* parent is due to finding an original cross in South Australia and matching it to an etching that appeared in the 1866 Horticultural Magazine of NSW on page 65. The hybrid has many of the features and the floral colouring of the *Cybistetes* forms found in the Cape Province, namely blood-red blossoms with copper-orange-red throats and a distinctive radial umbel. The bulb is 25 cm in diameter and weighs near a kilo, but the subsequent seedlings have smaller bulbs due to introgressive mixing of the genes from both parents.

This seed will need an occasional soaking, and must be kept moist to start germination. I had let it dry out a bit in my greenhouse. After it sprouts, surface plant it under a light leafy mulch. There are two forms of seed: Coloured which is typical x*Amaristites multiflora* third or fourth generation, and white seed which is an alba throwback to *Cybistetes*, now identified as *Cybistetes x multiflora alba*. So named since its features are about 95% *Cybistetes*, less pigment. Somehow in the cross the *A. belladonna* takes over the *Cybistetes* colour genes. The red seed will also give some *A. belladonna* throwbacks which can be recognized by the compact umbels which face the light.

I grow the hybrids by the thousands by merely scattering the seed out on my hillside under a number of oak trees. I know their odd genetic behaviour in yielding the three distinct plant forms. I have also crossed them with *Crinum* to obtain the equivalent of *Xamarcrinum*.

I note that the Bloem Erf nurseries at Howard Place 7450 lists an inland form of *Cybistetes* and several variants of *A. belladonna*. I suggest making your own crosses of *Amaryllis* x *Cybistetes* using new variants. This will give a new strain of x*Amaristites* which would be well worth the effort. In case the flowering seasons differ one can store pollen under cool dry conditions and find it viable for six months or more. Pollination works best in the cool of the morning when conditions are cool and moist. Pollens often fail to take if daytime conditions are cool and moist. Pollens often fail to take if daytime temperatures get above 25 C. One obtains seed, full pods in fact, but it will be purely maternal parthenogenetic same as the seed parent. Its a common nuisance when breeding *Amarcrinum*.

Yes, my other interest is in hardy *crinum*; no seed until July or Aug

Sincerely
Les Hannibal

ps Do you send copies of the *Clivia Bulletin* to Kew and the British Museum so that new names can get into the *Index Kewensis*???

Am also sending some *Habranthus* seed. Float it on water to sprout like one does with *Hippeastrum* seed. Transplant when the primary leaf is a cm long.

Dear Cliviers

Prof Pienaar has given me Clivianers if you don't like that one.

Some trivia about nerine for a start. How many of us pronounce it as a three syllable word? Never mind, just as long as we grow a few. Bill Morris sent me some N. flexuosa a while back. They are growing nicely now, will flower next year I'm sure. The thing is I did not know that they are in fact N. pulchra. Also, Willem Reuter was asking for N. laticoma, and duparquetiana. Well these are synonymous. Pulchra and laticoma are the currently correct names. I have a nice strain of N. bowdenii for anyone who sends a bit of postage money along, or who wants to call and collect a few.

Ian Coates sent a most interesting parcel which contained a few whole fruits of Clivia nobilis, the seeds of which were in an advanced state of growth. I spent a few hours separating them out. I am certain they are bog-standard nobilis, but Ian seems to think they are exceptional. From his description and the look of the seedlings I cannot see why. The only thing is he mentions a copious flow of nectar from the flowers. This however, may be due to cultural methods. All the descriptions, of which we published one in Vol2 No.5. say that the leaves are rough textured and stiff whilst the tips are blunt or retuse. It is very likely, that as in Australia, hybrids have taken the place of species due to loose record keeping and terminology. I will send Ian Coates a few C.nobilis seed, and a few of C. gardenii, so he can see what I call these species. I do not find myself troubled to categorise them as they differ in almost all aspects. Ian also sent, for which I must thank him, fifty photos of a good yellow he possesses. I have put them in odd envelopes at random, so some of you will have them and some not. Refer to his letter for details.

Les Hannibal sent me a box that had a few hundreds of his xAmaristites crosses in. Unfortunately, our postal services delayed the delivery for some seven weeks and when the parcel arrived it was not too good inside. The seeds had sprouted and there were radicles and leaves and all sorts of things tangled up in the fungus. However, I soaked the lot in pure Savlon and pitched out all of the dead bits. I washed the remains off and cut off some more damaged pieces. I then planted the two lots and with daily care they started to take off. When they go dormant in October or so I will be able to post them, so those who want a few please say so now.

The Clivia Day has taken off and the questionnaires are starting to come back in. I hope we get a big commitment to success.

The word from California is that thousands of yellow clivias are to hit the market this spring. That is interesting news. Perhaps we all, soon will be able to afford them. Editor.

Dear Mr. Primich

I enclose \$10.00 for Vol.3 Of the excellent Clivia Club newsletter. Thank you for the generous amount of seed of the C. miniata x yellow cross. The ones I planted are doing well, but there was too much for my limited overwintering space, so two friends and the University Botanic Garden were willing recipients of a portion of the seed.

Like Mr. & Mrs. Stephenson (Vol.3, 1) I have occasionally had flowers on short stems on plants that have behaved normally before and since. The flowers begin to colour up and open while the stem is only two or three inches in length. However, in each case, the stem continued to elongate such that when one half of the flowers were open, it looked normal. I had assumed it was a cultural problem associated with growing it indoors.

Last spring I purchased a well-grown C. miniata from a nursery. It was the darkest orange/red variant that I had seen. About half the flowers were open, and over the next fifteen days the remainder opened. The last of these were a significantly paler orange. Does anyone know how temperature, water, and light affect Clivia flower colour?

sincerely
Tony Gosden

Dear Nick

I purchased four unusual clivia plants at a nursery in Nylstroom two years ago. I gave one plant to a friend and the other three have flowered this season. Except that mine have not produced short stalks, they very much match the description given by Michael and Reneé Stevenson of their "third" miniata. (page one of the January bulletin).

I have traced the source of my unusual plants - Coromandel Nursery, Lydenburg. They specialise inter alia, in clivia hybrids. I have enclosed two photographs of my "unusual" clivia. The flowers were dark orange, almost red. They are indeed beautiful, and I prefer them to the ordinary Clivia miniata.

I find your assertion that the broad-leafed clivia is a mutant or a sport and not a result of garden hybridising very interesting. Talking about hybridising, could you perhaps for the sake of amateurs like myself, explain the difference between a "mutant" and a "hybrid".

Clivia lovers often asked me when we discuss Clivia miniata var. citrina, how it came about that this form of Clivia is so rare - almost became extinct. Could you please enlighten us on this aspect?

Regarding question 8 in the questionnaire we have just completed, what is meant by "international association" ? Is it the intention to affiliate with an International Body? I take it that the "Association" was formed solely with the idea of organising an annual Clivia Day. If not, will its functions not overlap with that of our Clivia Club? Will it eventually replace the Clivia Club? If not, why must there be two separate Clivia organisations? I do not want to create the impression that I am "difficult", but I would like to clarify matters.

Best wishes
Fred Gibello

The yellow Clivia is a good example of a mutant. Even if it did die out, it would only be a matter of time before it would appear again. It stayed rare because there were not too many of them in the beginning, they were rather more delicate than the normal ones, and the owners of these clones did not try to overcome the self-sterility factor.

Briefly, a mutant is a progeny that shows a characteristic not evidenced by its forbears, whilst a hybrid is the crossing of two clones at various levels i.e. family, genus, species, subspecies etc.

The Clivia Club is a name that has been reserved by me for a Close Corporation. I organise and distribute a newsletter under that name. Now that more people become involved we need to form a proper club, association or whatever. Soon I will be visited by the Receiver of Revenue and funny questions will be asked. We will have to make a proper club which has officials and keeps a proper set of books. When the club has been registered I will give it the Clivia Club name to do with as they think fit. In the beginning the club will be at international level, as we have members all over the world. Our Transvaal chapter will form its own committee affiliated to the parent body, and all other provinces or areas will be able to do the same. I am always glad when someone asks questions, as it is a sure sign that they are interested. (Ed.)

Dear Nick

When you visited me in September 1989 you also made me a gift of a few plants. Amongst these was a Clivia which you said may be a surprise. That is what it turned out to be - a yellow-flowered Clivia miniata which flowered first time a month ago. For this my grateful thanks, for although I am not a Clivia fanatic all indigenous bulbous plants are treasured by me.

Enclosed find your completed questionnaire, and my subs for 1994. Cyrtanthus elatus is flowering here, and at least one hybrid cyrtanthus is in bud. Several Central American Amaryllids have flowered and have seeded.

The AGM on the 23.02.94 promises to be a lively one, and the seed etc. sale thereafter, a bumper occasion.

Kind regards
Paul F.X. (von Stein)

Paul has been the secretary of IBSA ever since I remember. To those of you who do not know what IBSA is, and have an interest in RSA bulbs write to Paul and join up. The Indigenous Bulb Growers Association of South Africa costs you R15.00 p.a. and puts you in touch with bulbophiles the world over. Ed.

Hints on Seed Production Improvements for Those Dabbling in Plant Breeding

The Stigma (female production organ) must be mature and in Clivia the enlargement of the Stigmatic surface by splitting into three, and the production of sticky exudes on the surface signifies its peak receptivity for pollen. This usually follows the dehiscence (release of pollen) by the Anthers to prevent self-pollination.

Self-pollination should not be promoted as interbreeding produces few seeds and eventually inferior plants. Some plants are self-incompatible to prevent inbreeding depression. (self-sterile ed.)

To overcome self-incompatibility mechanism and improve seed set including inter species crosses try :-

- § Early mornings or late evenings when it is cool. High temperatures or dry winds dry the stigma and shorten pollen viability.
- § Mix self pollen with compatible pollen, the mentor pollen should always be of good form as it will also fertilise some of the ovules.
- § Cutting the style from the ovary and applying the self pollen to the cut surface of the ovary. This method would be more suitable to inter-species crosses of the same genera, but would be applicable to those with Aureas that they cannot get to seed.

Note:- All the Aureas in Western Australia readily set seed when selfed but seeds are small and the numbers produced are less than those crossed out. Plants produced from selfs are weaker with low flower count, usually inferior flowers, and either little or no perfume. Good seed set and broad leafed attractive plants have been obtained by crossing with "Relly Williams", and with select forms of "Twins". Original forms of F₁ or F₂ Aureas should obtain approximately thirty percent Aureas.

Roger Harrison.

Dear Nick

Now that the silly season is drawing to a close I find time to write. Firstly thank you for the seed. It was detained by customs as the customs declaration said Clivia seed and not Clivia miniata seed, The seed eventually arrived here all mixed up and without your note. " - it must have fallen on the floor and gotten

swept up in the rubbish." said the official explanation after my letter of complaint.

Three lots of seed have come through recently from Japan unchallenged by customs. One actually contained three seedlings but these did not survive. One of these three packages did not have a green sticker on it at all. Customs must be selective.

My New Year resolution was to spray for mealy bug more often, so as to have better looking plants. This pest flourished last summer/autumn throughout the drought. It looks as if we will have another dry summer/autumn. The whole of the East Coast has had a terrific heat wave. You may have heard of the fires. Last Saturday (8th of Jan.) I listened to the hourly reports on the radio, as Ron May and I were worried about Ken Smith in the Blue Mountains where fires can be disastrous. Things looked bad for Winmalee. The media can get things wrong. The six o'clock bulletin said Winmalee had been evacuated and abandoned to the flames. The TV people got it right. During the evening they reported a great effort had been made at Winmalee to hold the fire in order to save the town and prevent a rapid spread down the mountain to other towns. On the eleventh I received a letter from Ken postmarked the seventh. Quite a surprise. I discovered my first and hopefully only case of stem rot this summer, late on Christmas afternoon. A clump of the species *miniata* grown from seed from the Blombos Kwekery many years ago. The whole clump of about eight mature fans was gone. The bases have dried out now, and I'll replant the fans soon. There was a portion of the stems left.

The visit here by Dr. Keith Hammet was most exciting and stimulating and constructive. One can learn a lot from a professional horticulturist. Ron May was here too, and Gordon Julian. Keith's host in Oz, Bob Pearce who was to visit South African soon after his visit here thought that we would become the "dinosaurs" of the plant world if we persisted in growing and breeding plants that were slow in growth and couldn't be mass produced. I might add that Keith didn't seem to suffer from jet lag having been in Japan the day before with Yoshikazu Nakamura.

During the heat there is nothing much to be done except water and weed. The *Clivia* are stressed enough without subjecting them to potting - on or repotting. I am using this time to take an inventory at what seedlings I have. To this end I have bought a large format notebook of at least 100 pages to keep records in permanently. Fancy not starting this 30 years ago, but then I didn't know where I was heading then. I must also keep a list of codes as I forget sometimes what they mean. An example of this is the seed I got from Blossfeld's in Germany some years ago. I labelled them "L & F" which could mean large-flowered or late-flowering but I think the former is correct, although the flowers didn't turn out to be "large". Perhaps a personal computer would be better but the notebook was only \$4,20 (made in China).

Best wishes
Kevin

We regret to announce that Miss T Boegman passed away recently, before she could enjoy the benefits of being a member. Our sympathy to family and friends.

Dear Sirs

I have just noticed your advert in the RHS magazine, "The Garden", and thought I would drop you a line. I became interested in *Clivias* some time ago, and last year won First Prize, Best in Show, a Diploma, and a Blue Rosette with my large *Clivia miniata*. My greatest ambition is to own a *Clivia m. "Citrina"*. Hopefully I shall one day.

Mrs. Cynthia M. Marriott.

Let us hope that the day is not too far away, and let us see a photograph of your prizewinner at the Clivia Day in Pretoria in September. (ed.)

SUGGESTION

Having corresponded with Yoshikazu Nakamura for some time now, his English improving ahead of my Japanese, the following abbreviations suggested themselves to me. Perhaps we could incorporate them into official Clivia Club jingoese.

CC=Clivia caulescens, CG=Clivia gardenii, CM=Clivia miniata, and CN=Clivia nobilis, CY=Clivia xcyrtanthiflora. Any comment or extensions on this will be welcomed.

Nick Primich

ON THE COMPOST HEAP

To consume an amaryllid I was designed, and in truth a yellow is more scrumptious by far than any orange clivia. I am not too certain if the price has an ultimate bearing on the taste, but I know a certain individual who puts some caramel into cheap brandy, and he pours this concoction into cognac bottles which he places discretely at his guests disposal. It is amazing how they are taken in by this cheap device. Even a worm would turn!

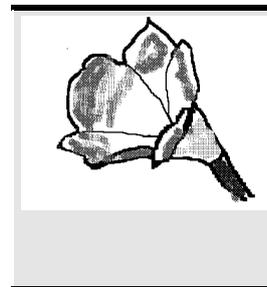


However, as the cognoscenti will tell you, I am a caterpillar, and not a worm, we have legs you see! Perhaps we could say even a caterpillar would cringe!

Lily Borer.

Clivia Club

P O Box 6240 Westgate 1734 RSA



US\$10.00 p.a. overseas

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This is one of the most important developments in the Clivia world. Roger Harrison of Western Australia has been researching and growing Clivia for the past few years. He was not content to sit back, but instead drew up a list of queries that were bothering him. He also took a series of excellent photographs (not reproduced in the newsletter), and sent an open letter with both of these articles to the following people.

Mr. L. Hannibal, Dr. K.R. W. Hammet, Mrs. L. Larsson
Mr. W. Morris, Mr. Y. Nakamura, Mr. N. Primich, Mr. K. Smith, Mr. K. Walters, Dr. P. Vorster

These names the reader will recognise as having all made contributions to Clivia Club. The answers have been collated and given in reply to each question where applicable. At the end of the article are the letters of Drs. Hammet and Vorster, who did not reply to specific questions as their letters will explain. One regrets the cost of printing precludes the use of photographs, but a set of the same can be ordered by sending A\$15.00 to Roger Harrison at Harrison's Nursery, 125 Caporn St., Wanneroo, WA 6065.

THE SAGA OF ROGER HARRISON

The attached notes and queries on Clivia are not intended as technical information, but hopefully as a guide to help me get help to identify these plants. Any feed back would be greatly appreciated. The more I read about clivia in the Journals and in the Clivia Club, the more confused and enquiring I become. For example:-

1. Can colour manipulation occur by changing the pH of the soil?

KS. I suppose the simple answer is yes. I don't think anyone has bothered to experiment with it re clivia flower colour. I have a note from Les Larsson that states pale colour in alkaline soil and richer colour in acid soils. Why bother?

KW .I do believe colour varies with the soil, and also temperature. Last Spring (92), I saw at a friends place the darkest clivias I had ever seen. I was given an offset, which flowered Spring '93. It was paler than most of my dark ones.
The friends plant was in the ground under tall gum trees, mine under Alsynite roof.

NP Colour of clivias can be varied by alteration of Ph of the soil. It is most noticeable in deep orange-reds.

YN Changes in the external environment (eg., Ph, light) do produce temporary colour variations, but since this has no significance for breeding, I have not studied the phenomenon.

LH Yes, climate and environment have some effect on clivia behaviour. They like ample mulch,

moisture, humid conditions and a trace of nitrogen fertiliser along with some potash and phosphate with iron. All effect colours, but heat deteriorates colours most.

BM pH control... possible but probably not important otherwise it would have been commented on more. I suspect light (heat?) is more important in bleaching flower colours.

2) Has anyone other than Mr. Ian Coates experimented with Colchicine solutions & with what results?

KS If the cost and usage risk are acceptable, some interesting mutations are possible. Perhaps the increased ploidy of the resultant plants could bring forth colour change and flower structure differences. We already have a diverse range of horticultural Clivia forms, so why worry about Colchicine? (Mind you I would like to try it given the chance.)

KW I have used colchicine once. (Daylilies a few times). It was used on seed from a cross between two slightly variegated plants. Some of the seedlings are highly variegated. I hope the variegation holds, sometimes it disappears. The seedlings which came up plain green I sent to Japan. I had forgotten they had been treated so will I ever know what the flowers will be like.

NP I have tried colchicine with negative results.

YN Our colchicine experimental results are yet to be published, but it appears that the reaction is rather slow for Clivia.

LH I've used colchicine on narcissus bud sports. I suppose it could be used on clivia bud sports, or dripped into the growing flower stem of a clivia as they did on day lilies. Actually, no tetraploids exist that I know of, and size may not be too desirable if the umbels get top heavy.

BM Not much point in Colchicine treatment until we know if selected strains are still diploids. Many characteristics of European and Japanese strains (leaf width, thickness, number of flowers and size, etc) could be due to polyploidy. I have only seen chromosome numbers for species. Ken Smith might know if any work has been done on highly developed strains, my guess is that some polyploids probably already exist.

3) 1935 The American Amaryllis Society article by Mr. E.P. Zimmerman states he had a 5'-6' tall Gardenii & then in 1990 Herbertia article states he also had 6 colour & 36 Flower types along with some 5,000 plants.... What happened to this collection?

KS. As I read it, he did not have a plant five foot six tall, just stated that it grew that tall in habitat. Notice that he writes "the flowers of C gardenii are twice as large as C. miniata."?? The six colours I can understand, but as to the meaning of 36 types of flowers, that's anybody's guess. Maybe Zimmerman was just taking advertising license to increase his standing as breeder and seller of Clivia? As to the collection, our American friends will have to answer that one.

NP Colman Rutkin is trying to trace the Zimmerman plants.

LH Zimmerman had a tendency to exaggerate, but he grew some of his plants in pure leaf mulch a hundred metres from the ocean, so things got some salt spray and continual mist. That contributed to the size. His property was subdivided when he passed on, and his plants went into retail sales as happens with many of us when we die.

BM "The flowers of C. Gardenii are twice as large as C. Miniata" ----- is certainly due to the wrong

application of names. C.Gardenii was not known in U.S.A. till fairly recently (under its correct name anyway.)

4) What other forms were produced after 1945 of the 'Bodnant Yellow' & 'Bodnant Varieties' by Mr. Charles Puddle with the Lord Aberconway collection?

KS Several letters to Bodnant gardens went unanswered. I gave up. I did come across several cultivars listed in English texts. I am currently pursuing the question of their continued existence in cultivation with a collector in England.

NP Carl Atkinson is trying to establish correspondence with Mr. Puddle.

LH No data on Charley Puddle. He gave me some Tritonia hybrids which were good.

5) 76 Plant Life mentions an unusual Clivia grown by Mr.Randell with growth similar to Haemanthus albiflos with 12" x 1" leaves Did it flower eventually?

NP I cannot trace results of Randell's plant.

6) 1981 Plant Form---Dr. Hirao, & then Hortus----Melvyn Jope, were attempting to breed a white form of miniata. Gladys Blackbeard's collection had a near white. Has anyone bred a white?

KS There are certainly plenty of references to white clivias in the texts. No reason why a separate alba form can't appear or already has. I have a few seedlings from white crosses and anxiously await the flowering of these plants. Maybe the characteristic is recessive and will come out in the F₂ generation ? I'll let you know in about ten years or so. Bill Morris suggests in his article (Herbertia 46(2)- 1990) that whites may be possible by selectively breeding for diluted yellows in each generation.

KW. I have a near white clivia. I must wait for the second flowering. Bill Morris said to call it "Moonlight somethingorother", but I forgot the second bit so it has been christened simply " Moonlight". The Dutch firm Sahin says it has bred whites, as well as pinks, primrose etc. Yoshikazu Nakamura apparently has whites as he recently sent me seed labelled "W", which must mean white. Six years from now we will see. I'd import plants of these, but the quarantine costs too much. I have been unsuccessful in buying seed from Sahin, but Nakamura san has bought from him.

LL. In 1991, the late Ken Mann of Pasadena saw the " white " Clivia of Dr. H. Koopowitz, he thought it was cream!

NP. The Gladys Blackbeard "white" is still in existence. Mrs. McNeil still has it. Meg Hart mentioned her "cream" Clivia which is perhaps a better description of this plant. One could possibly breed a white from this plant.

YN. There are probably no pure colours in Clivias. Yellows, reds and pinks are not perfect either.

LH. White Clivia, yes. Contact W.J. Lötter, P.O.Box 48528, Hercules, 0030, RSA. He has innumerable minor forms, but poor eyesight limits his correspondence. White is an absence of orange and yellow pigments, double recessive.

BM. It is very rare to get an albino (Pure White) from a yellow flower. Albinos almost always result from a lack of anthocyanin pigment (Red, pink, blue, purple, etc.) from flowers of these colours. It seem

that the anthocyanin pigment is not important in the metabolism of the plant. By extrapolation it appears that the yellow pigments (which are not anthocyanins and belong to entirely different types of chemical) are important in plants metabolism. Thus plants that mutate to lose the yellow pigments usually (always?) die.

Thus I believe wild collected "Whites" are simply loss of red pigment (usually resulting in yellows) but in a population which was pale orange originally.

Pale orange flowers have less anthocyanin and at times less yellow as well. Hence I doubt that a true white (total lack of red and yellow pigment exists).

It seems to me possible that a near white (perhaps looking white by comparison with pigmented plants.) can be produced by breeding paler and paler yellows (unless vigour declines also).

7) Many references have been made to the variegated form of *C. miniata*, "Demeteri". Is "Fukarin" a hybrid of this parent and does anyone have the original, or a hybrid of "Demeteri"?

KS. The margin variegated forms of clivia are stunning plants. Fukarin is probably the Japanese name for this form. To me it is reasonable that the plants in Mr. Nakamura's collection are "Demeteri", as the collection is the late Dr. Hirao's and he would have surely acquired the form "Demeteri". So far, all my seed with "Fukarin" as a parent have only produced striata forms of variegation, although Mr. Nakamura did point out one that showed potential. It has been my experience that margin variegation does not reproduce from seed.

NP. Willem Reuter was unable to trace what became of the Demeter Nursery plants when it closed in the fifties.

BM. No Comment re Demeteri. However from the number of Clivia seedlings raised around the World, I would be amazed if other margin variegated form hadn't occurred. In Bromeliads, margin variegated forms are commoner (or as common) as striated forms. Some do arise from seed of variegated plants but in much lower proportions. ie Variegated parents produce more striated than albomarginated plants. Albomarginated plants are often produced asexually by mutation of an off-shoot, rather than from seed.

8) 1984 Herbertia. In this article Mr. L. Hannibal's collection was acquired by Mr. Wallace Lane, who then produced F₁ *Cyrtanthifloras* that were well formed, vigorous, short-foliaged, seeded readily, and had a light orange flower. What happened to these and the form "Premier"? Did any of Les's F₁ x F₁ Striata crosses produce any good variegated forms?

KW. I had a batch of seed of x*Cyrtanthiflora* x yellow from Les Hannibal. Of these three were lovely plants, most were rubbishy, and none was yellow. Perhaps someone should cross *C. miniata citrina* with *nobilis*. I really love those three plants, which flower in August. They got damaged in Winter '93, when a staghorn fern fell on the pots!

NP. Wally Lane declined to become a member of the Clivia Club when I approached him on inauguration. I am unable to say what became of the plants.

LH. Yes. I still have Wally Lane's *cyrtanthiflora*. It got set back by the 90-91 big freeze, so it may flower in February, or March. I crossed it with a number of forms including yellow. These I back crossed onto yellow. Striata was crossed with yellow. The seedlings showed up striata features, but light green stripes in lieu of yellow. Bill Morris has some. The narrow tepals from the Blackbeard yellow via Gordon McNeil was dominant. Ask Bill.

9) **1985 Herbertia. Gladys Blackbeard's collection and further hybridising by Mr. P. Gordon McNeil with extraneous crosses. Some of these are incredible if true. Does anyone still have a stock of any of these in RSA? What further work has been done since 1985? I currently have six seedlings of *Cryptostephanus vansonii* x *C. miniata* ex Mrs Larsson. All other crosses I have tried have not germinated even though seeds formed.**

KS. You may have read about my *Cryptostephanus vansonii* x *Clivia* in the Clivia Club newsletter. Do you have straight *Cryptostephanus vansonii* seedlings to compare with your hybrid seedlings? At this stage I still do not have any germination of my hybrid seed. It is interesting to note that my *Cryptostephanus* is flowering again, and it looks like having a good seed set even though I only pollinated six flowers!!! As for *Clivia* x *Otherus* plantsii?? Where are Gordon McNeil's plants indeed?

LL. The six seedlings Roger has are from *Cryptostephanus vansonii*, and are not hybrids. I bought the plant from Bruce Knight in 1986. It now has two offsets, and blooms twice a year.

NP. "Crosses" such as "Green Girl" are nonsense! I have seen natural *C. miniata* with more green in them than this one. If you have followed Ken Smith and my own comments on *Cryptostephanus*, and if you read the article I have written for the March letter, you will soon see what we think of the possibilities of extraneous crossing with these plants.

YN. I have had no success with intergeneric hybridization.

BM. I'm sure Gordon McNeil was mistaken in believing he had made inter generic *Clivia* hybrids. Only X *Crypto*. *Vansonii* seems reliable. In general intergenerics only occur between closely related plants and generally you can't cross

(A) a fleshy seed type with a flat papery seed type.

(B) a plant with a bulb with a plant with a rhizome.

(C) a genus from Africa with a genus from America.

These three factors only show the plants are not closely related.

10) **I noted that the F₁ hybrids supplied by Les Hannibal to Mr. B. Morris were subsequently crossed back with the F₁ Aureas, then crossed with the Aurea parent. These F₂ Aureas were then crossed with F₂ Australia Aureas of Kevin Walters. How close is Bill Morris to accomplishing the four characteristics mentioned in his article in the "Clivia Club"?**

KW. The F₁ Aureas are doing well under my orange tree. They had been moved twice since 1988. I have Aurea f₁ x Aurea planted september '88 sure to flower this year if I move them from community boxes. A few should have flowered last year, but '93 was a bad year for seedling yellows. All the mature ones didn't flower. Now Aurea x Aurea F₁, planted July '88 are behind in growth to the above. I must urge these along this summer if the heat abates.

NP. Bill Morris must answer this one! I have an offset from the original "Aurea" from Kevin Walters. This is still the best yellow I have seen. I do not like some of the broad-petalled ones as they seem to lose their "form".

BM. My four characteristics, except for deep yellow, are present in various strains and individual clones. It will take a few further generations (and maybe many seedlings) to get all the characteristics in one plant or strain.

LH. The reason that I outcrossed my Blackbeard yellow was that it would not self. So I outcrossed it and then crossed it both ways with these seedlings to obtain fertile yellows, but as noted above, the narrow tepals are dominant and show up in many of Wally Lane's seedlings.

YN. We are breeding yellows as one type, but it is more important to breed types with mutual characteristics such as (YxC)xY and (YxG)xY etc.

11) 1985 Herbertia. Did Aspirin work to suppress or control H.M.V. when tried by Mr. W. Glover?

KS. I tried using soluble aspirin on virus infected clivia, and other bulbs. Not very systematic in my approach though. It probably only makes you feel good and may mask the viral symptoms. I believe willow water is an old method. Soak willow stems in a bucket of water and use that water for infected seedlings or plants. I don't remember where I read that, but I will send you the reference if I come across it again

12) 1988 Herbertia. What happened to the F₁ Aureas (from the original Margaret Griffith's 1979 crosses) when back crossed to Kevin Walter's own Aureas? I'm familiar with Kevin's "Relly Williams" but know nothing of his other named forms. Perhaps he could expand his descriptions in an article to "Clivia Club".

KW. I have grown tired of developing round-headed beauties like "Relly Williams" which is Aura x "Belgian hybrid". Aurea gives the lovely round heads to its progeny. I have named a couple of other cultivars. I'll send you samples one day when the stocks build up again. I doubt if I could describe these in an article with words.

13) 1992 Clivia Club. Mr. Ian Coates mentions a Gardenii "Retusa". Does it still exist? What does he mean by saying a plant has a "caulescens" type root system. Is it similar to gardenii or something I am not familiar with? Did Ian cross "Cynthia" with the interesting split pedicel, and if so with what results?

KS. Clivia gardenii 'Retusa' may be a seedling variant of his. Retuse means "of an apex when obtuse and with a broad shallow central notch" It is from a latin word meaning blunted. The caulescens type root system just means developing a stem from a Latin word meaning a stem or a stalk.

I have no idea what results Ian got with "Cynthia", BUT would like to know more about the plant you depict in photo 21! Does it, or has it flowered that way in successive years? I have only come across one or two fused pedicels per head, and haven't taken it any further in breeding.

NP. Yes, indeed! He has recently sent me seed of the same, but read what I say about them in the March editorial. Write to Ian Coates, and ask him about "Cynthia". He does not reply to a lot of the questions I ask him. It is actually a nobilis.

BM. Clivia Gardenii Retusa could be a form of C.Nobilis which is described as having a blunt leaf whereas C. Gardenii tapers gradually to the tip. As commented earlier I suspect "Gardenii" has not been correctly applied on the U.S.A. or U.K., Europe, etc. until recently.

Re:- C. Caulescens type root system -----When my wife was in the U.K. 2 years ago she went to Kew and sketched and made notes on Miniata, Nobilis, Gardenii and Caulescens (as named there), she observed that old plants (3ft stems) of "Caulescens" had roots coming from the base of the leaves hugging and adhering to the 2-2 1/2 ft bare stem down to the ground. Viz-an aerial root type system adhering to the stem down to the ground. I suspect this may be Ian's Caulescens type root system".

14) Dr. K.W.R. Hammett mentions clivia "Redgrove" is being produced by tissue culture, but what were its attributes? Has anyone contacted Longwood Gardens in the USA to seek information on their Aureas and other work?

NP. Parva Plants catalogue describes "Redgrove" as the same salmon(?) pink tubular(?) flowers with orange (?) throats as the species, but very much larger, fuller, and with superb rounded heads. Glossy green foliage distinctly broader than the type. A photograph is supplied where I notice the flowers are the usual trumpet shape, with orange outers and a yellow throat. We should stick to the RHS colour chart! Looks Like "Relly Williams" to me.

YN. We collect diverse lineages from all over the world, but there appear to be no major differences between them.

15) 1993 Clivia Club. Mr. Ken Smith crossed "Col. Pitman" with "Relly Williams", various Australian hybrid Aureas and back crossed to itself. What did Ken get in his resultant plants?. Of the nine variegated plants in 1989 how many remained good forms, and how many were only striatas?

KS. Yellow flowered, or at this stage, pigment free seedlings have resulted when "Col. Pitman" is crossed with Bill Morris yellows, "Aurea" (ex W.Aust.), Flowerdale Cream, Riddle yellow (ex USA seed), Kevin Walters F₁ pollen, and "Relly Williams". The last two crosses produced pigmented seedlings also. Foliage characteristics are variable, ranging through narrow to broad leaf types. I am wondering if the various greens are due to nutritional factors or are they indicative of flower colour depth?

This past season I crossed "Col Pitman" onto "Ailsa Dearing" which has "Aurea" reported as one of the parents. I hope the results are the same as crossing with "Relly Williams", ie 50% non pigmented, and 50% pigmented.

I get good seed set if I cross "Col Pitman" onto "Twins", "common" Clivia miniata, Cowlshaw hybrids, etc. But the I note actively pollinating a flower results in better seed set no matter what you are crossing.

Several years back, I obtained seed from an orange flowered plant (unknown to me at the time that it was bred from yellow) and of the seven seeds, two turned out to have pigment free bases. This intrigued me, and I have since been able to acquire two large stock plants. It was being offered as "Salmon Queen", but of great interest to me was the label on each pot...Salmon Queen x B308 Yellow. This season I crossed them with "Col Pitman" and "Flowerdale Cream". I expect fifty per cent of the seedlings to be pigment free (yellows). I also crossed a few the reverse way.

In a batch of five hundred (orange x yellow) x Yellow, I got fifty percent pigment free seedlings. The yellow characteristic is acting as a recessive. Is it because the Australian and Japanese yellows are more concentrated through the efforts of our breeders, that we are getting good results in our yellow crosses? Why don't the RSA results match ours? Has the yellow breeding been less concentrated, to give yellow x yellow = orange? Different clones and seedling yellows make the situation unclear, until test breeding sorts them out.

Maybe the last few years of Clivia correspondence has changed that and yellow will be bred in greater numbers, far more easily now, due to the exchange of yellow breeding lines between breeders. The picture is still not absolutely clear as I am getting varied results from many yellow crosses, but this is Okay by me as the diversity of yellows, tinged yellows, and pastel colours is

exciting.

16) I have approximately one hundred seedling Striatas, but only the following can be called variegated:-

1 only Twins x Twins

1 only (M x Dwarf var.) x M best Dwarf. Ex C.B.P.

2 only M x G . Ex C.B.P.

2 only C x M striatas selfed produced F₁ Aureas.

Has anyone produced a tricolour leaf yet, with red or purple?

KS. Variegation. Striata is only a type of variegation, just like median stripes, marginal, or leaf colour change (Akebono) I like them all. My 1989 batch is growing, and all the plants are different. Several flowered this season and have been crossed with each other, and with other forms. The best plant is likely to produce superior offspring, but you can take it too far and have plants that scorch very easily. The consideration of good form is purely individual preference. Some of the subtle green on green variegations are exceptional plants.

After reading your question about the production of tricolour leaf types, I went out and scrutinised my batches of variegated seedlings. I did find one in a batch that has yellow and cream variegation with a purple tinge over the entire leaf. It is noticeably different to the siblings in that batch which only have yellow stripe variegation. Needless to say, it was potted up and marked for future evaluation.

If we have pigment free seedlings producing our yellow flowered plants, then if we concentrate the pigment towards deep red flowers, will we be able to isolate purpurea or rubra foliage clones? Probably.

KW. A tricolour leafed Clivia would be great! I want to see a white variegation rather than the usual yellow or cream.

NP Variegation is a very difficult subject at this stage. The only red I get on my leaves is one I do not want from the *Stagonospora curtisii* affliction.

YN. I am interested in the hybridization of variegated x G, C and N. I think your research work on Clivia is outstanding. It is essential to understand the pure breed and its variations, but since even the smallest variation appears somewhere, we must seek as far as possible, those with the strongest impact.

It is also in N, C and G to have a large number of varieties of C and M. Further significant variations are likely to be produced through breeding.

BM. I am not sure what you refer to as variegated and what striated. I doubt that all your 8 "variegated" can be margin variegated. Most of my good "variegated" plants are not margin variegated but simply have:- (a) a high proportion of non chlorophyll tissue so that the plant appears clearly, yellow and green ----- or (B) the yellow is present in broad bands rather than narrow lines again giving a clear yellow and green appearance.

What term would you use for a plant which has one half the leaf longitudinally yellow and the other half green? I would call it a good variegated clone. So please describe or photograph your 8 variegated clones.

Lastly an oddity:-

In 1987 Mrs. Les Larsson supplied me with some F₂ Aurea seed but the Gremlins must have been busy because 3 came out with pigment at the base One that flowered in 1991 had standard growth with leaves 600-60 mm & had produced 2 Shoots & a flower spike with 15 flowers. This was crossed to Relly Williamson 29/9/1991 & produced 15 red large elliptical fruits (163 seeds).

1 2 2 5 2 1 1 Ratio
6 8 10 11 12 13 14 15 Number of seeds per fruit

Sown 11/6/92 with 100% Germination

Now the interesting bit...All plants produced are extremely vigorous up to double the growth rate of standard Miniatas. All have deep Purple bases which does not occur in either parent & none have the broad leaves normally associated with Relly Williams. These should flower by 1995 if they continue to grow at this rate.

When Crossed on 2/10/1992 with "Peach Glow" (a vigorous broad leaf form with 22 flowers borne above the foliage...it produced 180 seeds in 1992 when crossed with Twins) It had two flower stems with 6 & 11 flowers which resulted in 151 seeds but only 50% germinated but of these more than half are like the above Relly Williams cross in that they are double the growth of Standard FI Hybrids.

From this same batch of Les's seedlings came an Aurea with 500mm x 50mm leaves & 14 flowers in 1991 which produced 77 seeds when crossed with "Flowerdale" (Standard Aurea)..Germination erratic approx 90% & all Aureas.

This same plant flowered in 1992, again with 14 flowers, but was crossed with Warren Glovers Aurea to produce seeds.

1 2 2 4 4 2 Ratio
2 5 7 8 9 10 No of seeds per fruit.

100 germination, all Aureas & all extremely vigorous with the majority having double the growth of standard F₂ Aureas.

I always select seedlings for vigour or any unusual forms but these are usually in the 1% range & I've never seen this in an entire cross but obviously the gene controlling it comes from Les's Parentage, but, is occurring in the Orange and Yellow as well, which is highly unusual.

Please note that I generally sell all Stock I consider Inferior & usually grow on all seeds to the flowering stage to see it's merits. Should anyone require any specific seed I will do my best to oblige. All comments on the above would help me greatly. Anyone who has seeds or stock to sell would also interest me.

Cheers,
Roger Harrison

KS. The one that flowered in 1991 and was crossed with "Relly Williams", what colour flower was it? The interesting bit states that all the seedlings sown 11.06.92 have deep purple bases. So does "Relly Williams". When selecting for vigour why do you say "is occurring in the orange and the yellow as well, which is highly unusual"??

KW. Bill Morris's observation that yellow x yellow of the same genetic background will give 100% yellows holds true here. I do get a very few with coloured leaf bases, say one in five hundred, or two in five hundred which is due to the fact that my yellows are not completely isolated, and some

yellows under one orange tree are cheek by jowl with orange clivia under the adjacent orange tree. All my yellow material stems from the original Aurea obtained somewhere in the seventies, I think. I have bought two other Aureas since then. As yet, I have not flowered a "foreign" yellow.

- NP. It is good to hear of prolific plants, and I feel that generally one should use these as progenitors, rather than anything that gets in the way of your fingers. I have a clone, from the wild, of *C. miniata* which I call "Type 1". This plant gave me a yellow once from a selfing. This yellow may bloom this year. It has the narrowest leaves I have ever seen on a clivia. The parent gives good quantities of seed from any crossing as pollen or ovary parent. It only has twelve flowers per umbel, but it often gives 144 seeds from the umbel, 12 per fruit. The flower is nice and big and of good colour, although the plant itself is on the small side. I would not mind some of Les's seed or is this the one that she lost?
- BM. It would be my guess the cause for your results was some orange pollen was responsible for the pigmented seedlings. I have found the deep purple pigment which is very obvious in your seedlings becomes much harder to observe as the plant grows larger, so much so that I have pulled out almost mature plants as green (non-pigmented) and had them flower orange later. So I suspect Relly Williams does (or did) have purple pigment but is not evident in the mature plant but passes it on to its seedlings.

Dear Roger

Thank you for your letter and for the beautiful photographs of Clivia. Do you want me to return the photos to you?

I am afraid that I cannot answer any of your questions. Shamefully Clivia cultivars are virtually unknown in South Africa. One statement that I can refute, is McNeil's intergeneric hybrids. No one has ever seen any of these, and I know of no-one else who was able to make intergeneric crosses. Your own hybrids between *Cryptostephanus vansonii* and *Clivia miniata* are exceedingly interesting, and if only I could lay my hands on *Cryptostephanus* I would like to try this myself.

To me it is news that light intensity can have such a profound influence on flower colour. I have never detected this, because my plants don't grow in pots but are static in the garden. In nature all species occur in shade, sometimes very deep shade, but within the shade they certainly seek stronger light levels as evidenced by them sometimes growing on boulders or as epiphytes. In nature they never occur in direct sunlight, even though in their native habitats the atmospheric moisture is usually high.

I have no evidence that soil acidity has any influence on flower colour in Clivia, but this can easily be determined experimentally.

I am sure that hybrids between *Clivia miniata* on the one hand, and *C. nobilis*, *C. gardenii*, and maybe even *C. caulescens* have been produced on more than one occasion, and probably with *C. miniata* as male as well as female parent, because there are so many subtly different forms. *C. Xcyrtanthiflora* is not a stable hybrid, and when self-pollinated produces a wide range of segregates. That is when it starts becoming really interesting.

I have only a single plant of *C. Xcyrtanthiflora*, of which the origin is lost in the mist of time. Its flowers flare somewhat at the tip. I assume that it is a F1, and unlike your plant it sets seed freely and is self-fertile. Of the unusually deep red perianth which flares at its opening to about half its length. Ever more interestingly, when self-pollinated this plant set several fruits. Our atmospheric humidity is usually close to saturation point when Clivia flowers, and we won't experience adverse effects through dry air.

Where my *C. Xcyrtanthiflora* does differ from yours, is that it does not flower continuously but only once a year, around November if I remember correctly. I would really very much like to get a cutting of your

continuously flowering clone.

Your photos 5 to 7 shows probably *C.nobilis*, and I have little reason to consider the plants in photos 9 to 12 as anything else. The remainder are certainly hybrids with *C.miniata*, although some may be F1 segregates or back crosses with a *C. nobilis* like plant. Your photo 21 shows a plant which, apart from the colour, looked like my single F1 segregate obtained when self-pollinating *C.Xcyrtanthiflora*.

With best wishes

Your sincerely, PIET VORSTER

Dear Roger,

I was pleased to receive all the clivia material you sent me last month. I have subsequently received copies of various answers this engendered. I feel the need to sit own and answer in detail, but a huge number of other commitments has simply not allowed this as yet. I am very interested in the points you raise, and am in fact asking similar questions.

I have had flower pigment analyses carried out on clivia as an adjunct to similar work on other genera. I visited Nakamura before Christmas, and brought back plants. Terry Hatch has the Bodnant yellow here in Auckland and has just returned from a trip to South Africa with yellow pollen from other yellows. The Kevin Walter's yellow is distinct from the Bodnant yellow, I have Kevin's plant and seedlings from it. I have a brief article on the work at Bodnant which was published in Garden News last year after an exhibit staged in Britain, by Aberconway. I will send you a copy.

"Redgrove" is simply a selection from the German broad leaf miniatas sold as "Belgian Hybrids" and raised from seed. I understand it was multiplied by tissue culture from a self set seed which the selection was bearing. This will of course be a different genotype to the plant originally selected. I do not consider it in any way to be an exceptional plant. Hugh Redgrove was not the raiser but obtained the plant at a plant sale. The main significance is that the plants sold were multiplied by tissue culture.

I have a lab working on the tissue culture of some of my material and a separate company in Auckland, which was involved with "Redgrove" is said to have clivia in culture.

I will be in Australia in June for the Australian Dahlia Conference and will try to get to see various Clivia people if I can. Australian Clivia enthusiasts are very much to the forefront in developing the flower. I have yet to work of an itinerary, but I only need an excuse to get to look at Western Australia.

Kind regards in the interim
Keith Hammet.

Clivia Gardenii (?) Photos 1-12 (not reproduced in newsletter)

Germination	100% usually 6-8 weeks
Seedlings	Initial leaves and roots approx. 1/2 miniata dimension Leaves Std. 650mm x 35mm. Select forms 700mm x 40mm. Also deeper U shape.
Roots	Vigorous fine roots compared to Miniata. Refer photos 4 & 8
Shoots	Life expectancy of approx. 5 flowering years. Basic propagation via photosensitive adventitious shoots coming away well below basal plate.
Flowers	Usualy one peduncle per shoot, but select forms have two peduncles. Flowers pendulous, 16-20 per umbel. Av. = 22. Standard form reddish/orange with green lip approx. 35mm-40mm. No scent.
Ovary	Yellow or green. All fade to green after fertilisation.
Pedicel	Yellow, green, or bronze. All fade to green after fertilisation
Peduncle	Pale brown to deep bronze. All fade to green after fertilisation.
Seeds	Lollipop Pink fruits varying in size from 20mm-30mm dia. with between 1-8 seeds per pod. Select forms (probably cyrtanthiflora hybrids) vary from dull red to cherry red approx. 10mm dia. with 1 or 2 seeds per pod. Low seed set std. Seeds ripen in groups of 2-3 at a time over a 2-3 month period.

Forms

Dwarf	Inferior flowers, low growth, mostly asexual propagation. (Photo 1)
Standard	Photos 1-6. Self pollinate readily so that the green lip fades within a week of opening & the entire umbel only lasts 3 weeks.
Light orange	As per standard but does not readily self pollinate, but the colours and umbel lasts 6-8 weeks. Refer photo 7, fruits small and red.
Pale orange	Select form opens pale yellow and fades over 2-3 weeks to burnt orange. Even when yellow fertilised the colour remains. Note difference between photos 9 & 10. Receptacles are green indicating fertilization but none have fallen off after 6 weeks. (Fruits small & red)
Twins	Flowers twice yearly --Summer & winter. Ten plants crossed in summer 92 produced no seeds. Heat destroyed pollen or stigma dry?? TwinsTwo flower spikes every time per shoot.
Striata	Some plants throw approx 6 - 8 leaves that are Striated but this is not fixed & reverts to standard (The plant in Photos (9 10 & 11 have a silver variegation running through the leaves & I hope this will carry on in the seedlings)...selfs done in 1993 all aborted.

GROWING CONDITIONS

Leaves burn in full Sun & recover in 3-4 months. Optimum conditions approx 50% shade. Heavy shade produces deep green plants but no flowers. Growing medium can vary from heavy compost to open Orchid type mix & all perform well.

OTHER COMMENTS

Flowers appear to be similar to *Cyrtanthiflora* in that the flowers are light sensitive and will go deep Orange if exposed to heavy light. Std. forms are not Commercially viable but the select forms have possibilities since flowers are retained, disease resistance, rapid production of off-shoots & subsequent Division is easy without damage to Parent plant. They cross readily with other forms of *Clivia* & a Yellow form should be obtainable. It should be noted that some of the *Gardenii* forms do not flower well & tend to grow rapidly producing numerous offshoots & these should not be used for breeding purposes. Crosses done with Min. Twins has produced wide leaf seedlings whereas all other crosses have produced Std. *Gardenii* type leaves.

CLIVIA CYRTANTHIFLORA (NOBILIS?) Photos 13-24 excluding 21
REFER ARTICLE BY KEN SMITH.

Germination	erratic & approx over 6-8 weeks
Seedlings	initial leaves are only stubby 2-3 mm & usually dull purple/green
Leaves	650 - 40 mm ----780 x 45 mm. Tend to be more brittle than <i>Miniata</i>
Root	similar to <i>Miniata</i> but more vigorous.
Shoots	few seem to die & this causes a compact clump as the plant ages. Has a tendency to grow 'Fan' shape. Refer side view Photo 15 & front view Photo 16. Note aerial roots forming on original parent. Few suckers are formed from below the basal plate.
Flowers	Usually One per shoot but 2 not unusual. Pendulous 16-36 per shoot with average of 22-26 Colours as per Photos. Note that flowers are Photo sensitive and when flowered with no direct light then the tips remain green and the rest remains Greenish Yellow which slowly blushes to Apricot yellow until fertilized and then changes too light orange. Similarly 50% shade produces orange flowers with the green tips fading rapidly as they open. Full sun produces almost pure Red with the inner perianth almost the same colour. (Refer K. Smith's article) but only on the exposed portions of the flower. Standard colour as per Type 11 with reddish-orange outer & apricot inner

perianth. Refer Photos 22-24---plant Ex Mrs Les Larsson. This particular plant is also very viable. Some forms open with all petals a pale colour which fades to a light orange after a couple of weeks. Refer Photos 18--seed set usually with this form. I have no corresponding colour forms similar to Ken's Type 1.,as all mine have pale inner perianths. The size & shape is similar to *Caulescens*. Note that all the *Cyrtanthiflora* produce large amounts of nectar, but no scent. Another unusual feature is the fact that the stigma extends itself after the flower has opened to that it is now exerted and I assume that this is to restrict pollination by having different maturing times for the pollen & the stigma.

Receptacle slightly yellow but fades rapidly to green as the flower opens.
Pedicel Green
Stems Green
Seeds Usually Cherry Red with 2-3 seeds std but 5-8 has occurred usually when crosses with *Miniata*. Note that pods are Pinkish Red when this cross occurs. Poor seed set occurs and seeds are approx half the size of *Miniata* seeds.

GROWING CONDITIONS

Leaves go burnt around the edges in Full Sun. Optimum is approx 50% shade but surprisingly they grow & flower in heavy shade with flowers almost throughout the year.

OTHER COMMENTS

Disease resistant, continuous flowering, growing in full shade make it a good plant but the poor seed set, slow germination & slow growth are a disadvantage. Strong root growth forces the plant up out of the pot as it ages.

Yellow forms can only be obtained by overcoming the Photo-sensitivity of the plant -- probably easier to change *Gardenii* which has good growth habits.

Cyrt. x Gardenii has produced some unusual wide leaf forms amongst my 1992 seedlings.

Cyrt. x Min. Grandiflora produced large Nos. of plants that flower twice a year but most were either inferior or standard *Miniata* type flowers with little or not perfume. I have crossed the best with "Really Williams" & "Twins" to improve flower size, wider leaves & high perfume.

I have crossed "Really Williams" & *Aurea* with *Cyrt.* to obtain high perfume and hopefully some of the good Characteristics of *Cyrtanthiflora*.

Species crosses - all with seed set - but nil germination- (*Vallota*) *Cyrtanthus elatus* & *Scadoxus multiflorus*.

Comments by Les Hannibal.

Regarding *Clivia gardenii*, I looked it up in Baker's "Amaryllidaceae" 1888. Hooker described it in Curtiss Botanical Magazine t-4895, vol.12, series III, 1856. Your Sydney Botanical Gardens Herbarium, or Waite Institute should have the volume on file. Meanwhile write to the British Museum for a xerox copy of the mounted specimen. And here is the description:-

Bot. Mag. t.4895: Leaves 10-12 in a tuft, ensiform, bright green, 1 1/2/to 2 ft. long, 1 to 1 1/2 in. wide,

narrowing to a point. Peduncle 1-1 1/2 ft. long. Flowers 19-20 in an umbel; pedicels 1-1 1/2 in. long; spathe valves several, lanceolate, greenish, 1 1/2 in. long; perianth curved; tube narrowly funnel shaped 1/3- 1/2 in. long; segments connivent, oblanceolate, obtuse, 1 1/2 in. long. Stamens as long as the segments, style much exserted. Oblong berry.

Habitat: Natal and Transvaal. Introduced by Captain Garden in 1855. (to the UK)

Clivia xcyrtanthiflora, as *Imantaphyllum cyrtanthiflorum*, featured in "Flore des Serres t-1877 (year not cited) as a hybrid of *C. miniata*, and *C. nobilis*..

C. miniata was described by Regel in "Gartenflora" 1864, 131, t.434, and a variant by hooker in Bot. Mag. t.4783. Habitat Natal. There are many variants.

So those are the type species per the horses mouth.

Several comments: first on sprouting seed. I find that by squeezing the fruit just enough to crack the skin a half inch long, then placing the entire berry with all the seeds within intact, under the leaf mulch (no Eucalypts) that I get better germination and growth than possible when completely removed from the berry and planted separately. The rotting gelatinous material in the berry seems to promote growth. You might try implanting some of those hard to sprout seed into a mature berry to give them a jump start.

Second. Some early chromosome counts give different values, I know of no subsequent studies. Oddball counts could cause sterility as well as added B-chromosomes. Do all species have the same count?

Third. Have you tried storing pollen? That is commonly done with *Crinum*, Daffodils etc. It is kept cool and dry, and applied in cool humid mornings when the stigmas are ready.

Felix qui potuit rerum cognoscere causas!

Yes, I too, can break into Latin after feasting on all the foregoing. It sound as though there are going to be many, many more goodies on the way.

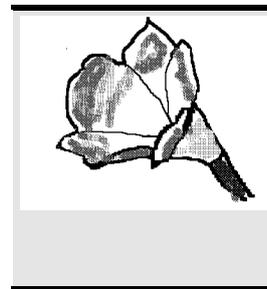
So all you good people out there, plant your seeds and lets get these things growing!

Lily Borer



Clivia Club

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STALKING THE YELLOW CLIVIA

(Reprinted with Kind Permission from the original in "Pacific Horticulture")

Most plant fanciers are quite happy with *Clivia miniata* as it is usually seen, with broad umbels of bright orange flowers above substantial clumps of dark green foliage. Native of Natal Province in South Africa and accustomed to a winter dry, summer wet climate, it is still suited to gardens in lowland California. A shade plant in nature, it thrives under trees and beneath overhanging eaves, which protect it from frost as well as sunburn. It is also an admirable house plant.

Some enthusiasts have read about yellow-flowered plants described in the literature as var *citrina*, var *aureas*, or simply as 'Aurea'. References to them in the literature of gardening have been more common (at least until recently) than the plants themselves. Inquiries in *The Garden*, the magazine of the Royal Horticultural Society, and in *Herbertia*, the journal of the International Bulb Society, attest to their scarcity. If keen readers of such publications have to seek out these plants in the agony columns, what are our chances of finding them? The answer, in brief, is fair and getting better, but it will cost you. Retail prices will be in the range of seventy-five to one hundred dollars.

There is not just one yellow-flowered clivia; the name 'Aurea', with its single quotation marks, suggests a cultivar—the vegetatively propagated offspring of a single individual, or a population of seed-grown plants so carefully line-bred as to be virtually identical. There are actually many yellow-flowered clivias, most of them seedlings raised from yellow-flowered parents; few have been given names, although that situation is beginning to change. Colours range from palest creamy yellow to deep yellow verging on salmon and orange. Choicest, and least common, are pure daffodil or butter yellows.

As an interesting sidelight, the round berry-like fruits of yellow-flowered clivias are often yellow instead of the usual deep red, and one experienced grower believes that seedlings without red pigment at the base of the leaves are likely to produce yellow flowers as plants mature.

At present the percentage of yellow-flowered seedlings from yellow-flowered parents is not high. Selection and reselection has increased this percentage, but the process is a slow one because seedlings take three years to produce a first bloom, longer to show their true quality. A choice plant should have not only clear yellow flowers but good umbel size, a sturdy stalk, and broad, healthy, deep green leaves. Such a choice plant, once selected, can be multiplied by division, but this is a slow process. Clivias eventually make large clumps that can be dug and divided, but plants grow and bloom better if left undisturbed. It is possible to speed the production of offshoots by beheading the plant near the soil line, but this is a chancy procedure to be undertaken only by brave—even desperate—gardeners.

The modern way to duplicate plants of superior quality is to grow them by tissue culture. In the technique a portion of tissue from the parent plant is grown on a sterilized nutrient medium in a sterile, climate-controlled laboratory. As the tissue mass increased in size, it is divided into smaller portions, which increase in their turn. The process is repeated until a target number of units is reached, at which

point chemical or physical stimuli are applied to the fragments to produce root and shoot growth and, ultimately, genetic replicas of the parent. The system works well with orchids and many other classes of plants, but not, unfortunately, with clivias. For reasons not understood, clivia tissue growth ceases after a few cell divisions, and the culture self-destructs.

Enthusiasts here and elsewhere around the world are growing, or trying to grow, yellow-flowered clivias. Yoshizaku Nakamura has given an account of his breeding experiments in Japan in the August 1992 issue of *The Garden*). Until recently the situation has been somewhat analogous to that of the chinchilla farmers of yesteryear, nurserymen lucky enough to find a plant were likely to take it to the back lot to grow it on for propagation, with retail sales a bright hope for the future. If plants became obtainable, they usually were snatched up by the owner's friends or other insiders. The general gardener's plight has been expressed by Alexander Pope: "Man never is, but always to be, blest."

Still, as Pope also said, " Hope springs eternal in the human breast." Joseph Solomone has been building up a stock of yellow-flowered clivias for twenty-five years or more, and his plants and their offspring are been produced and sold by Monterey Bay Nursery in Monterey County. About a thousand plants are available this year. This is strictly a wholesale nursery; your retail nursery person will have to order plants for you. Plants are variable in colour and form but the nursery will release plants only after they have bloomed and proven to be yellow.

A few specialist growers have plants for sale. Dave Conway (2324 Santa Barbara Street, Santa Barbara CA 93105) has been breeding yellow-flowered clivias for several years. He expects to have sixty plants for sale this year. 300 next year, by main order. Some of his plants have been given names ('Lemon Ice', 'Sunrise-Sunset'). while others are selected seedlings. Write or call (805/682/7651) for plant descriptions and prices. We may in time see other variations in clivia from Mr Conway - dwarfs, giants, reds, parti-colours, rebloomers-but these lie in the future. Protea Farms of California (PO Box 1806, Fallbrook CA 92088, 619/728/4297) also has yellow-flowered clivias, and also can offer plants of *Clivia x cyrtanthiflora* and *C.nobilis*.

John Dunmire

In subsequent correspondence John Dunmire informed me that Californian Nurseries are about to release yellow clivia in their thousands. (and about time too!) He seemed to think that this presaged the doom of clivia as a garden desiderata. Well, Yoshikazu and I certainly think that this is rather the beginning. Clivia is starting as a plant which can now be obtained in ever increasing numbers of different forms. I think the next five years will unfold some breath-taking clivia indeed!

Dear Nick

Thanks for the letter. I am sorry for taking so long to reply about the *Clivia nobilis* here. I have a friend in East London who is looking at obtaining some from Local Nurseries there. I have a number in my garden which originally came from the Olifants Kop pass (near the Alexandria turnoff on the Cradock Road). I collected a few plants years ago from a farmer in the area and they have multiplied extensively. The blunt tip phenomenon is not altogether dominant, as when grown under garden conditions the plants became more luxuriant and the blunt tips are not so well-defined, although in nature the plants definitely have blunt tips.

What does *Clivia gardenii*, look like? Is it a garden hybrid? Where does it come from? There are very few *Clivia Nobilis* in the Olifants Kop area now. There are more to be seen in the East London areas and I have asked a friend to find out the localities, flowering times and I will let you know.

Please let me know where I can get some *Clivia caulescens* plants or seed.

I would also like to hear from any readers who grow *cyrtanthus* species and who would be interested in exchanging plants. I was fortunate in obtaining two bulbs of *cyrtanthus epiphiticus* from the Transkei, which grows on trees and rocks in nature like *Clivia caulescens*. This is a rare *cyrtanthus* with beautiful flowers. Maybe some of your readers know more about these interesting plants. I have many other *cyrtanthus* which flower beautifully such as *cyrtanthus elatus* (George lily) and *cyrtanthus sanguineus* from East London area. All the *cyrtanthus* have instant appeal!

At a later date I will write to you about the *cyrtanthus* in our area

Best wishes
Welland Cowley

Dear Nick

Thank you very much for the seeds you sent me. I am most grateful, and I am keenly awaiting results. I saw the yellow clivia, or as it was commonly known the cream clivia more than forty years ago at my in-laws on the farm "Rockwood" some thirty kilometres from Howick in the Karkloof area of Natal. My mother-in-law Mrs. C. Strapp, had a number of plants in tins under trees, and these received no special treatment but did very well. The story I was told was that about 100 years ago an Indian woman brought one plant to Mrs. Sarah Mare of Mare Street, Howick, explaining it was a very pretty flower she found below the Howick Falls. She sold this plant for 2/6d (25 cents) to this old grandmother of Mrs. Strapp. Eventually this yellow clivia was spread amongst friends and family. The farm was later sold to a Mr. Hancock. I was told that this plant does not seed easily and if it does seed the seeds are mostly infertile or revert back to orange. Therefore pollinisation was not tried at all, the flowers were used as cut flowers. About 30 to 35 years ago Mr. Gordon Macneil visited the neighbours farm and saw these yellow clivias. He offered my mother-in-law five pounds (ten rand) a plant, and bought several plants from her. Now then five pounds was a lot of money in those days.

Unfortunately we did not realize the value of these plants. I must add that as far as I am aware no other yellow clivias were found below the falls again.

I was very fortunate to obtain a few plants from a member of the family in 1990. My plants were all in pots under shade cloth. They flower well and seed about 20%, but I must say I pollinated them every morning as the flowers open. Last year I had one seed pod containing 15 seeds.

How is that for a record! The percentage of yellow seedlings I am still awaiting as they are not at the flowering stage yet. I plant my clivias in garden compost that drains well, and I use chemical fertilizers known as No.3 30-10-10 mixed in 5 liters of water to a teaspoon of fertilizer.

I am enclosing R20 for subscription as I feel R10 is not enough. I am always looking forward to your newsletter and read this before any other postal item.

Thank you for all your hard work, and interesting information.

Best regards
Gert Wiese

Now how about that for a bit of nostalgia! Are the Karkloof yellows perhaps Howick yellows? Ed.

Dear Nick

Your letter arrived to-day, which means it took approximately three weeks to get here, Is the reverse true? It seems bad that seed would take so long to reach you.

The drought seems to have broken for the time being. January was horrendous here. Even aloes died. One thing I did notice is that last Spring things like *Buxus sempervirens* and *Euonymus* did not shoot. The buds are still there.

There was some clivia stem-rot this year, mostly in the species *Clivia miniata*. This despite the January scorcher. I wondered if it had anything to do with hot days and cold nights. With the onset of cooler weather I have noticed much root growth in the clivia. I have been doing some potting on, not as much as I would like as shaded space is limited. I can hold about 150 clivia-in-waiting in seven inch or eight inch pots, and about 100 mature proven cultivars in ten or twelve inch pots. In the background are hundreds and hundreds of seedlings which have an uncertain future on account of space problems.

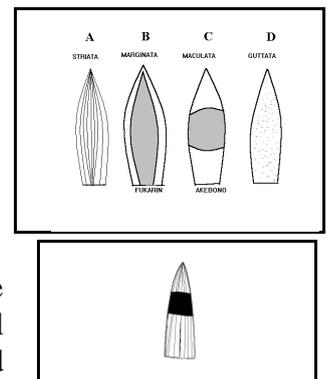
Back to the heat. Seems it was a great season for *Brunsvigia*. I had given up hope of ever seeing one in bloom for real. Last month both of my mature bulbs flowered. There they were when I returned from holidays- it rained every day I was away except for the last one, the twelfth of March. No go though with the X amarines. I suppose the bulbs are not yet large enough. At present *Haemanthus albifloss* is coming out, also *Scadoxus multiflorus* ssp. *katherinae*. This always used to flower in December but in recent years March to April.

Yes, I hope to have a good winter. I will be readying the garden for the October visit of a busload of daylily enthusiasts. The state Daylily Society runs a bus trip each year, and this year it is us (several members in the area) So I won't be bothering with a spring garden.

Kevin Walters.

Yoshikazu Nakamara has identified the above types of variegation in clivia. I have only seen types A,B, and C, the spotted one I have not yet seen. Further more, he seems to have raised a combined type, a/d, which he calls peaceful. These are clivias to look forward to. No doubt they will arrive on the scene before long.

When *Clivia* are kept as pot-plants, the importance of variegation is truly realised. For eleven months of the year an interesting leaf pattern will relieve the dark green of the normal leaf yet I feel the variegation detracts a bit from the full beauty of the flower! However, this is a personal opinion. This is a new and exciting field indeed!!



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Dear Mr. Primich

My apologies for not responding to your letter of the 15.02.94. I have a large number of bulbs which are in bags with labels, but no actual printed list. Please let me know what particular bulbs you are interested in and I will let you know if I can help.

The Karroo National Botanical Gardens, P O Box 152, Worcester, 6850, issue a price list of all the bulbs they have in stock. Have you tried them? If you are after unusual bulbs you could try R.V. Roger Ltd., The Nurseries, Pickering, North Yorkshire, YO18 7HG, UK. They issue a comprehensive catalogue. Strangely enough they do not list clivias! Mr. A.G. Rogers of the firm is greatly interested in our bulbs, and I am sure would be delighted to exchange with you.

Again grateful thanks for your offer of seeds and offsets of things from time to time. I would be delighted to receive any items from you and will reimburse you accordingly. I am enclosing an application for the yellow clivia seed. Hope I am not too late. Could you send these to me by insured post.

M.G.N.Goodwin.

P.S. Pity there is not a Cyrtanthus Club!

"Washed out" Flowers

I came across an interesting flower the other day at work. One flower in an umbel of *Clivia miniata* appeared "washed out". Taking your advice Nick, on the need for universal colour descriptions, I have purchased an RHS colour chart. I consider the normal flowers to be 30A, and the "washed out" flower to be 27C. This flower was normal except for the pale colour, that is all floral parts formed as normal. I selfed the flower and collected pollen for crossing with my yellows this coming season. The outcome should prove interesting in the second generation, with colour changes possible. I wonder if other members have come across this phenomenon of one or more washed out flowers?

Ken Smith, Australia.

The fact that Ken had quoted standard colours enabled me to see just how washed out the flower was. 30A is a vivid orange, whilst 27C is the palest of pastels. I have seen a few flowers in an umbel like this on occasions, but not in such a degree. (Ed)

Dear Nick

Thank you so much for your fine letter and the clivia newsletters. Thank you also for the clivia and scadoxus pictures. We call these (scadoxus) haemanthus in the states.

Please forgive me for being so tardy with my letters. I could find several excuses but none hold water. We appreciate your offer of joining "free" but this is not necessary. I don't know whether to send you a check, cash (U.S.) currency) or International Money Order. Our banks here charge \$5.00 to cash a

foreign check and many won't cash a foreign check at all. Our money may not be acceptable there so I guess we better go with the International Money Order that you can cash at your local post office.

We are sending you a complementary copy of our catalog of Daylilies and Louisiana Iris. We have been breeding daylilies and Louisiana iris for many (44) years. We played around with clivias off and one for all of this time too but didn't do as much work with them as we did with the daylilies and Louisiana iris. We of course have to grow clivias indoors over here and they often get overgrown by more vigorous plants in the greenhouse.

We have always had a fondness for clivia and got a few yellow seedlings and variegated clivia from a California hybridizer many years ago. We also had a few red shades as well as the orange Belgian hybrids. We live in a small town and couldn't sell clivia unless they were in bloom and couldn't get what they were really worth. Consequently, they were sometimes neglected.

We received a little national media attention about our clivia in 1992 and were able to sell most of the better things.

We managed to keep at least one offset of most of these so we will have a little stock to work with. We have now assigned a small fibreglass greenhouse exclusively to clivia and feel that they may do better under these conditions. We are trying to acquire other good lines to work with.

We ordered clivia seed (10 each of 7 crosses) from Yoshikazu Nakamura of Japan last fall. For some reason he only sent us 50 mixed, unlabelled seed. I intend to write and ask him why we didn't get the offered seed that we paid for but haven't done so yet. They were marked "cobalt treated" so perhaps we may get some mutants or polyploids. Three seed are beginning to germinate and we hope that all will come up. His pictures indicate that he has some truly beautiful and exciting seedlings. I'd really like to have any of those pictured in his brochures.

I note in your clivia club newsletter that my old friend Sir Peter Smithers of Switzerland is a member of the club. I didn't know that he was interested in clivia but since he likes most plants I should have realized that he probably liked clivia also. He has a splendid collection of nerines and magnolias.

He and I belong to The Magnolia Society, an international society made up of magnoliaphiles. He spends the winter months in Florida (USA) and attends most of the annual magnolia society meetings. He hosted one of the meetings at his home in Vico Morcote.

I served this society as president for a couple of years. It is a fine society with true international membership. We share scions and pollen and seed with members practically worldwide.

My wife, I, and my two youngest sons "try" to run a 56 acre nursery. We "try" to grow and sell over 5,000 different species and varieties of plants. Our four youngest children (we had 10) are horticulture graduates but 2 were girls and they have become housewives and mothers and don't have time for the nursery business any more.

Another group of plants that we grow and admire are crinum of which I believe some are indigenous to Africa. We would like to find a source of crinum bulbs or seed if you know of any. Two that we would really like to get are the white and yellow forms of *Crinum flaccidum*. We also need any others that may be available there.

We always have need for good red, yellow or pink clivia. I have heard of but never had seen a "white" or "near white" clivia. We have a good light yellow or cream yellow but nothing lighter than this.

Now that we again have a keen interest in clivia (always get this during bloom season) perhaps we will once more work in this direction.

Most clivia interest is centred in parts of California where clivia can be grown outdoors. Nearly all of the clivia hybridizing work is done by California hobbyists.

All clivia are more or less scarce in America. The regular orange clivia *miniata* is the most common but still mostly unknown to most American gardeners.

A few yellows and reds are sometimes available in California but still hard to obtain and usually very expensive. Salmons, pinks and pastels are beginning to show up in a few of the hybridizing programs but these are mostly impossible to purchase.

Nakamura's work seems way ahead of any work being done by American breeders. There should be good hybridizing efforts going on in South Africa since this is where they come from. There should be a better gene pool to work with in your country. If you know of any good clivia sources there please let us know. We hope to learn much more about clivia through your clivia club. We are interested in some of the species clivia and their hybrids with *Clivia miniata*. We read each issue that you have sent to us with great interest. From time to time I pick them up and read them again.

In 1983 we had a 6 degree Fahrenheit freeze and lost most of our container grown nursery plants (the roots froze in the cans). Our clivia were damaged even in the greenhouse. We had ice in shady places for 2 weeks. We had a repeat in 1989 with 5 degrees Fahrenheit.

A California clivia grower offered to trade his yellow and red clivia collection for some of our daylily cultivars. He had lost interest in clivia and wanted to get in the daylily business. Right about then my clivia interest had waned because of our plant losses from the rare cold blasts so I turned him down. Now I really wish that I had made the swap. All of his clivias were short with very broad leaves. He ended up trading with other people and now I can't get any of them.

We would like to obtain plants or seed of the three species other than the *Clivia miniata*. Same for yellows, reds and variegated plants or seed or perhaps promising crosses if you know who might have these to sell or share. If you want us to look for something for you in the states please let us know.

Guess I better end this letter. Still lots of chores to do and it's already midnight. If we owe you any more, please let us know. Let's keep in touch. Let us know of your clivia work and other interests.

Many thanks and best wishes,

Ken Durio

Dear Nick

Enclosed you will find the sum of US\$30.00. to cover the cost of the \$20 owing to you for Vol. 1 & 2 which you sent to me. The extra \$10 is for some of the Yoshikazu Nakamura seeds if still available. If you can locate any seeds of a good "red" or any which have "Citrina" blood or potential. I would also like to get some *nobilis* if at all possible. This species is never seen here, only *miniata* in variety. Mainly orange variants. This may leave you a small balance in hand which I hope you will keep towards expenses. Should you come by any other *Haemanthus* or *Veltheimia* seeds when available. I think these seeds are best when freshly gathered) Yes, we are permitted to import bulbs, but an import permit is sometimes required, and sometimes not. It all depends on the place of origin. The first step is to apply for an import permit. On this they usually type in all the "Verbotens", or attach a list of all the rules and regulations.

I live in a brick high-rise apartment building of fifteen floors, for Seniors. I am on the eighth floor facing south-west. I have lots of light (and too much heat) plus a fairly large balcony. A lot of my plants, *Crinum*, *Hippeastrum*, *Zygocactus* etc., go out on the balcony for the "summer", but they spend the winter

(September to May) indoors with me. I have a number of white plastic shelf units, like backless bookcases inside and the *Veltheimia* (alas only one) *Scadoxus multiflorus* and various *Eucomis* inhabit these shelves. Sharing along with other residents such as miniature African Violets and a miscellany of other odds and ends. Generally speaking, they all seem to do quite well in here, but watering is sometimes a chore especially in the summer.

I have a bad hip and knee on the left side, beset with chronic arthritis so at times even movement of a few yards can be quite difficult. I hope that you will keep me in mind for seeds of *Scadoxus puniceus* and *S. membranaceus* next January should your plants again so oblige. I particularly covet the hybrids of *scadoxus* "King Albert" (of Saxony), "Andromeda" (*katherinae* x *magnificus*), *Katherinae* and *Nutans* (1971). Also wanted greatly are *Veltheimia bracteata* var. *rosealba*, *capensis deasii* and *capensis*. Another item is *Eucomis regia* (winter growing) from the West, and Southwest Cape. A good white or near white form of *E. autumnalis* would be an asset too. Have you ever heard of a white *Scadoxus multiflorus*? A local bulb supplier (mostly liliiums, Cruikshanks, 1015 Mt. Pleasant Rd., Toronto MP42MI, Ontario) listed this at \$21.00 each in their Spring 1993 catalogue. I ordered three of them but they were never supplied and when I asked about them they issued me with a credit note. I could not get any information as to what happened - Crop failure, Sold out, Under supplied. Perhaps an inquiry from RSA might get better results. They did not offer this item again this year, Spring 1994, and they cannot seem to tell me wether they will be again offering it in any future catalogue.

Do you know any bulb suppliers who may be able to help me? *Cyrtanthus elatus delicatus* has been offered in the U.S. for the last two years, but only as a plant potted up and definitely no shipment to Canada. This is a policy I find quite infuriating. Most of the U.S. suppliers refuse to ship to Canada nowadays, and so do most of the growers in the U.K. Some U.S. firms even refuse to send a catalogue to Canada. Fortunately have found a U.S. supplier who collects all the Canadian orders. Then when the weather is favourable he crosses the border and ships them all direct from within Canada hence no import permit required), I am looking forward to receiving some *X amarcrinum* "Summer Maid" this year from this supplier.

Well I will hurry off now - more next time

Yours sincerely
Bill Armitage.

Visit to the Witwatersrand National Botanical Gardens: 23.04.94

PARTICIPANTS: James & Connie Abel, Nick & Roselyn Primich, Michael & Reneé Stevenson

Having enjoyed a pleasant lunch at the restaurant in the garden, the six of us set off to view the first bed of *Clivia Gardenii*.

The first thing that was very evident, was that there were two distinctly different coloured umbels of flowers. The umbels bore on the most part 18 tubular, pendulous flowers, although we did find one at the second location, which had 20. In the first instance, the flowers were deep orange (almost red) with their distinctive green tips, whilst in the other, the colour was much lighter, almost a salmon pink. Both types had their stamens extending out beyond the tips of the petals, with the stigma protruding out approximately 1mm further. The colour of the ovaries varied from completely yellow, to yellow and green, with others entirely green. The peduncle of these *Gardenii* averages 300mm in height, and again varies in colour from a light green with a pinkish tinge, through to a bronze and then a darkish brown.

Connie observed that the older the flowers on the plant, the darker the peduncle seemed to be. We also observed that the older flowers had completely lost their green tips, just prior to falling from the plant. Nick pointed out a plant that still had it's previous season's seeds on it, whilst flowering again this year.

This suggests that Gardenii will flower each year, even though it has obviously used up energy to produce seeds.

The umbels that were clear of any leaves had their 18 pendulous flowers spread out evenly from the centre, forming a uniform spread on each side of the peduncle.

We did see some plants where the umbel had all the flowers hanging more bunched and to one side of the peduncle. We did however feel that this was due to the peduncle not clearing the height of the leaves and that one of the leaves was thus forcing the flowers to the one side.

The second bed of Gardenii likewise contained the lighter and the darker coloured flower, and it was here that Nick photographed a plant with almost cream flowers. Whether they were faded by the sun, or a different colour, we could not ascertain. Both beds received in our opinion, far too much direct sun, which was definitely scorching both the flowers and the leaves.

In other sections of the garden, we found some Miniata flowering. They seemed to be all of a similar type, as the individual flowers were large with the individual petals being separated from one another. As miniata goes, not one of the more attractive types.

The walk to the waterfall and back was most enjoyable with Nick managing to spot one of the Black Eagles which are nesting on the outcrop that the falls tumble down.

All in all a most worthwhile visit.

Michael Stevenson

The First Clivia Show

To be held in the Auditorium at the National Botanical Gardens, Pretoria
17th & 18th of September 1994

Agenda

- 1 Judging. N. Primich, M. Stevenson, and W. Lötter will do the judging. There will be Certificates for Best on Show, Best in each Species, and best Hybrid. 8.00am to 9.00am.
- 2 AGM. As this is the inaugural AGM the main function will be to elect office bearers, and name the association. A constitution will be drawn up by the present show committee, and sent out to all members well before the show so that objections, suggestions, nominations, and proposals can be sent in by overseas members. It is not at this stage foreseen that the meeting should exceed an hour in length, and it is intended that it should commence at 9.00am, 17.09.94.
- 3 Flower Show and Sale of Plants. This is the soul of the whole affair. Flowers will be on display in a separate area to other functions from 8.00am to 5.00pm on Saturday, and may not be removed until 5.00pm. Plants will be on sale throughout in a separate area from other functions. The Club will sell plants, and individuals will be able to sell plants with a 15% donation to the Club. 8.00am to 5.00pm. 17.09.94.
- 4 Talks. A list of possible speakers has been drawn up, and some have confirmed, whilst others are still in the process. Some papers will be read in absentia. The entrance fee will include Lunch, teas, and a complete set of papers printed and lightly bound, and these will also be on sale to outsiders and future members after the readings. It is envisaged that the Talks could take up to three hours. 10.00am to 12.00pm, 17.09.94

- 5 Photographic Exhibits are called for from all members, local and overseas. The size of the photograph should be a minimum of 120mm x 90mm. The entrants name and a descriptive passage must be on the back of each and every print. Slides will not be suitable. The Photographic display will be against the walls in the Auditorium. There will be no entry fee, and the photographs will become the property of the Club.
- 6 Garden Visits. There will be three or four splendid gardens selected. These will be by arrangement, and regulated according to demand. Sunday, 18.09.94.
- 7 Farewell Braai. After the garden visits a braai will be arranged.
- 8 Costs. Talks, R50.00 per person
 Flower exhibits, R10.00 per person
 Braai, R15.00 per person
- 9 Admittance will be on a first come first in basis. Applications to be accompanied by fees.

There is not a great deal of room left, as I have standardised on the twelve page format for postage reasons. We are working hard on the groundwork for the show, and hope you will all be able to benefit thereby. We have already completed a few pages of the next newsletter, and as you have probably guessed, there will be an increase in subscriptions for RSA members next year. I am hoping to keep the overseas price stable, but that will be for the new committee to decide. Please at least send a photograph or two. This is your Club and you must support it!

In our next newsletter, we are going to start talking shadehouses etc. Mostly on a DIY level. James wants to start on a species-in-the wild mapping scheme. I hope he gets a better response than I, or Piet Vorster did!

We held our meeting on 21.05.94 at Meg Hart's house, and those of you who could have come and did not, certainly missed an eyeful of old world grace and charm to be found in her lovely house and garden. It was not too much trouble for Henry Sim to ride in some 200 km from Kroonstad. Such enthusiasm is to be commended, and our Show Chairman has awarded him a certificate of merit as being the first non-Transvaaler to attend a meeting. The Abel's and Mrs. Haxton donated plants for raffle which raised R150.00.

The next Club meeting will be on the 13.08.94 at the home of the Abels. MAYCAT!

N. Primich (ed)

On The Compost Heap

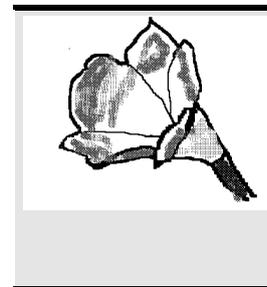
My Friends

Forgive me for quoting Virgil to you last time. It translates roughly as "happy is he who is able to discover the causes of things." It is of course the diligent pursuit of information that builds knowledge. How is it that caterpillars of my genus are able to detect amaryllidaceae without fail? Our genes are structured so. The knowledge is woven into the web of tissue structure, and the appetite does the rest. We are not exactly born with a silver spoon in the mouth, but certainly some amaryllid or other. We put our faith in Mother! L.B.



Clivia
Club

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Volume 3 Number Six July 1994

GARDENII IN NATAL

The Clivia Clan consisting of Nick, Roselyn, Connie, James (two of), Adrie, Lien, Michael, Rene and Brenda left the Transvaal early on a Friday morning, to meet for lunch at the Pietermaritzburg Botanic Gardens. Jointed by Pat and Bobby from Hilton, Brian Tarr showed us the several large beds of *C gardenii* which were in full bloom. He also described the experiences that the Gardens staff have had with planting and mulching, recommending the potting of clivias in several inches of leaf mould over coarse gravel or broken bricks for drainage.

Saturday morning took us to Greytown to meet Rob Murray, farmer and ex Natal Parks Board ranger. He had heard of *gardenii* growing in a narrow valley near Kranskop and led the hunt to find them. This was successful and several dozen, some in flower, were seen. Of particular interest were two specimens growing epiphytically on trees two meters above the ground (photographs will be exhibited at the September show). Rob found about a dozen plants beside the road which had been removed by the local people for home medicine, which accounts for the sparseness of the remaining plants.

Saturday afternoon was spent at the private Fern Valley Botanic Gardens at Hillcrest. An immaculate garden of thirty acres has been established under towering indigenous trees, with extensive lawns and masses of rhododendrons, staghorn ferns, bromeliads, orchids and many others. Several different clivia forms were seen, including numerous *gardenii* which verge on being considered a weed as they establish themselves where they are not planned to be (seed dispersal by birds?)

Sunday morning was spent with Geoff Nichols at the Durban Botanic Gardens. Not many clivia were seen as the climate is considered to be too hot (a cool winter seems necessary for flower initiation), and of these a number had been assaulted by *amaryllis* caterpillar. As with the two previous botanic gardens, clivias were not the only plants of interest, and the wide range of indigenous and exotic plants as well as the enthusiasm of the staff make them all a pleasure to visit.

Brian and Geoff were able to contribute to the club mapping project by identifying those areas in Natal and the Eastern Cape where they personally have seen the various species in their natural habitats. We had been joined in Durban by Des Anderson, a life-long enthusiast from Pietermaritzburg, and his home was visited on the way home to the cold Transvaal. His extensive collection included a *miniata* plant which had two large seed pods suspended from the umbel by 24 cm stalks. Members are urged to send in photographs of all such rare deviations from normal growth forms.

Clivias are wonderful plants - they fill the background with greenery, send out lovely flowers for those who have had the patience to wait for years, grow like weeds in favourable conditions and sulk when not treated well; but most of all they carry with them mysteries - what are the species differences or are they sub-species - how is colour inherited - how should they be grown - how - how - how? I wish all clivia enthusiasts fun and frustration in sorting them out.

Brenda Louw

Dear Nick

I was fortunate enough, by fluke rather than design, to flower a yellow clivia from my own seedling last year. At least I knew its parentage and a good percentage of younger seedlings from the same parent promise to have the same result as they have no pigment in their bases. (The parent was an orange plant)

Naturally I am now anxious to multiply this success vegetatively - also for plants which I acquired from Mrs. Giddy and some years ago which should flower this year.

All these plants are in pots. In an article published in the Natal Gardener of July 1992 which you sent me with back copies of the Clivia Club Journal, Mrs. Giddy writes that "clivias that have a free root run and are fed generously will off-set freely. As soon as these plantlets have three leaves of 20-25 cm detach them and grow them on their own. They will usually flower within a year or two".

My own seedlings are in pots. The one which flowered yellow last year has no off-set as yet, despite "generous" feeding. Mrs. Giddy's plants have been kept in pots from the inception, but Mrs. McNeil's plant was planted in open ground and only potted up last year to ensure more controlled care. When lifted it has two off-sets which I have not yet detached.

Could you please advise me whether the absence of a "free root run" in pots in fact inhibits the production of off-sets and if so, how to encourage the production of off-sets in potted plants.

Secondly, when is the best time to detach off-sets without inhibiting flower production or damaging seed maturation?

I have orange miniatas with a wide variety of leaf types which flower August/October and some January/April in open ground and should like to pass on a tip on storing pollen given to me last year by John Winter of Kirstenbosch. If frozen, pollen keeps indefinitely and the plastic ampoules used by chemists for drugs are ideal storage containers provided that you remember that they are intended to be soluble. You can apply the pollen frozen and return the container with the unused pollen to the freezer for later use. Six months old frozen pollen from a yellow parent has set virtually full heads of seed on plants in the ground which flowered January/April this year.

Yours sincerely,
Mike Dower

Dear Nick

I have just received Vol.3 No.4, with all the answers to Roger Harrison,s questions. I feel that to most readers, lack of experience, particularly in breeding or attempting to identify species etc., etc. probably makes understanding all these diverse comments very very difficult.

So I have gone through them again and attempted to make a synthesis of them. I realise that this is coloured by my own opinions, but I hope it might be of more use to your general readers.

FURTHER COMMENT ON THE ROGER HARRISON SAGA BY BILL MORRIS.

READ IN CONJUNCTION WITH QUESTIONS IN VOL.3 NO.4

- 1) Colour changes do occur but may be more controlled by temperature and light than ph although ph may have some effect.
- 2) Some growers have experimented with colchicine (but none extensively). So far no obvious results. For identifying possible polyploids, examination of leaf stomata size could be tried, as it is much easier to determine that actual chromosome count. Any suspect plants (i.e. markedly larger stomata) could then have chromosome counts done.
- 3) Zimmerman's plants apparently sold and dispersed.
- 4) Bodnant breeding - information missing.
- 5) Haemanthus like clivia (leaves) information missing.
- 6) White clivias. Question still open. Are any of the known whites (Blackbeard, Sahin, Yoshikazu, Walters etc) really white? I suspect they are just near white (very pale yellows).
- 7) Demeteri. This seems to have simply been a good margin variegated clivia which fairly faithfully reproduced the variegation in offsets. There is no information to suggest it reproduced from seed or produced variegated seedlings. Due to the large number of variegated seedlings now being produced similar plants should appear.
- 8) Cyrtanthiflora hybrids (originally Les Hannibal) Question answered by correspondents.
- 9) Intergeneric clivia hybrids. General opinion was that the original breeders claims were erroneous. Probably based on the assumption that seed formed following the application of foreign pollen was automatically intergeneric hybrid seed whereas in actuality it was simply clivia (selfed or parthenogenetic) seed.
- 10) Question answered by correspondent.
- 11) General opinion is that aspirin doesn't control or cure virus infection.
- 12) Question answered by correspondent.
- 13) *C. gardenii retusa* is probably a *nobilis*. Caulescens type root system is probably an adventitious aerial root system produced under some environmental conditions? (high moisture content, in habitat? in glass houses?)
- 14) Question answered by correspondent.
- 15) General opinion in Australia (by Australian breeders) is that yellow behaves as a simple mendelian recessive. That is yellow x yellow gives 100% yellow (yellow x orange) x yellow gives 50% yellow. Yellow seedlings can be picked out following germination by total absence of purple pigment in first and early leaves. The African yellows appear to behave differently and from percentages quoted does not behave as a simple mendelian inheritance.
- 16) Variegation. There are a number of kinds of variegation: marginated, striated etc. All can be obtained from seed or by mutation in an offset. What is wanted (or most "good" appreciated) is a personal matter.

Oddity, some interesting results but insufficient data to make firm conclusions. A number of possible solutions suggested by correspondents.

Bill Morris

Clivia Club Constitution

The committee will be elected at the first AGM.. The voting will be by a show of hands. Proxy votes will be registered with the Show Chairman, who will preside over the meeting. There will be elected a minimum of one Chairman, one Secretary, one Treasurer, one Editor.

The committee will hold office for a year, and will call for a further election at the next AGM. Office-bearers will be able to stand for re-election.

One person may hold two offices, except the Chairman who shall have a casting vote. All decisions will be by simple majority. The Committee will be able to make temporary rules which will be endorsed at the next AGM..

Anyone may become a member upon payment of the prescribed fee. The Committee shall decide upon the fees from time to time. A member who is three months behind in his payments is no longer in good standing. The Committee may eject any member who brings the Club into ill-repute. A member must pay the annual fee when he or she joins. This will entitle them to the newsletters for that whole year. The Clivia Club year will coincide with the calendar year. All members shall endeavour to further the interests of the Clivia Club.

The Clivia Club wishes to further the cause of Clivia species and hybrids. The Clivia Club will advertise free, or for a prescribed fee decided by the committee, any person who sells or wishes to distribute Clivia and allied plants. The Clivia Club will assist in the sale and distribution of seed internationally.

The Clivia Club will hold an annual flower Show, and a conference every four years, or however often it becomes necessary.

The Committee will look into the registration of hybrids. They will nominate representatives in various countries to help regulate this matter. They will attempt to make a register.

Clivia Club members will always try to assist other members. Unwanted, or excess plants or seed should be handed over to the Club for redistribution. All members must acquaint themselves with the constitution and feel happy that they can comply with it. The laws of the Nature Conservation Departments must be carefully observed.

Dear Members,

I have not given you a good ear-bashing for a long time, and there are many exciting things happening in the Clivia world right now, so here goes. We lost many members last year for whatever reasons, but we have gained many new ones. I imagine that we lose the members because they feel they do not gain any benefit from being a member, but as most of those members made no contribution in that year, that is a two-edged sword. It is of no use having a member if they do not derive some benefit or interest from reading our correspondence. True, some of us feel that we know so little, or have no experience therefore we do not write. But if we take note of what we read and apply some of the advice given we will surely learn and benefit. One Fine Day we will pick up a pen and send in an observation or two that will also help or benefit, or reassure someone else out there.

The black frost that blew through South Africa at the end of June did not do our show any favours. Along with some of our other prospective entrants, I found many of the prize plants wilted the next morning. However, all is not lost, and we will just have to make do with what is left and get on with it. The organisation for the show is well under way, and we are awaiting your entrance fees for the various sections. Where are the photographs from the overseas members? I only have one entrant to date.

Brenda Louw, a new and young member has given a competent account of our visit to the Natal gardenii last month. It is good to get in young members, it makes one feel so much better about the future. The visit to Mr. Wriggal's Fern Valley Private Botanical Garden in Hillcrest was something else. This must surely be the greatest single contribution to gardening in South Africa. I was absolutely astonished to see what

had been achieved, and I had never heard about it before! I have seen a couple of other private botanical gardens, but nothing on this scale. Mr. Wriggal is a friend of Yoshikazu Nakamura, and showed us some fine examples of the Japanese influence on clivia. He was also able to solve the problem some of us had with identifying the little seedling bulb with the yellow stripe that Meg Hart had given some of us. Hippeastrum reticulatum var. striatifolium. He had one that had unfortunately for us, just flowered and we could only see the faded bloom.

There is a new list of current members. It would be nice if everyone's phone number was on it. Please check, and let me have your number, overseas people as well. Imagine if I wanted to phone you up to come and collect your special yellow award?? Jokes aside, one often travels, and if in travelling one passed through an area where members resided, one could always phone up and see if it was auspicious to have a quick confab about Clivia.

It is good to have two, rather than no letters from Bill Morris. We have not heard from him for a while. Les Hannibal has some sensible comments as usual, but I can't always agree with him about keeping ugly ducklings. With the tendency of Clivia to give diverse, rather than repetitive progeny, I would want to eliminate all unpleasant deviants from my grex.

I ask you to bear with me and wait another issue (How long is that with a show coming up?) for the beginnings of articles on shadehouses etc.

You will find the rough draft of our new constitution here. Please read through it and send in any suggestions that may occur to you. This will be voted in at the meeting in September. Nominations or motions may also be sent in by paid up members. Owing to the strictures of a largely correspondence club, we will waive the normal requirements that such things should be seconded.

The entry to the talks at the show will be strictly on a first come first serve basis. Those of you who have already sent your money in will have received a letter acknowledging this. This letter must be presented at the gate and exchanged for your ticket which will cover your entry, teas and meals etc. Anyone who has sent in fees but has not had acknowledgement should contact me (N Primich (011) 766-2776).

Dear Nick

Thank you for the welcome seed. Here is a new line in yellows for me, some Jim Holmes material.(Aurea x Jim Holmes yellow.)

Last week John Roper sent me 50-60 seed, part of an order from RSA. I have yet to hear of the seeds background. John posted them just before rushing off on a jaunt to Sydney. I was in Sydney last month and went to the Botanic Gardens expecting to see hundreds of C. gardenii in flower, but only saw a few. Also a few miniata out of season, but hundreds of plants. It must be incredible there in Spring.

Mr. Nakamura has sent another album of photos. Lots of "oddities". Doubles, variegated florets, "picotees", etc..I love the ones with rounded umbels of cylindrical flowers. There is one with a white midrib to the outer tepals and on the inner tepals what we call a watermark in daylilies. Did you receive this album too?

The garden is rather drear at present, although we have not had any really cold weather except for a few days the first week of April. This may have confused the Chinese Snowball as the weather rapidly warmed up - it is now flowering madly, and I wonder if there will be any buds left for Spring. I hope so, as it is something to see in Spring.

Did I tell you the heat-wave in January killed off over half my alstroemarias? This included a tray of around thirty seedlings in Clivia house No.2. This was a shock. I guess they just cooked whether in pots or in the ground. I am noting other losses too - Rheums & Michaelmas Daisies. The climate is probably not suitable for Rheums as they didn't make much progress in the two years here, and now they are gone. I said above that the garden is rather drear. One bright note is that Aloe thraskii is out at present. When the northern end of the front garden is renovated soon I'll plant an Aloe marlothii there. It is my favourite of those I have grown. The only other one I have is A. littoralis which hasn't flowered yet. My first garden is quite large in my mind but when it comes to finding places for all the plants I want to put in the new section well it's hopeless. I have 20 plus Daylilies waiting in the wings to go somewhere. Still slowly working towards that last Sunday in October when the Daylily bus-trippers will arrive.

I'll suggest to Ron to consult the experts regarding stem-rot. He is technically inclined and has all the right connections. He is experimenting with Neem at present. I am glad I don't get Amaryllis borer here. Mealy bug is enough for me!

Yes, I am a Daylily fan but not as devout as others. A few close garden friends have them as a top priority. I guess it was a natural extension of an interest in bulbous type plants. I love the shows - one local and the big one in Brisbane, but I am really not a meeting person, but do go to Daylily meetings to see friends. I tried some crossings without achieving much. One needs time and space. It is already a battle for space in the sun for Daylilies and Belladonnas. All the shade is for Clivia and shade is on the increase, thank heavens. Les Hannibal arranged for Roger Croker (a late noted breeder of miniature Daylilies) to send a heap of seed over. I had to share it. I have some good ones from the seed. A friend got a really good one- it has been registered in the U.S. as "Dalheith Hilda". Daylilies are the opposite of Clivia - all the ones you grow really need a name. I won't load you with newspaper cuttings this time- just one insert from the local paper featuring our Ron and a snippet from the Queensland Bromeliad Society newsletter about a trip to over there. You'll have to grow more Bromeliads!!

Best wishes

Kevin

P.S. what does Maycat mean?

May All Your Clivias Always Thrive! The Queensland Bromeliad newsletter carried a line about a trip to RSA to attend a succulent show. It was one long complaint about the shortage of Bromeliads over here! Ed.

Dear Nick

Thank you very much for the yellow seed. I'm not sure If I told you about my results with Jim Holmes' yellows. First he sent me pollen from his good yellow (?) about 18 months ago. I used it on my yellows and the offspring were mainly yellow but about 10% non yellow.

This percentage is hard to explain! Then last year he sent me yellow seed. He said it should give 100% yellow. It didn't. Again it gave mainly yellow but a couple were not yellow. Again about 90% - 10% Definitely strange!

None of the yellows I have used in Aust. (i.e. my own, Kevin Walters, so called aurea, Ken's Pitmans yellow) have given anything but 100% yellow. Yet the South African plants keep producing some non yellow. Why? The orange plants that keep appearing must have recessive orange in the parents. Yet normally the yellow is recessive, not orange. Your seeds seem early. Mine haven't coloured yet. Jim H. said his yellows were early flowerers (Sept) Did you collect the seeds before they were coloured? Hope everything goes O.K. following the elections.

Best wishes

Bill

Comments on Reviewing Roger Harrison's Saga.

It is apparent that many Clivia collectors dispose of or sell their F-1 ugly ducklings without further breeding, despite the choice parental features which may be involved. This is unfortunate as such features may be recessive, like yellow or broad petals. Such may turn up in the second generation on selfing or backcrossing. Actually, yellow is an absence of orange pigment. It is present in most Clivia, so correctly the absence of orange is recessive which makes yellow apparent. Anyhow, the selfing of a yellow x orange hybrid should result in 25% of the seedlings being yellow, and 50% having one chromosome set with yellow. Or if you backcross with the yellow parent which may be self sterile, about 50% of the seedlings will be yellow. That's a simple Mendelian pattern. But, if your choice plant has broad petals like some of my yellow x striata, then on selfing this F-1 you have one chance in sixteen of obtaining a broad-petalled yellow, or four on backcrossing. This, obviously, is contingent upon the colour gene and the broad petal gene being on different chromosomes --- In other words, not linked, which is one chance in eleven. So backcrossing may have an advantage unless broad petals are recessive. And I am not sure if broad petals are associated with the striata foliage, but I do know broad petals and broad foliage have a general relationship.

So I strongly suggest selfing those ugly ducklings in case some of the recessive features may show up. If you have difficulty with different flowering periods then store the pollen in a cool dry location. It will remain active for some months. Use it when the weather is cool and the stigmas are moist.

Whether Mendel's theories on hybrids will apply to Clivia x Cryptostephanus crossings is questionable. This is a wide cross and I would not expect most chromosomes to pair up. Catenation may occur. Backcrossing the hybrids may result in some seedlings, but this remains to be seen.

Gordon McNeil was a grand old man who loved his garden and hoped to leave some hybrids for posterity. But local moths and other insects spread pollens far more effectively than he or his garden help. Several of his "hybrids" were non hybrids, merely selfs, but still interesting additions to my garden. One can never have enough variants on hand to try for intraspecific hybrids. Several of us were interested in preserving Gordon's home and garden as a national heritage, but that suggestion fell on deaf ears.

And apparently all are not aware that Charley Puddle passed on several years back. He was a true gardener and was always interested in new hybrids. His hybrid Tritonias are a real delight. Their colour diversity is quite striking. Right now, May first, I have a beautiful pale yellow form in bloom.

Sincerely
Les Hannibal

Comments on Clivia in China

Dr. Hammett has sent the following cutting from the Auckland District Council of the Royal New Zealand Institute of Horticulture's Newsletter March 1987:-

"Once again returning to China: news item concerning Clivia miniata appeared in the Hong Kong press. The Director of the Changchun Agricultural Bank was given a life sentence and fellow conspirators given gaol and others suspended sentences when they were found guilty of embezzling \$6,700 (25,000 yuan) in bank loans in 1984 and \$8,600 (32,000 yuan) in 1985 from State Treasury funds to purchase and corner the market in Clivia miniata. It was known as the "greenscandal" the bulbs being bought from Chunlian Horticultural Gardens. Prices soared from a few hundred up to several thousands per pot in Changchun and other N.E. Provinces and cities!

The report did not say if the plants were wanted for ornamental, medicinal, or food purposes; or why they are such a desirable acquisition.

Dear Mr. Primich

I am writing to apply for membership of the Clivia Club. Your name and address was given to me by Mrs. Lien Joubert of Settlers district, not far from out home. She also showed me the article in your latest newsletter by Mr. G.J. Wiese about the cream coloured clivias from Natal.

Mr. Wiese is married to my sister, and Mrs. C. Strapp, mentioned in the article was my late mother. I also have cream Clivias from the farm which belonged to my late parents, in the Karkloof district in Natal.

At present I have about eighteen plants, about half of which flower in season. The balance are still maturing. These have all been propagated by breaking up of the original clump. I am keen to increase my stock by this method from time to time, as the plants increase, and also by planting seeds. I have not tried this until now. Could you please send me some information about other members who may have seed for sale. I would also like to know the recommended way of planting seeds etc. for these plants.

I enclose R10.00 for membership fees, I trust this is the correct amount. I look forward to hearing from you. Is it possible to send me some or all of the back issues of your newsletter? I enclose a photo of my original clump taken some years ago.

Regards
Bransom W. Strapp.

ON THE COMPOST HEAP

In these cold winter days when Black Frosts and Snow can take a caterpillar by surprise, it is best to be tucked up in one's chrysalid. Whilst there one can ponder what glorious feasts this hibernation is conjuring up in the heart of the Clivia.

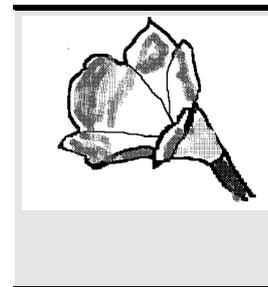
These cold heartless days of Winter will soon give way to the vibrant life of Spring, and bring forth that unparalleled splendor that we all rave about:- Clivia miniata.

Lily Borer



Clivia
Club

P O Box 6240 Westgate 1734 RSA



\$10.00 p.a. overseas

R10.00 p.a. RSA

Volume 3 Number Seven Sept 1994

A HYBRID BY ANY OTHER NAME

Dear Nick

As you continue to ask for contributions for the Newsletter, I thought I would write to put forward a question that has bothered me for some time, namely; "Are the present day improved strains of *Clivia miniata*, hybrids or simply selection within the species?".

A hybrid by most definitions (e.g. RHS Dictionary of Gardening and many others) is a plant produced by crossing two species or any further crossing involving more than one species in the ancestry. In other words a hybrid is a plant containing genetic material originally derived from more than one species.

Many (? most) garden plants are hybrids. However many others have been produced by selection of improved (subjective) kinds from each generation until markedly different style of plant is produced. However if no other genetic material has been introduced (by chance or otherwise) then these new types are still technically the same species and not hybrids.

Now coming back to *Clivia miniata*. Without quoting references one can read in many articles statements that such and such a strain, or somebody crossed, *miniata* with *nobilis* (= *C* x *cyrtanthiflora*) or *miniata* x *cyrtanthiflora* and crossed the offspring etc. back to *miniata* to produce improved forms (i.e. hybrids) of *C. miniata*.

I find this hard to believe. If one looks at the illustration of *C. miniata* in the original description (Curtis Bot. Magazine + 4783 1854) one observes quite a beautiful flower. A much better flower than our (Australian) common *miniata* and quite comparable to many of the flowers one can raise in a batch of the modern strains.

When I look at this flower I can't help asking myself why would anyone cross this flower with the small pendant flowers of *C. nobilis* in an attempt to produce "better" *C. miniatas*. The offspring of this cross *C. x cyrtanthiflora* certainly supports this contention. Anyone seeing it would surely say "we've gone backwards". Even more now I cannot see anyone wanting to backcross it (*cyrtanthiflora*) to *miniata* as well as small tubular flowers (*nobilis* and *cyrtanthiflora*) all these flowers are in a pendulous head which bears no resemblance to the upright outward facing flowers of *C. miniata*.

In Nicholson's Dictionary of Gardening (1884 - 1888) an illustration of *cyrtanthiflorum* (as *Imantophyllum cyrtanthiflorum*) occurs and the description says "a supposed hybrid between *miniatum* and *nobilis*" while under *I. miniatum* it says "there are several hybrids which are very attractive." Since the only described hybrid (*cyrtanthiflora*) is described as a "supposed" hybrid it suggests to me that the "hybrids" under *miniatum* simply refer to selected seed raise forms of *miniata*. By the time of the Century Supplement to the dictionary (1901) there is a large list of names "varieties" (no longer "hybrids").

As *cyrtanthiflora* was first described in 1869 (in Belgium) it is difficult to believe that so many new (presumably "improved") varieties" of *miniata* could have been obtained from *cyrtanthiflora*, (which was

already a retrograde step as an "improved" *miniata*) by 1901.

In Australia where a similar origin is claimed for Cowlshaw's hybrids we are becoming aware that there are obvious problems with identification of *miniata* and *nobilis*. Our common "*miniata*" is a poorer flower (my opinion) than the type illustration. What we call *nobilis* is not the plant illustrated in the Bot. Mag in 1823 (Bot. Mag. 2856). *Clivias* had been grown in Australia for many years (? 70 years) before Cowlshaw commenced breeding in the 1930's. What *miniata* did he use? Even if he pollinated the flowers with "*nobilis*" pollen, did it take? If our "*nobilis*" is a *cyrtanthiflora* x *nobilis* or even a later generation of *cyrtanthiflora* it may not have been the male parent. Foreign pollen may stimulate selfing of *miniata* (see the so called *agapanthus*, *hippeastrum* etc. hybrids reported, all of which had *clivia* as the female parent and all of which produced only maternal type offspring). Where are the pendant type flower heads one would expect to find, even as a low percentage, in strains with *nobilis* in their background?

I believe (conclude), until someone can produce some real evidence for *nobilis* involvement in our modern *clivia miniata* strains, that progress in their development has been by intraspecific selection and not by interspecific hybridisation.

Regards
BILL MORIS

Like a Phoenix from the Ashes

Dear Nick

Yes, I am still alive and well and have as great an interest in *Clivia* as ever. However, time is a great problem but life is a little easier and it is only a few years till I retire and can really spend time with them. I should be delighted to do anything I can to compile a register as a lot of nonsense is spoken - mostly by charming, well meaning people - including me! Do I remember that the American Plant Life Society is the international registering body? Perhaps they could give us a list for starters? If anyone can get hold of the joint RHS/Dutch colour chart, it is worth the price and avoids a lot of confusion.

You have raised a couple of items in recent issues concerning my plants and I thought an update might be of interest. Firstly, *Colchicine*. I treated some seed with a gentle brushing and also soaked some overnight. Pretty drastic. All germinated and the only noticeable effect to date has been slow growth. The plants are all quite healthy and of normal appearance, all be it small, but should have flowered about five year ago. Intergeneric crossing? I believe that when seed is produced by a reputable Belgian nursery and matching their true parent. *Cliveucharis* as produced by a reputable Belgian nursery and *Clibrans*, who used to be in business near here, are also credited with a intergeneric cross. Did they ever flower? Gordon McNeil valiantly attempted many crosses many of which, I am sure he would have agreed, were wishful thinking. However, I do have a photograph he sent me of a seedling which, upon transplanting, had numerous fibrous roots in addition to the usual fleshy ones., is any interest still taken in such things at his old nursery? I believe he gave Earl Murphy a number of interesting plants to take to the States - what happened when they flowered I wonder?

I enclose pictures of *C.N. Retusa* for everyone I hope. Don't let membership; increase too much! Also some scrap prints which might interest your meeting in September. Attached is a tracing of the *Retusa* leaf. It is by far the coarsest I have come across.

C.M. Cynthia with its split pedicel reproduces quite well from offsets and these also have this feature. It is present at each flowering. I have trouble setting seed at first as it would not self or set seed to a yellow. I now have several plants maturing and due to flower shortly (*Cynthia a nobilis* - I think not)

C. Caulescens is distinctive for its root system. For those not familiar with it, it looks rather like a Brussels

sprout at the base as it extends with age as leaves drop. It then forms aerial roots from the leaf position with a plant equivalent to C.N. on top. The stem can extend to several feet. I have a series of crosses with other C. to see if this feature is dominant or recessive.

If anyone was going to develop Striata, it was always going to be the Japanese. I can't wait to see Mr. Nakamura's specimens. It seems like he designs to order! I would like a variegated, white, Gardenii for Xmas, please. Scented, of course.

Very best of luck in September, I hope to make the pilgrimage one day.

Ian Coates

PILGRIMAGE

Dr. Keith Hammett
Auckland, New Zealand.

In September 1993 I attended the International Chrysanthemum and Dahlia show held in Toronto Canada. This show is held every five years and provides the opportunity for British, American and Canadian growers to compare their blooms. As New Zealand is a small isolated country, there is a tendency when planning a trip to feel that one should try and achieve as much as possible while away, so I decided to come home via Holland, Denmark, Britain, Japan and Australia. Each country was selected so that I could visit specific people to discuss specific plants. The main reason for going to Japan was to visit Yoshikazu Nakamura and for Australia it was to visit Kevin Walters and other enthusiasts in the Toowoomba region.

When in Britain, even on a fleeting visit, I always find time to visit the Royal Horticultural Society Gardens at Wisley. This time I made a point of determining the extent of the Clivia collection held there. Although no Clivia plants were in flower, I was able to speak with Ray Waite, who is in charge of the greenhouses. The collection includes accessions of *C. caulescens*, *C. gardenii* and *C. nobilis* in addition to a range of *C. miniata* forms. The latter includes a variegated form and a yellow-flowered plant. This was obtained from Leeds Parks Department who had acquired it from someone who had set out to breed a white-flowered Clivia, but had instead only succeeded in producing improved yellows!

The name Yoshikazu Nakamura is already well known in Clivia circles, not only is he recognised as holding the largest single collection of Clivia germ plasm in the world, he is also renowned for his genuine love of the plant and his generosity. His collection started as a hobby some 15 years ago and has now become his source of livelihood. Although his family has a background in horticulture and his father, Chu Nakamura, is a well respected breeder of a number of plants including Iresine, Jasmine and some Japanese nature plants.

Yoshikazu did not immediately become a nurseryman. Instead he worked for a number of years in the soft drink business. Yoshikazu has two nursery sites, one at Togane and another at Mobarra. It was at Mobarra that he became associated with Isamu Miyake who runs a well established and outstanding nursery dealing in high quality exotic plants. It was Miyake who introduced Yoshikazu to the late Dr. Hirao. Subsequently Yoshikazu acquired Hirao's Clivia collection which together with acquisitions from other leading Japanese breeders formed the basis of Nakamura's Clivia Breeding Plantation and his wish "to breed every possible type of Clivia".

Although, as in England, plants were not in flower, I was simply overwhelmed by the diversity of Yoshikazu's collection. Leaves ranged from very narrow to being as broad as they were long. I was able to view first hand the different forms of variegation and to learn those characteristics which are highly esteemed by the Japanese. I was also able to see authentic specimens of *C. nobilis* and *C. caulescens*. With

his customary generosity Yoshikazu quickly amassed a small collection of plants for me to bring back to New Zealand. Knowing that I was to travel to New Zealand via Australia, a country with strict quarantine restrictions, this presented me with some logistical problems, but experience has taught me to take opportunities as they arise. The plants are now safely out of quarantine and are thriving here in Auckland.

To appreciate fully all that Yoshikazu has done and is doing would require a much longer visit, preferably during the flowering season. However, the diversity and sheer numbers of plants could not fail to impress. Nakamura is a young man, perhaps in his early forties, who has set himself clear goals. I feel sure that with his considerable Clivia gene pool and boundless energy he will continue to make a major impact on the development of the genus.

I left Chiba at dusk in late autumn and flew overnight to Brisbane, Australia. It felt strange to arrive early morning in late spring. I was met by nurseryman Bob Pearce, who took me to Toowoomba to meet Kevin Walters and fellow Clivia enthusiasts Ron May and Gordon Julian. The contrast between the seasons, the countries and the perception of the plant were brought into stark relief by being able to view them back to back.

Toowoomba is a garden city, where recreational horticulture is important. Many plants are grown in a favourable climate and different plants are exhibited at different times of the year. At Kevin's home I found a good collection, grown and displayed to a very high standard. It was interesting to observe that, in isolation, local growers have developed a clearly recognisable exhibition plant in the absence of any formal guidelines.

Despite evidence of a selection process I observed sufficient variation between plants to contemplate the establishment of a classification system which would allow development in different directions. Such a classification could easily encompass form of flower, size of flower, inflorescence and pigmentation.

This opportunistic pilgrimage to look at some of the Clivia material in cultivation, convinces me that there is enormous potential to develop many additional forms of an already very attractive plant. At the same time I feel the need and look forward to seeing Clivias growing in their natural habitat.

Dear Nick

I recently purchased a variegated clivia here in the U.S. Along with the plant I was fortunate enough to receive a copy of the Clivia Club newsletter. I would like very much to join and receive your wonderful newsletter. I was unable to discover how much an international subscription would be so I have decided to send US\$15.00. My hope is that this will be more than the subscription cost. If it is not please contact me and I will send the remaining amount. If, as I hope, it is more than enough, I would like to request any clivia seed that may be available and/or back issues of the newsletter.

I was also wondering if you could tell me if an Alba form of any Clivia occurs? Thank you very much for your time, and I hope to hear from you soon.

Gerrit Tichelaar, Laguna Flora
San Francisco

Dear Mr. Primich

Thank you very much for the back numbers. I do find them extremely interesting although I am very much a "beginning" member. Bobbie Maxwell and I enjoyed our break with the Transvaal "Cliviers", enormously, and are taking a new look at the whole issue.

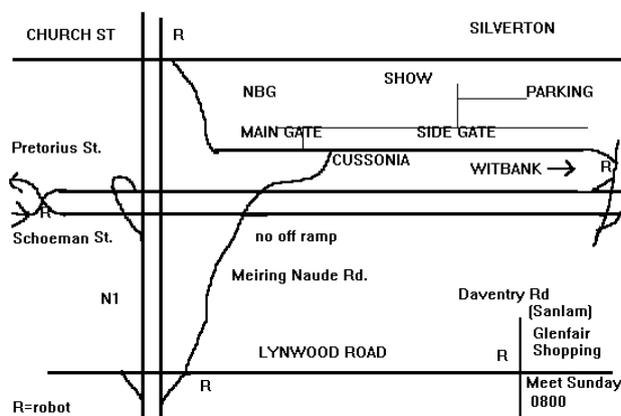
My daughter phoned the other day to say that she had just heard a radio talk on the medicinal properties of clivias. She thought it was given by a Miss/Mrs. Veal of Wits University. Have you perhaps heard anything of that angle?

Please convey my thanks to James for including us in the outing last month, and thank you for all your hard work on the journal. I hope your show goes well. and regards to your wife.

Sincerely
Pat Quin

Exhibitors at the Clivia show, please note the following:

All plants to be benched prior to 7.45am. All plants to be clearly labelled as to owner and show not for sale or for sale and price required. Please have a list ready of your plants for sale, separate to your plants for show. Although the committee and its helpers will take all possible care with your plants, they cannot be held liable for any loss or damage that may occur. All plants must be removed at 17.00 pm, and before 17.30pm. Cheques will be posted to the owners of plants which have been sold. The Club is taking 15% of the sale price .



- 0700 Receiving plants
- 0800 Judging
- 0900 Annual General Meeting
- 0940 First session Talks
- 1100 Tea
- 1120 Second session Talks
- 1300 Judges' Awards
- 1315 Lunch
- 1700 Plant removal

Schedule of Papers

- 1 Ron MayMealy bug control
- 2 Geoff Nichols..Clivia distribution
- 3 G. Reyneke.....Plant Nutrition
- 4 Christo Lötter.Hydroponics
- 5 Fransie Hancke.Colour Inheritance
- 6 F. Niederwiese.Intergeneric crosses
- 7 Wessel Lötter..Growing Clivia
- 8 Keith Hammet...Whither Clivia Club?
- 9 Y. Nakamura.....Clivia in Japan

18.09.94

- 0900 Garden Tours
- 1230 Braai & Socialising

Ken Smith of Sydney, Australia has sent the following extract from The RHS Journal Vol. 96 1971:-

Although variegated Clivias are not common in these days, they can be found in good collections of greenhouse plants on the continent, in the USA, and in Japan. None of those I have seen, however, can match the perfection of the form with a regular yellow band around the leaf margin, that was raised here in our nursery about seventy years ago.

It was found in a batch of seedlings by my grandfather, who in those days was growing Clivias commercially by the tens of thousands. The plant grew well and was shown to the public for the first time at the Ghent Floralties of 1905. There it created a sensation among both nurserymen and collectors and received a Large Gold Medal along with the First Prize for the best new house plant.

Because of its success my grandfather decided not to sell the plant until he had propagated a good stock, but this turned out to be a slow job! Offsets were rarely formed, and although seeds from self-pollinated plants produced practically 100% variegated plants, only one or two seedlings raised in the last sixty years have approached the parent plant in beauty. One can understand that a plant, although so beautiful, is of minor interest to a commercial grower such as I am. And if it had not been a Gold Medal winner every five years in our Floralties, and an eye-catcher for our stand, we probably would have only kept a few for our pleasure instead of propagating it.

Three years ago, after two generations of propagation, the number of vegetatively propagated plants reached the hundred mark and it was then that we found a method of forcing the side-shoots. The technique is quite simple. In the summer we remove the soil from the roots of a plant in full growth, then pull away a couple of strong young roots from the centre of the plant, so wounding the basal plate. The plant is then allowed to dry out for a day or two in a semi-shaded place where the atmosphere is dry. It is then replanted in a pot with poorish soil that is not too dry, and water is withheld for the first few weeks. During the following spring and early summer young shoots will be produced that, when large enough; can be removed from the parent plant and potted up.

Although our experience with this method is short, the results are promising. We sincerely hope that this technique will work with other Clivia treasures, like the pure white, the yellow, and double-flowered, and with the old cultivars of LOUIS VAN HOUTTE, such as 'Artis Natura Magistra' and others.

Rudolphe A. Demeter
Merelbeke, Belgium.

Hi Guys!

David Conway gave me a copy of the Clivia Club Vol.2 No.4 August 1993- Wow! This is what I have been looking for! I have enclosed my \$10.00 U.S. and would you Please send me a copy of all past issues.

What works for me and will work for anyone else who wants to try it:- I pick my berries before they take on the ripe colour, red or orange or yellow. When you can squeeze the berry and it feels a little "soft", not hard and firm. This way you get many weeks headstart rather than waiting for the seeds to "colour up". I peel the seed from the pulp and remove the thin membrane from each seed and put them in a plastic cup to separate each plants seed from the others. I mark the cup with a code like plant "A", and if I cross that plant with the pollen from say five other plants- A1,A2, A3, A4, and A5, I put plastic ties to let me know which bloom has been crossed with what pollen. I use white plastic ties, and red, green and black. I also mark the ties with permanent black marker pen. So many bands across the ties.

I make a slurry of the fungicide "Captan", and dump the seed from one cup into it and mix them around and remove them with a plastic fork.I plant the seed into plastic "sweater" boxes, both top and box being

clear, and about 2.5cm wide, 4,6cm long, and 0,9 tall. Some are 1,5cm tall. When the leaves bend (against the lid) it doesn't hurt.

My mix is one half washed plaster sand which I really rewash with high pressure water coming from a hand-held nozzle in a plastic tub. I mix this washed sand fifty percent with perlite (small). I put this mixture one inch thick on the bottom of the box, level it , and put down my seed next to each other, but not quite touching. The seeds are still wet with the "captan" slurry. I seperate each lot of seed in the box with plastic strips cut to fit across the box, and name tags of similar material. I use tap water in the sweater boxes.

I keep a book with all my crosses in, and make a new book every year. I stack these boxes on a window sill on the south side of the house up to seven high. The blinds are up so the sun shines in on them. I let the plants grow until the leaves are 7,5cm to 10cm long. Then I plant them four to a 10cm square white pot. I mark each pot with the code. This year I started watering the new pots with "Captan", One tablespoon to four litres of water. I Fertilise them using "Scholtz" instant liquid plant food in a water can as with the "Captan". I sprinkle "Osmocote" 14-14-14 slow release plant food on top of the soil-less mix from the Ball Seed Company (No Ground Peat Moss) This is a nice open airy mix that never goes bad, and does not turn into mush. As it settles in the pots I just add a little more. I then put my pot with four plants into a five litre zip lock bag ,open at the top, to increase the humidity. When the plants are large enough, four or five leaves, I transplant them to a 20cm pot, and again sprinkle the top of the mix with the "Osmocote".

I collected some variegated clivias in 1987, and crossed these with my yellow flowered clivias. When these plants bloomed- no yellow blooms! You could see that there was yellow in them, though. Ed Hummel jr. then told me I must cross these F₁ plants with the yellow again, and then I will get a yellow bloom when the F₂ generation seedlings show no pink or red at the base. If they did show pink or red at the base, their blooms will be orange, or light orange with a lot of yellow showing. About one third will have yellow blooms, and two thirds the orange or pale orange.

Most of my variegated plants are yellow and green variegation, or light green stripes on the dark green leaves. Only once in a while do we locate a pure white and green variegation. Wow! How I wish I had one of those plants in 1987.

My plants are grown under white fibreglass, they are not grown in a greenhouse (shade house?). Many of my ten litre and twenty-five litre plants grow out in the full sun. I water the plants at night else I will burn the leaves. (The sun really burns the leaves, not me!).

Maybe some of this information will help your readers. How I wish I knew what I know now seven years back.

Gene Calkins
California

Dear Friends

We are now less than a month from the auspicious date of the seventeenth of September, 1994. Although it has sometimes seemed that all is getting out of control, and nothing would come right, it is now beginning to all come together. Fortunately, we have some very capable people working on the show committee, and in the end I am expecting a resounding success. As convenor of the Judging triumverate, I am happy to tell you that this is a flower show, and as such the leaves of plants burnt in the June thirtieth Black Frost, will not penalise your plants. Therefore do not hold back on this account.

I hope you will all carefully read, and then reread Dr. Hammet's precis of his intended paper at the Show. This is something that has never really occurred to me, or to a lot of the other members I have consulted. I hope each and everyone of you will give this subject careful consideration and reflection. After you have done that, then please let us know what you think and feel about it. What can Clivia Club do for you? What can you do for Clivia Club?. Let us proceed to be useful and fulfilling.

Please pay note to what Colman Rutkin says about making a catalogue of Clivia. This ties in with what Dr. Hammett is on about. We must get it to all come together.

It is encouraging to find Ian Coates coming out fighting and writing. I'm sure that between him and Carl Atkinson, they will get the English chapter rolling with a register of past and present cultivars. I do hope that we will hear from our other English members soon.

I must admit that I am disappointed with the small percentage of members who have sent in photographs. Thank you to those who have sent in pictures. We can expect a report on these in the next newsletter, which should contain full results of the show. Alas! Once again our shadehouse construction has been relegated to the next issue under the weight of our impending show.

The refreshingly different approach of Gene Calkins, promises great things for the future. I concur with his plastic dish cultivation, and am intrigued to hear of clivia growing in the sun unscathed. I have no idea how old he is, but his ideas are certainly young and vigorous. MAYCAT!

Nick Primich

WHITHER?

Dr. Keith Hammett
Auckland, New Zealand

I have now belonged to, and been active in specialist societies for over thirty years. These societies are devoted to various genera and are based in different countries. Each has its own ambience, but it is possible to distinguish between societies where the main aim is to organise competitive shows and those that serve the interests of collectors. Societies also change over time. Often there is an initial burst of enthusiasm, followed by a period of stagnation and sometimes demise.

Now the Clivia Club has reached the stage of holding an inaugural meeting, attended by people from overseas, it is important to discuss what has been achieved so far and how the Clivia Club may develop in the future.

Often exotic plants have more appeal than the indigenous ones, and perversely developments are frequently based on only a fragment of the gene pool in a distant country. For example, Britain has a Hebe Society, while New Zealand does not. It is therefore very good that the Clivia Club should be based in South Africa where the plant has evolved and with the existing wild germ plasm at hand. At the same time it must be recognised that much breeding and selection has taken place outside South Africa. The strong overseas membership from an early stage is indicative of this and establishes the Clivia Club as an International Society, rather than a domestic one which happens to have a number of overseas members.

To date I have derived great benefit from belonging to the Clivia Club by receiving the newsletter and I assume this will be true for others. People have contributed information and given opinions, contact with other enthusiasts has been possible and I know that a great deal of genetic material, largely in the form of seed, has moved around the world. I have had the privilege of visiting experienced growers such as

Nakamura san in Japan and Kevin Walters in Australia as a result of joining the Club. However, it must be recognised that if the Club does not set specific objectives it could soon reach the stagnation stage.

Before suggesting a few possible goals, I must caution against the Club becoming too formal and turning into a self-perpetuating bureaucracy. All too often societies which take this route lose sight of their chosen plant. To date Nick Primich has achieved a great deal on a largely informal basis. We must be careful not to spoil what we have.

Here are a few suggestions of things we might do and which would give the Club direction for the immediate future.

1. Establish a register of cultivar names.
2. Apply for recognition as the International Registration Authority for the genus *Clivia*
3. Establish a genetic database to establish who holds what in their collections. This is important to determine availability and vulnerability of taxa and cultivars.
4. Create a bibliography of *Clivia* references, both botanical and horticultural.
5. Encourage a revision of the genus *Clivia* to establish a key to identify naturally occurring taxa.
6. Establish a horticultural classification of hybrid forms. This would provide a framework for exhibitions, competitive or otherwise, and would facilitate communication internationally.
7. Establish a seed distribution scheme.
8. Encourage research projects at university level. Many questions of interest could be tackled as MSc or PhD theses topics.
9. Detail the history of the development of *Clivia* in cultivation.

Clearly these suggestions reflect my particular interests and I recognise that others will have suggestions regarding other aspects such as cultural and physiological considerations. Equally, each suggestion needs amplification, and it is unlikely that all of them could be tackled at the same time. It is, however, important to set goals and to monitor our progress towards such goals.

Dear Nick,

Yes, I would be interested in the Aussie yellow and hybrid seed. I wish I had more to offer from this end, however I am just beginning. Next year I should have some seed to send you for distribution from a vigorous orange *clivia* pollinated with two yellows. One of the yellows is from Protea farms of California and the other is the Hummel select yellow from Glasshouse Works in Stewart, Ohio. I believe I sent you a photograph of the Hummel in my last letter. It's a very good yellow, though not a very good flower form. This red I put the pollen on produced more seed capsules than I could have expected from my previous efforts. Freshness of pollen seems to be an advantage and I suspect there has been more diligence this year in attempting to create numbers for a larger gene pool. You have to have the numbers to see the variations whatever they may be.

The Australian seedlings from the seeds you sent last summer are now just over a year old, and are very similar in leaf forms. This surprised me as most of my crosses show greater variety, perhaps to their diverse and often unknown parentage. This winter I will try to grow them and my other plants on through the winter by use of artificial lights and a larger fuel bill. I don't think that they will be fooled by such subterfuge, but I need to extend my growing year.

I have recently acquired a computer, an Apple Power Macintosh, 6100/60AV. Its capabilities have given me ambitions. It is possible to take slides, transfer them into the computer and print them. We are going to use this ability to keep track of our lily and azalea crosses. Putting an image of the plant next to its name so we can look at the parents and the off-spring at the same time on and off the screen. This capability might be used to create a pictorial list of the *Clivia* species, their natural variations and cultivars. Let me know what you think of this. It could be printed and updated with little expense, and distributed to the

membership. It would of course need someone more familiar with Clivias than I am to help edit it, but we could ask members to contribute slides of what they consider to be good forms and publish a compendium.

My phone number in the USA is 718-816-0672.
Colman Rutkin

TRADE NEWS

Members often write in asking where to get particular plants or seed. I have tried to encourage you to advertise your wares here, and at this stage I still do it for free.

Joan Bursey has *Clivia nobilis* and many other indigenous Eastern Cape plants. She will send you a price list if you write to her at PO. Box 9, Kei Rd., 4920.

Pen Henry is coming to our Show next month! This is good, to have a bit of Australia in person. We are pleased. She is also selling some seed through the Clivia Club, which is really aimed at RSA citizens. The yellows are R6.00 each, and the others R3.00 each. Please apply to Clivia Club for these. I would advise overseas people to apply directly to Pen at 120, Caporn St. Wanneroo, WA 6065. Australia.

Bill Morris also has seed of various items for sale. Apply directly to Bill at 37 Brocklesby Rd., Medowie, NSW 2318, Australia.

Yours Truly is moving house at the end of the month. Fortunately, I will still be living in the same PO Box, so you will not be unduly inconvenienced, however, there will at last be a home phone number which is (011) 768-2996. I will be building new shadehouses there, and will let you have all the details for your edification. I will be using several different materials, so my poor plants will have to undergo trials for the benefit of future plants.

ON THE COMPOST HEAP **QUO VADIS CLIVIA CLUB?**

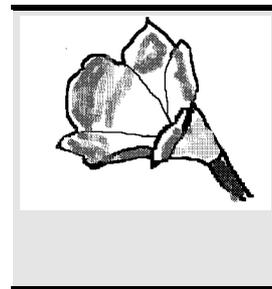
Indeed, wither goest thou, Clivia Club? Are you now going to eradicate me and mine from the face of the earth? Was Adam not enjoined to husband earth and its denizens, not destroy it? Things will never be the same again! But that is life, if there is one thing in the world that is constant, that is Change!

Lily Borer



Clivia
Club

P O Box 6240 Westgate 1734 RSA



US\$10.00 p.a. overseas

R10.00 p.a. RSA

Volume 3 Number Eight October 1994

The First Clivia Flower Show & Talks 17.09.94

Our first Flower Show has come and gone. The four members of the Show Committee were elected unopposed to the first official committee. These members are, for your edification:-

James Abel, Chairman.

Reneé Stevenson, Secretary.

Michael Stevenson, Treasurer.

Nick Primich, Editor.

The co-opted members are Connie Abel, Adri Haxton, Toy Jennings and Wessel Lötter.

The Committee, that is the committee elected at the first AGM plus the co-opted members, held a post mortem on the proceedings and came to the following conclusions. Although there were many minor and a few major mishaps, the overall verdict was a resounding success. There was a financial profit for the Club, the actual figure being in excess of six thousand rand.

The Talks themselves were an unqualified success, and exceeded our wildest expectations. As the Talks progressed, the speakers became more dynamic, and put their messages over with amazing vigour. Although they do not have the visual impact of the live proceedings, we do however, have the written papers neatly bound, for sale at R20.00 pp. (o/seas US\$12.00pp.) Here is a lot of valuable information that no aficionado should be without.

The winners of the floral awards were as follows:

Best on Show	Toy Jennings
Best miniata	Connie Abel
Best yellow	Fred Gibello
Best broad-leaf hybrid	Fred Gibello
Best variegated	Jim Holmes
Commended Yellow	Jim Holmes
Best Pendulous	Connie Abel
Best hybrid	Connie Abel

Ken Smith of Australia received an award for his outstanding photographic exhibit. He spared no expense and showed considerable artistic merit. We thank the other exhibitors, many of whom put up fine collections of photographs. Adri Haxton has mounted these, and stored them in a portfolio case for future use.

The sales went with vigour, and by ten o'clock there was not a yellow to be had. The sale of orange clivia continued steadily throughout the day. We apologise to club members and the public who may have suffered from any untoward incidents, and we will do our utmost to assure that these do not occur again next year.

The judges report on the flowers.

There were many flowers of a reasonable standard, but there were very few, if any of outstanding merit. The winners mostly got their marks from well-presented flowers with well-shaped umbels. There were one or two flowers of an interesting shape, but they certainly need developing. One must try to put a fully mature, preferably multi-stemmed plant on show. Next years show has been advanced one week by popular request from Pretoria breeders, who feel that the recent show date was a little late. We must try to bred yellows with a better shaped flower, wider petals, and a neater umbel. At present any yellow is considered meritorious which is far from the truth. Please note the flowering dates for all your species and hybrids and let us have a report on these.

Next year??? Indeed we intend to hold a show or three next year. Our proposed itinerary is;

1994 Caulescens tour. Northern and Eastern Transvaal. 19-20 November.
Contact person:- James Abel (012) 476406 (HOME)

1995 Committee meeting. 14.01.95
Gardenii Tour and Mini Show. Pietermaritzburg. 13-14 March
Committee meeting. 15.04.95
Committee meeting. 15.07.95
Miniata Tour and Mini Show. PMB. (Howick??) . 19-20 August
AGM, Show, Sales, Garden tours. Johannesburg. 9 September
Committee meeting. 21.10.95
Nobilis Tour and Mini Show. Eastern Cape. 7-8 October

The Committee challenges the local members to organise the Mini Shows in conjunction with the tours. This will guarantee extra support for your show. We would like to encourage the Natal members to hold a mini show for gardenii, and miniata, whilst the Eastern Province/Border people to do the same for nobilis. We will undertake to support these events if they can be got under way.

THE WILD BOAR & THE TAME SOW

I found Bill Morris's article " A Hybrid by Any Other Name" quite thought provoking. As you know, I am not the world's greatest Clivia enthusiast and lack the experience and expertise of many of your members, but there are a number of general issues raised by this article on which I would like to comment.

Firstly, I would agree with Bill that the road to "improved miniatas" probably does not now lie with the incorporation of genes from other species. Possible benefits from such crosses might include tendencies to re-bloom, increased florets per umbel and variation in the disposition of florets. These tendencies already exist among the Australian miniatas and while they may be due to environmental factors, mutation or intraspecific hybridisation, we should not entirely discount the possibility of interspecific hybridization, particularly in view of the narrow trumpet shape of some florets the tendency of lower florets in some to 'flop', and perhaps narrow spidery segments.

Secondly, I may be misinterpreting Bill, but I do not agree that the ultimate goal of Clivia breeding should be the "improved miniata". There are four species and their variants plus all the potential forms we can create from them. To my mind *C. xcyrtanthiflora* is not "a step backward", it is a charming plant in its own right. Similarly I find that the 'common Australian miniata', despite its shortcomings in comparison with some idealized "improved miniata" slots much more comfortably into Australian garden schemes than many "modern strains" which have a decided aura of "artefact" (and aren't as tough).

Let us not fall into the quicksand that ensnared Hippeastrum breeders for so long, where the "Dutch Hybrid" was held to be the epitome and many beautiful and unusual hybrids were rejected because they did not meet exhibition standards, or were relegated to the living death of 'miscellaneous'.

Point three: What is a hybrid? I prefer a broader definition of Bill's, a plant arising from a cross between parents that are genetically unlike" (Hortus Third). This allows recognition of intraspecific, interspecific and intergeneric hybrids. I must confess to promulgation the term "miniata hybrid" when selling my seedlings, using it to indicate that the seedlings are crosses between forms and liable to display variation, probably don't look much like the wild form, also giving recognition to the possible presence of genes from other species.

Once upon a time Botany gave us fairly clear cut categories for differences within a species:

Form - a trivial variation from the norm such as flower size or colour or variation in leaf characteristics, these occurring sporadically as scattered individuals within the type population.

Variety - a classification used when you couldn't decide if a variant was a form or subspecies.

Subspecies - a major subdivision of a species, usually growing as a distinct geographical variant, the variant characteristics being consistent within the population and probably manifesting to some degree when crossed with the type species.

Life forms being a continuum rather than discrete entities (personal philosophy, not science) it was not surprising that the boundaries of these categories became flurried. Perhaps the best of the old terms for us to use for the Clivias we produced would be "cultivar" which acknowledges their garden origin and does not necessarily imply that the plant is referable to any one pure species.

Modern science generally is well summed up by the statement "the more I know, the less I understand". Botany is no exception and the definitions of both Bill and mine are now becoming antiquated as a new concepts of what constitutes a species or a genus are defined. Sadly, whatever these definitions may turn out to be, it is unlikely that your average gardener/collector will find them useful or comprehensible unless he carries a computer and an electron microscope in his hip pocket.

Which bring me to Point Four: the ever-widening gap between Botany and the grass-roots gardener. This point does not arise directly from Bill's article but is, rather, a personal hobbyhorse. The problem was brought home to me recently during a friendly argument with Les Hannibal over his reclassification of the Multiflora Belladonna. I approached a number of botanists for comment on general botanical principles involved. The overwhelming response? no reply, "no comment" or a supercilious "these are garden plants" (!)

I appreciate that the complex ancestry of garden plants can obfuscate issues but garden plants are plants none the less and surely natural laws apply to them as much as to their wild ancestors? I pay my taxes, I am happy for part of that money to fund pure research.....am I unreasonably to expect a little practical information when I need it? Instead of gaining the information I sought, I was left feeling like Steptoe at a Ritz luncheon for antique dealers!

Well, declaim I will but despair I wont! Botany is our science too and should be our guiding spirit - if her high priests are so involved with higher matters that they can't spare time for mere garden plants, then there is no reason why we should not access the goddess directly. Many of the queries that have appeared in these pages over the years could have been answered, at least in part, by browsing through popular accounts or elementary texts on plant anatomy, physiology and genetics. (A tame botanist to extrapolate for use would be ideal). More particularly I believe members would obtain much more benefit from articles such as Bill's if all of us were armed with in-habitat photos and type descriptions (with relevant later elaborations) of each of the four species. An information package such as this, despite its short comings, would give us all some basic knowledge of our subject, and increase in understanding (if only of

what we don't know!) and would perhaps reduce somewhat repetitious and circuitous discussion and speculation. I liked Dr. Hammett's Quo Vadis proposals but still think my information package is worth consideration as a short term measure - otherwise it may be a case of "Clivia Club, wither away" rather than "whither away?"

Point Five: In pursuit of my hobby of arguing about matters botanical and horticultural I am often confronted by opponents wielding references to illustrations in Curtis Botanical Magazine and similar arcana. Such of these that I have seen have all been interesting, many of them beautiful and a goodly few barely recognizable as the familiar species they supposedly portray. Let us bear in mind that these are not real plants, but drawings. As such, they are subject to artistic embellishment and error. Allowance must also be made for unsophisticated colour technology and subsequent fading or colour change. The subject plant was usually grown in cultivation (sometimes poorly), was sometimes a pressed or a vase specimen, so size, form and relationship of component parts could well differ from that of a typical wild plant or one more appropriately cultivated. This is not to say that such illustrations should be entirely discounted but when it comes to supporting an argument, if I can't lay hold of a real plant then my second choice would be a clear colour photo.

Enough I think. If you have found all this rather boring and long-winded- blame Bill!

Regards
BRUCE J KNIGHT

AN UNUSUAL CLIVIA TOUR

On the fifteenth of September this year I collected Mr. Nakamura at Jan Smuts Airport early in the morning. We drove out on the Witbank Highway, and joined up with James and Adri Haxton, Pen Henry of Australia, and Dr. Keith Hammett of New Zealand, just outside of Witbank. We proceeded to Pilgrim's Rest, where we had a short visit and some lunch.

Our next stop was God's Window. As we approached the site we noticed that there was quite a cloud build up, and swirls of cloud across the road often obscured the view. At first we were concerned that this would somewhat spoil the great view from the top for our overseas guests, but soon realised that it would give them a far better insight into the unique weather conditions of this micro climate which produces the unusual growth systems in the *Clivia caulescens* found there.

Indeed, it was not too wet, and soon it began to clear up, and before we left the sight the view across the lowveld opened up. Our visitors were enthralled, as indeed we were. It is hard for a clivia enthusiast to view this place without some excitement, no matter how many previous visits are under the belt.

Our next stop was The Pinnacle, a few kilometres away. (For our overseas members The Pinnacle is a steep-sided ravine at whose rounded head is a needle-like tower, nearly as high as the cliff tops) There near the top of the cliff, in close proximity to The Pinnacle, we could see clivia growing on the cliff-face. These were, we assumed, *C. caulescens*, as they were not in flower. They were very small plants, as one might expect, growing in such harsh conditions. It was not safe to approach them too closely without climbing equipment, so we had to be satisfied with a remote inspection, and then left for Graskop, and on to Kowyn's pass. From there to the SAPPI "Venus" Estate, where we met with Mr. Charl de Kock, who is a conservation officer for SAPPI. He gave us first an account of the recent reform in forestry practise, whereby the natural vegetation is allowed to grow back along the water ways, and the plantations are kept up out of the watercourses. He showed us on the map what was going on, and then took us out in a company vehicle to view two sites where clivia were to be found. At both of these sites we found *Clivia*

caulescens with the odd flower or two in sight. After the viewing we made our way back to Nelspruit for the night.

It was difficult communicating with Mr. Nakamura, as Dr. Hammett had a smattering of Japanese, and the rest of us none at all. Mr. Nakamura took it all in good part, and worked away at taking photographs and taking notes at every opportunity.

On Friday morning, Mr. Meikle of SAPPI, met us at the hotel and escorted us to the "Ngodwana" paper mill. On the way there, we conducted a search for some elusive "pink" clivia that had been reported to Adri by a friend. These were to be found for sale at a roadside store. After a few false trails, we eventually found the right place, where C.M. that had been bleached in the sun were to be found! The strange thing was that Mr. Nakamura purchased a somewhat woe-begone C.N. of all things. The owner did not wish to take money for the plant, so Mr. Nakamura gave him one of his numerous gifts that he was forever handing out.

We eventually arrived at the "Grootgeluk" estate and proceeded to visit the sites. We found the first sight, where again we found *Clivia caulescens*, and then received our first setback when the access road to the second sight was closed due to tree-felling operations, and as it was too dangerous to proceed, we had to end the visit a little prematurely, and returned to Pretoria where I left Dr. Hammett and Mr. Nakamura in the care of the Abels.

Sunday evening after the braai, (cookout, barbecue) I again loaded up Mr. Nakamura and Dr. Hammett, with the extra seat being taken by Mrs. Dobson. Now Toy Jennings had produced Mrs. Dobson out of the proverbial hat, as our originally scheduled translator had disappeared. Fortunately Mrs. Dobson was able to let us know what Mr. Nakamura wanted to tell us at the talks, so we high-jacked her for the balance of the tour. Now at last we were able to exchange information, and the party became a lot more animated. We slept that night at my home in Roodepoort, and left at four in the morning for Howick. Peter Burden was waiting for us at the entrance to his farm and in we went to view *Clivia miniata* in full bloom. Now Peter has quite a large estate, not the sort of place that you would stroll around in a day. His father had brought in some *miniata* from the gullies, ravines and clefts where they grew on the farm, and had planted them in the natural forests around the homestead. Peter had continued this work, and thus we were able to view in the space of a couple of hours, what would take days to view in the wild.

Now the amazing part of this was that we were able to see the spectacle of thousands of clivia of twenty or more different forms all growing in the same vicinity. Peter assured us that these all came from the four or five original locations on the farm, save for a yellow which had been brought in from outside.

Peter had wanted us to stay for lunch, but as we had to press on he and his wife offered us a welcome tea instead. We then proceeded past Pietermaritzburg to the Nursery of Mrs. Giddy of cycad fame. She has also long been known as one of the few breeders of yellow clivia in South Africa. Mrs. Giddy kindly treated us to an inviting luncheon spread, and then conducted us on a tour of the nursery. Here we were able to see some of her yellows in bloom. All too soon we were on the road again, and headed for Hillcrest, and the fabulous Fern Valley Botanic Garden. This is privately owned by Mr. Wriggal, president of the South African Camelia Society, and a personal friend of Mr. Nakamura. We were due to go on to the Baynesfield Estate near Richmond to view more *miniata*s, but were forced to cancel owing to pressure of time. Mr. Wriggal conducted us personally over the bulk of his estate, and I did struggle to keep up with his 82 year "young" legs. He is an amazing person!

Again cups of tea, this time Chinese I think, which Mr. Nakamura appreciated, and tasty sandwiches prepared by Mrs. Wriggal. Again too soon on our way in a deepening twilight to Kokstad which we reached at about eight o'clock that night.

The next morning we travelled through the Transkei, and about mid-day reached the homestead of Joan Bursey of Lowlands Nursery, near Kei Road. This was an enlightenment. We were expecting a "sort of

farm nursery" and instead found a beautiful homestead with an attractive garden which fronted the neatly laid out nursery. Here Mrs. Bursey showed us various plants, including *Clivia nobilis*. These did not grow in the area, but had been bought out. A sumptuous lunch was set before us, and we were entertained in style. All too soon we had to leave, and accompanied by Mrs. Bursey, we left for the nursery of Eric Dodds at Gonubie.

At Gonubie, the local Agricultural Officer arrived to give Mr. Nakamura's purchased plants a phytosanitary certificate to enter Japan. After these formalities, Eric Dodds accompanied us to the private estate of a friend. This estate was almost on the beach front, and heavily wooded. Here we found *Clivia nobilis* by the thousand. They were coming into bloom, and were maybe a week or two away from full bloom. From the few plants I had seen and owned in the PWV area, I had formed the erroneous impression that this was a smaller species than the others. However, here I saw plants as big as any - except perhaps the *God's Window caulescens*. We said goodbye to our kind hosts of the Border area, and left to drive on to Grahamstown.

At Grahamstown we rendezvoused with our *Clivia* Club members, Mrs. Mary Lubke, and Charl Malan. These good people breakfasted with us at the Motel, and then accompanied us to the farm of Mr. Shaw near Port Alfred. Mr. Shaw kindly loaded us all up into his bakkie and drove us off to see *Clivia* growing in riverine bush on his farm. We were amazed to find *clivia*, *gasteria*, ground and tree orchids, *crinum*, and *cyrтанthus* abounding in this area. Mr. Shaw is a strict conservationist, and protects the flora and fauna on the farm closely. We returned to the house where we were regaled with a sumptuous tea. The dining-room had "wide-screen" windows, and afforded one a rare and picturesque landscape starting with the attractive farm garden, then pasture lands, coastal dune bush, beach, and a wide peaceful sea. Very memorable! We thanked the kind Shaw family, and Charl Malan guided us down to the dune bush where we found further colonies of *Clivia nobilis* growing.

We drove on to Port Elizabeth, to the Nursery of Welland Cowley, a little way out of town. Here our good host gave us lunch, and then his son drove Dr. Hammett to the airport where he made his connection to fly on to Cape Town and Kirstenbosch. We stayed on a while at Welland's nursery, discussing problems with shipping *clivia* to Japan, the Japanese approach to *clivia* and various plant things. At last we too had to leave. The tour had come to an end. I drove Mr. Nakamura and Mrs. Dodds to the airport, where they made their flight back to Johannesburg so that Mr. Nakamura could make his Hong Kong connection the next day. I had an uneventful return drive back to Roodepoort the next day. What a week! It was surely one of the high points of my life. Seven days, five thousand kilometres, and how many thousand *clivia*. But mostly I will remember the people. Mr. Nakamura, kind, gentle and considerate - utterly devoted to the cause of *clivia*. Dr. Hammett, a bit adventurous near cliff edges, but worldly-wise and full of good advice for us all. Not the least Mrs. Dobson. Full of life and a bubbly personality, opening up a way to converse with Mr. Nakamura. All of our kind hosts and members who attended to us, and without whose help this trip could never have been as successful as it was, I thank you all, for myself, for the participants, and for the *Clivia* Club.

Nick Primich

THE JUDGING SCHOOL

The three judges who did the initial judging at the first flower show, have decided to set up a Judging School for *clivia* fanciers. You might well ask what qualifications these three people have to do this. Well, our qualifications are this:-

- § We have a love for *Clivia* flowers, not to the exclusion of anything else, but certainly a preference.
- § We had enough initiative to get up off of our haunches and try to do something about it.

§ We have a sensitivity and a sensibility to make us aware of the needs and desires of others.

What we wish to do is not to ram our preconceived ideas down your throats. Not at all. What we want to inaugurate are group discussions, where everyone is encouraged to put his or her feelings and ideas on clivia into words. We would try to formulate classes for the different types of flowers, and gradually establish guidelines for the public to follow. This alone is no simple matter. We have already had a few putative attempts at it, and not found it easy. It will take time, patience, and a lot of understanding.

The sort of people we are looking for will be able to devote a certain amount of their time at least once a month to attend meetings on a regular basis. Where the meetings would be held would depend very much on where the support comes from. Our judges at all future shows will come from the Judging School, and from select overseas visitors. Please feel free to contact Wessel Lötter, Michael Stevenson, or Nick Primich to discuss the matter further.

FUTURE CLIVIA CLUB TOURS

Anyone wishing to partake in, or organise a tour under the aegis of the Clivia Club, kindly contact James Abel. One will become aware of sites and farms where Clivia in the wild abound. Please do not approach the people in charge of these places in the name of the Clivia Club without James Abel's permission.

Thank you.

Dear Mr. Primich

I just had to send you a photograph of the flower I got from the plant I bought through the Clivia Club. (The offer was in the September 1992 newsletter.) The plant did not flower in 1993, but to my great delight, did so this year. You cannot imagine how thrilled I was.

Thank you for the interesting newsletters, and also for the opportunities to buy seeds of yellow clivias. I have some nice looking plants from Bill Morris's seeds (still too young to flower) and have had a good germination of Mr. Nakamura's seed. (bought through the club)

Yours sincerely,
Mrs. C. Howie.

Dear Nick

When I applied for membership of the Clivia Club I really had no idea what a fund of information was about to come my way. Really Nick, you are a "star" to put so much effort into bringing all these "fundis" plus amateur gardeners together in an exchange of ideas and knowledge. I have enjoyed your newsletters so much I have read them over and over again/ My one regret is that I was not able to get to your first show as I have a husband who is not very well. Best wishes for a successful and stimulating two days. I am enclosing a cheque for R45.00:- R10.00 for last years newsletters,if still available, and R30.00 in case you are able to give me five of Pen Henry's seeds of the yellow Clivia, and R5.00 for postage. Nick, if you are too busy its not a problem, there will be another time!

Thank you again for all your hard work. Kind regards to you and your wife.

Sincerely

Joan Hopwood.

Recently, I had the pleasure of spending a day at our National Herbarium, in the company of Dr. Hugh Glen, and Dr. Keith Hammett. Dr. Hugh Glen is in charge of the National Herbarium, and introduced us to the sheets of *Clivia* that had been stored there over the years. I have always held reservations about such places, and indeed the dried specimens did little to allay these feelings. What did wake me up though, was the treasure of documents stored in amongst these folders. With Dr. Hugh Glen's kind permission I will bring you one or two of them now and then. Here follows one:-

THE HERBARIUM, ROYAL BOTANIC GARDENS
KEW, RICHMOND, SURREY
6. 1. 1964

The Chief
Botanical Research Institute
PRETORIA

FOR ATTENTION OF MRS. MAUVE

Dear Mrs. Mauve

I have had a reply from The Hon. L. Palmer about the *Clivia*. There is really nothing important in it, and the name he mentions is *C. citrina* or *C. miniata* var. *citrina*. This is the name I expected him to give, and it is in fact the oldest valid name.

The name *Clivia sulphurea* appears in Wien Illustr. Gartenzeit. 1888 : 275 in a list of novelties exhibited at some show. It is a nomen nudum and has no standing.

C. miniata var. *citrina* W. Watson in Gard, Chron. 25: 228 (15 April 1899) and in The Garden 56 : 388, t1246 (28th Oct., 1899). The first reference gives sufficient evidence to validate the name. The second is a long description and a colour plate. The colour is described as a "clear pale cream or lemon-yellow, tinged with orange at the base", and then referred to as a "soft buff colour". Based on a plant collected in Zululand by Capt. Mansell, and flowered by Mrs. Powys Rogers in Cornwall. Some years earlier a similar plant had been collected by the Rev. W.H. Bowden, also in Zululand.

C. miniata var. *aurea* Hort. in Gard. Chron. 35 : 301 and in 'The Garden' 65 : 330, both dated 7th May, 1904. Both are a report of a plant exhibited by Mrs. Pows Rogers at an R.H.S. show in 1904. In 'The Garden' the colour is described as a "soft yellow with deeper shade at the base of the segments". This leaves little doubt that the two are based on the same plant, or at least on plants of the same origin.

As far as I can judge *C. miniata* var. *flava* Phillips is also a synonym of *C. miniata* var. *citrina* Watson. Acc. to L. Palmer *C. miniata* var. *citrina* when selfed breeds true to colour. When pollinated by *C. miniata* the F₁ is all of typical *C. miniata* colour.

He then says that Mr. Raffil of Kew from the *C. miniata* coloured F₁ by cross pollination and selection segregated the yellow-flowered forms again. He could not remember whether the yellow flower appeared in F₁, F₂, or F₃. Mr. Sealy says that it was not Mr. Raffil, but Mr. Coutts who did it, and that the first generation after the *c. miniata* x *C. miniata* var. *citrina* produced one yellow flowered plant. We do not know out of how many though.

Hope this answers all your questions

Yours sincerely
(SGD) W. Marais.

Here are botanists asking for clarification on the use of Clivia miniata var.citrina Watson. The Clivia Club should insist that the botanical name of the yellow clivia is as above. An interesting letter indeed. N. Primich.

Dear Mr. Primich

Thank you for your letter giving me information on the Clivia Club. Enclosed please find cheque for \$10.00 as I would like to join the club.

As you can see we live in Mexico, and Clivias seem to do well here, but to date I have only seen the orange variety. I wonder if you could be kind enough to let me know where I could buy seeds of different colours. I know it will take a good deal longer to grow Clivia from seed, but it would be too difficult to get bulbs sent through the post to Mexico.

Thank you again for answering my letter so promptly.
With best wishes

Yours sincerely
Moreen Chater

ON THE COMPOST HEAP

Now the tumult and the shouting has died down, we can count the cost of our Show! Many spectators were heard to mutter " I've got better ones at home!" Some actually shouted it out aloud. Well, the proof of the pudding lies in the eating, and we cannot judge what is not to hand. Let us see these secret stores of clivia brought out from under wraps next year.

Lily Borer.

