CLIVIA CLUB NEWSLETTER

Volume 9 Number Two Winter 2000

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CLIVIA CLUB, PO Box 53219, Kenilworth 7745, South Africa

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 $^{^{\}wedge}$ NB: proeflees teen gedrukte kopie van nuusbrief. Die weergawe waarop ek gewerk het was nie die finale manuskrip nie $\,$ - ACV

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Views expressed in the newsletter are not necessarily those of the committee and the Clivia Club.

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Although the days are shorter and the nights are longer early winter has been pleasant on the highveld with lovely warm sunny days - much better than the miserably wet Summer. The clivia in my garden think that it is spring and many of them are flowering. As our coldest weather usually starts after the solstice on 21 June, I hope those in the garden will not be spoilt by severe frosts this season.

Apart from the excerpt from the Chinese Catalogue on Variegated Clivias, all the information in this newsletter has been submitted from South Africans. A few articles from the Northern Branch Newsletter have been used. Not only has Nick Primich joined the net, but he has submitted biographical data for the Northern Clivia Club Newsletter which is reproduced here as a result of him being made an honorary member of that Branch. Wessel Lötter was made an honorary member at the same time and his biography will appear in the next newsletter.

Another new member, Dries Olivier has a few suggestions to make. Adri Haxton has submitted a table comparing the four clivia species which are illustrated on the back cover. Sunelle Geyer, who makes her debut as a contributor to the Newsletter in this publication has light-heartedly compared the various species to the personalities of people.

Discussions on the net continue to be lively and interesting. Much comment has been made about the possible fifth species or >Swamp Clivia= which is illustrated on the front cover. Joan Sadie from the Directorate of Genetic Resources has offered to help with a register of cultivar names for clivia with Nick Primich and others involved in this. Professor Hannes Robbertse discusses botanical terminology with regard to clivia and the third excerpt from the >Chinese Catalogue on Variegated Clivia= is reproduced. Nick Primich has written the contribution for >Beginner=s Luck= on >Stocktaking=.

Chris Vlok has been very involved with a marketing campaign for the shows and suggests a prize for the best idea for ANational Clivia Day@ on 1 September. Branch committees and members are busy organising their shows. We hope they will be bigger and better than ever before and that more Club members will be participating and showing their lovely plants.

Meg l	Hart
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FROM THE CENTRAL COMMITTEE

CHAIRMAN

Although the members of the central committee represent the three branches and are spread far and wide it has been possible to communicate as a committee through e-mail and telephone conference facilities.I have in addition been able to meet with Meg Hart, Chris Vlok and Sarel Naude on two occasions while on business in Pretoria. The main points of discussion were:

THE CONSTITUTION

A lengthy meeting was held in Pretoria with Advocate Grobler in May, which Chris Vlok and Tino Ferero and I attended. Advocate Grobler has kindly offered to prepare a draft constitution for the committee to comment on. We look forward to Advocate Grobler's proposals.

WER SITE

It was agreed that Chris Vlok form a sub-committee to investigate the possibilities of establishing a web site for the Clivia Club.

NEWSLETTER

The new format of the newsletter proposed by Meg Hart was discussed at length. It was agreed to proceed with a new format, however further expertise in D.T.P (Desk Top Publishing) were to be consulted before finalising the format.

The need for articles to be published in the newsletter was highlighted in our discussion and I appeal to all branches to contribute. I suggest each branch appoint one of their members to be responsible for gathering articles which they then pass on to Meg Hart for Publication.

One of the main objectives of the Clivia Club is to promote and conserve Clivia and to do this, the Club must grow. Not necessarily in numbers but in excellence. So come on members support Meg Hart, our Editor with articles so as that we can continue to improve the quality of this very worthwhile publication. Changing the format is not enough!!

John Winter

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PUBLIC RELATIONS

The Clivia Club has decided to investigate the need, cost implications, potential benefits, design and maintenance of a web page for the club. Since the Northern Branch of the Clivia Club is also interested in creating a web page, we formed a sub-committee consisting (at present) of Ken Fargher, Rudo Lötter and Zelna van Schalkwijk of the Northern Branch and Sarel Naude and I representing the Clivia Club (we are also committee members of the Northern Branch). Other branches are more than welcome to nominate individuals to join our ranks. I am sure our overseas members can also make a contribution. Please respond by forwarding suggestions to me at vlokac@unisa.ac.za

At our first meeting held on 13 June we agreed that there is a need for a web site, which would cater for the Clivia Club and its Branches and Interest groups. A further point of consensus was that in the initial stage we should keep it simple and functional. We are aware of the cost implications, and will examine the possibility of generating funds which will offset the financial burden. Zelna, a web page designer, will put together a flow diagram of the web pages and their contents. This will appear for comment in a following newsletter.

Remember that 1 September is ANational Clivia Day@. I believe that members should be rewarded for promoting clivia on that day. Send your suggestions to me by 15 August and we will draw out the best idea and reward the member with free membership for 2001. Please take part.

We are making good progress with a booklet called AHints on growing clivia@ which will be printed before the first show in September. The aim of the booklet is to make something available to members or the general public when they ask: AHow do ?....@. We are glad to report that contributions have been received from members of all branches. The booklet will be available to branches at a nominal fee. Since we have not yet decided on the price, overseas members interested in obtaining a copy should contact Joy Woodward, the Club secretary.

With regard to the constitution, I am afraid I have little to report. John Winter, Tino Ferero and I had a very fruitful discussion with Advocate Grobler on 11 May. Advocate Grobler=s perception of the structure is that the Clivia Club will only have branches as members. Applied to the current status quo, it means that the Clivia Club will only have three members. We will still cater for the needs of individual overseas members by delegating this task to a specific person or a branch. We are waiting for a written memorandum from Advocate Grobler which will be submitted for comments.

On writing this contribution, ten national magazines have agreed to publish details of the four clivia shows. We trust that this marketing campaign will be reflected in the numbers attending the shows.

Clivia greetings.

Chris Vlok.

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EDITOR

I hope that the first 2000 Clivia Club Newsletter will be delivered before you receive this one. There have been considerable delays in the reproduction of the colour photographs. It was much easier when the newsletter was just photostated, but as the print was poor, it was essential to upgrade the publication. Now that the teething problems are over I hope that there will no delays in the future.

The quality of the colour print was not as good as was anticipated and we hope that this will be better in this issue. The colour printing is the most expensive part of the Newsletter and we must weigh up the cost of this. We are still experimenting with the Newsletter, so please bear with us until we have decided on an appropriate style and layout. Elsabe Viljoen, another Club member, is responsible for the styling of this newsletter.

^ het vorige cover reggemaak - errata wat hier was kan dus verwyder word ACV Meg Hart.

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CORRESPONDENCE

HOW DO YOU DO Dries Olivier PO Box 8783, 2940 Newcastle dries@minmetals.co.za 27 December 1999

Meg,

Pleased to meet you. I am one of the latest casualties of Clivia-fever. I joined the club some 2 months ago. I stay in Newcastle.

Forgive my ignorance, but is it possible to receive newsletters by e-mail in stead of snail mail? How about getting previous articles in newsletters also by e-mail? If it would help, I can try to assist in finding someone in Gauteng to scan all previous newsletters on to discs. Of course an electronic newsletter opens up all sorts of new avenues like colour photographs etc. One can still continue with the hard copy newsletter for those who don=t have computers by just printing text.

I ran into an interesting web page on the Internet. It is called Toshi's page and the address is http://www.ic-net or jp/home/akemi/index.htm You might consider to put this in your newsletter.

Regards.

Dries Olivier.

A more recent e-mail letter from Dries Olivier on the Clivia enthusiast group mail:

Hello All, 19 June 2000

I am in the market to swop and/or buy seed. I am a relative newcomer (ca. 18 months) and still busy building up my gene pool. If you have any seeds worth having please e-mail me direct on drieso@minmetals.co.za.

Thank you to the experts for your valuable discussions on this forum! We novices learn a lot from your deliberations. Just a friendly request: Please place any photos directly on the 'file' area. It makes access so much faster and easier than to find an original message and then to open a photo when one wants to refer back to it.

I am staying in Newcastle. We have a few 'Clivia Freaks' in our area. Ds. Daan Dekker (Dundee), Hottie Human (Durnacol) and the Dovey's (also Newcastle). With the kind support of people like the Abel's, we plan to hold an exhibition of plants in our local library the Thursday night before the Natal Show this year in order to promote Clivia in the platteland. If you are interested to join in the fun, also drop me a line. The idea is for the Gautengers to stop over in Newcastle on their way down to Pietermaritzburg, take a rest and enjoy educating the 'previously disadvantaged' (not knowing Clivia).

Kind Regards, Dries Olivier.

Dries, welcome to the Clivia Club. I=m sorry that your first letter is only being published now. It somehow escaped me before - probably because it was on e-mail and I did not print it out immediately. You are quite correct in complaining about the >snail mail= and electronic newsletters may be an option for the future. However, the Clivia Club could lose revenue if these newsletters were then distributed to others without them being members. How could one avoid this? In the meantime, you will have to wait for the hard copies. Another problem is that we all have different software and printers. When printing out a newsletter with a different printer it is reformatted and in doing so the page endings and other features are often changed. The previous Newsletters are all on stiffies and Sarel Naude is going to put them on to CD ROMS so that the Clivia Club has a record of all of them. Nick Primich has offered to edit them as there are many errors which have somehow escaped the proofreading.

Thank you for bringing Toshi=s page to the attention of the Clivia Club. I have not personally visited the web site, but I see it has been referred to in the chat groups.

We hope that many of the Clivia Club members will drop in and see the plant exhibition in Newcastle on their way down to the KwaZulu/Natal show. Good luck with your promotion of Clivia in the Platteland. Editor.

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COMPARISON OF THE CLIVIA SPECIES (see back cover for colour illustration)

Adri Haxton PO Box 977, Gallo Manor 2052 e-mail <u>jameshax@global.co.za</u> 5 June 2000

"Dear all,"

Using my own observations as well as the references listed at the end I compiled this comparison between the tubular species. Miniata is added for completeness. Until further clarification the swamp specie/s is not included. Please help to complete. (Please note this has been changed since it appeared in <cli>clivia-enthusiasts@egroups.com>)

Regards, Adri Haxton. ^ proeflees tabel deeglik;

	caulescens	gardenii	miniata	nobilis	
date described	1943	1856	1854	1828	
area endemic (RSA)	north east escarp	eastern mountains	eastern	south east coast	
flowering time (main)	summer	autumn	spring	spring - summer	
scape (flower stem)	green	brown => green	green	green	
perianth shape	pendulous tubular	pendulous tubular	upright trumpet	pendulous tubular	
perianth	thinnest	largest	various	shortest	
perianth length	?3.5 cm	4 - 7 ? cm	various	2.5 - 4 cm	
perianth width	? cm	1 cm	5 - 7 cm	1.1 cm	
no. of perianths	15 - 18	10 - 14 (least)	ca 16	20 - 40 (most)	
stigma + style	protruding(6mm)	protruding>7mm	various	protruding(6mm)	
seed ripe (main)	winter (6 mths)	winter (15 mths)	winter (9 mths)	winter (9 mths)	
seed size	9 - 13 mm	9 -16 mm	various	6 - 11 mm	
seed membrane	cream	cream	cream	ruby red	
chromosome count	?	?	?	?	
plant aerial stem	yes; leafless	sometimes	no	no	
leaf length	45 - 60 cm	35 - 45 cm	various	1=40-42; 30-80 cm	
leaf width	3.5 - 5 cm	3 - 4 cm	various	1=3-4; 2.5 - 5 cm	
leaf colour	RHS 139A	RHS 147A	various	1 = RHS 137B	
central cream stripe	no	no	no	1 = yes	
leaf	soft	soft	soft	1 = firm	
leaf surface	smooth, gloss	dull, cross rib.	smooth, gloss	rough, long. rib.	
leaf edge	rough / smooth	smooth	smooth	serrated	
leaf apex (tip)	pointed	pointed	pointed	blunt	

Note: caulescens seedlings often without red base - may be mistaken for yellow miniata!

Geographical distribution:- **the land area** within the square definded by the co-ordinates representing the known north-western and south-eastern limits of the distribution.

- \$ C. caulescens between 23°S;30°E and 25.5°S;30°E (stemmed type)
- \$ C. gardenii between ??28°S;30°E and ??31°S;32.5°E
- \$ C. miniata between ??25.5°S;30°E; and 31°S;32°E
- \$ C. nobilis between ??31°S;26°E and 34°S;30°S

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Eliovson, S. 1995. South African Flowers For the Garden. Cape Town: Howard Timmins.

Lötter, Wessel. 2000. Personal communication.

Obermeyer, AA. 1972. Clivia gardenii. Flowering Plants of Africa. 42: ? Page nos. (Plate 1641).

Vorster, P. 1994. *Clivia nobilis. Flowering Plants of Africa.* 53: 70-74 (Plate 2094).

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ARE CLIVIAS LIKE PEOPLE?

By Sunelle Geyer

Dé Lecasta No. D9, 62 Steenloper Str., Monument Park Ext. 0181

From Northern Branch Newsletter 2,2000.

[^] het reeds verbeteringe aangebring - moenie dink dit is verkeerd omdat dit verskil van teks nie

There are four species classified under the genus *Clivia: Clivia miniata, Clivia nobilis, Clivia caulescens* and *Clivia gardenii*. These four species are representative of four different types of people: the brilliant, the slow developer, the adaptable and the cheerful ones.

Clivia miniata's floral orchestra trumpets a festival for the eye. Miniata represents those beautiful, talented people on whom society's spotlight falls. On occasion, one may selfishly tow such a person along with you in your efforts to beautify your surroundings and to make the very nature of your existence brighter, to elevate your social status to greater heights, to draw more attention to yourself and to make yourself more acceptable. Should you in fact decide to sacrifice friendship and love, time and attentive listening for the virtue of such attractive company, you will soon realise that miniata is not only a flower. After a while her blooms whither away and disappear. Miniata then searches her audience for someone to appreciate her for her leaves as well, which dominate for eleven-twelfths of her lifetime. She needs fertile soil in which to grow and produce new blooms and water to quench her thirst. Remember that even the prettiest, most successful miniata also get attacked by all kinds of enemies. Help protect her against pests. Care for her twelve-twelfths of the time and she will reward you continuously with her luxuriant foliage - and a thirteenth cheque flower in spring.

Clivia nobilis is a slow grower. The nobilis-lover knows this, however, and does not mind nurturing a plant for ten years or longer before being rewarded with her first blooms. When the long and tedious waiting period is over, the gardener's unending patience proves to have paid off over and over again as the pleasure that the bloom eventually brings is well worth waiting for. Do not cease nurturing the nobilis people around you, even though their rather coarse leaf edges might scratch at your heart. Inevitably, a slow grower's blooms prove to be exceptionally beautiful - beheld through an eye that appreciates it for what it is, not comparing it with the miniata of our world.

Clivia caulescens is able to grow in very little soil. The adult plants are characterised by long stems. Caulescens can even grow on large rocks by sending out a network of roots that anchor themselves in mosses and lichens and are eventually able to cover an entire rock shelf. When the mother plant breaks up, the offspring simply send out roots again to grow where they happen to have landed - on a different rock shelf or on a forest floor rich in compost. Caulescens is indeed a bouquet to the adaptable amongst us - to everyone who manage to attain a great deal with very little. Caulescens is a tribute to those taking gigantic leaps into the unknown to establish themselves, their families, societies and even the whole of humankind in new territories beyond familiar horizons.

Clivia gardenii is an autumn bloomer. When the weatherman is forecasting only black frosts and snow, gardenii bedecks the earth as sparkling lights of hope. Gardenii represents what Christians should be: thankful and joyful on account of their names having been recorded in the Book of Life. They are the essence of joy and gladness - in spite of cold, harsh winters attacking them from every front.

Sunelle Geyer.

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CLIVIA AND CULTIVAR NAMES

Mrs Joan Sadie Directorate Genetic Resources, National Department of Agriculture, Private Bag X5044, Stellenbosch 7599 e-mail JoanS@nda.agric.za Tel. 021-809 1648 Fax 021-887 2264 17 February 2000

Dear Meg

I am a new member and joined the club due to personal interest at the end of 1999. However, due to my job where I deal with cultivar names and plant breeders' rights, I am following the discussions on nomenclature, etc. in the newsletters of 1999 with great interest. Thank you for sending me the newsletters.

I am the Registrar for the International Protea Register and was asked to look into and start a register for cultivars derived from the endemic/indigenous flora of Southern Africa, excluding those genera/groups for which an international register already exists. Due to my interest in Clivias, I looked for and noticed that there is no register for Clivias. After enquiring, I learned that the Clivia Club has been appointed the International Registration Authority for Clivias early this year, or at least it was approved by the ISHS.

I herewith want to offer my help, when and if required, regarding cultivar names. I'm not claiming to be the expert, but I have contacts and background information regarding the rules for cultivar names, etc. E.g. I've noticed that the term "grex" has been mentioned a few times for certain cultivars (groups), but that term is only applicable to orchids and may not be used for any other plant group.

For those who might be interested, I intend to present a poster re. the rules for cultivar names at the International Flower bulb symposium which is scheduled for 28-31 August 2000 at Kirstenbosch.

I'm sending you this information, as I think you're the person who'll know to whom the info should go. It could also be published in the newsletter, if you consider it necessary.

With kind regards

Joan Sadie.

This letter has been passed on to the Clivia Club Committee and to Nick Primich and the sub-committee dealing with the registration of cultivar names. This sub-committee will be detailing how members should go about registering their cultivars. In the meantime, apart from naming your particular cultivar, it will be necessary to describe it in detail and accompany it with a photograph before it can be registered. Editor.

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CLIVIA ENTHUSIAST GROUP COMMUNICATIONS

THE SWAMP CLIVIA

There has been much discussion on the e-group about another possible species. However, this may not be recent find as the following was described in 1965.

In the Clivia Club Newsletter Volume 4 Number Two April 1995, page 4, there is an article, AAn extract from a letter from W.L. Chiazzari, Pietermaritzburg 14.07.65.@ which Nick Primich published from the archives of the National Herbarium. It is reproduced here for the benefit of those who do not have this newsletter or who have not seen it on the net.

AThe Clivia was taken from a small patch of isolated swamp forest growing in dense masses beneath trees. I first located this same group of Clivia in 1943 when I was serving in the S.A.A.F. during the last war and had been sent with No 29 Squadron to a landing strip named Lombazi approximately 1 mile from this patch of forest. A coloured sketch was prepared from a flowering head at the time, and is still in my possession. However, about four years ago, I again visited the areas and brought back a number of plants, one of which I took to the Herbarium, Botanic Gardens, Durban, from where it was consigned to

your Department in Pretoria for identification by a Miss Johnson. To this date I have not heard as to the identity of this species.

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

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

W.L. Chiazzari.@

Sean Chubb had a look at Mr. Chiazzarri=s plants and found tham to be C. gardenii. The plant stems are approximately 8cm in diameter, very robust and some plants were approximately 8 feet tall.

This gives food for thought. The ultimate test will be DNA identification. Editor.

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VARIETIES OF VARIEGATED CLIVIAS (THIRD EXCERPT FROM A CHINESE CATALOGUE ON VARIEGATED CLIVIA)

By Shiang Shi and Song-liang, Translated by Yu-Fu (Philip) Liu Gee Ling Scientific Publications, Chang Chun March 1999

II. Culture

Although variegated clivias require similar conditions as normal clivias, there are some difference for their exact requirements for temperature, light, water, medium and nutrients. Only carefully control for these elements can one grow healthy variegated clivias. Next, we are going to share some personal experience for your reference.

1 Temperature

Like normal clivias, variegated clivias native habitat is in the sub-tropical forest in South Africa. The climate is warm all the year round and between 10-22°C and the annual rainfall is 500-1500 mm. This environment is very suitable for clivias. Therefore we should try to mimic the natural environment to grow them well. The best growing temperature for variegated clivia is 12-22°C. A little lower than one would grow normal Clivias. However, if the temperatures drop below 10°C the growth will be inhibited. Exposed to zero degrees Celsius for a short period of time cannot hurt the plants too much but will damage or kill the plants if the time period is prolonged. At the same time the growing temperature for variegated clivia can not be too high. If the temperature rises above 30°C and with high humidity the leaves will become elongated and thinner and less glossy. If the conditions are dry the leaves become yellow from the leaf tips down and may cost the life of the plant. Therefore in summer if the temperature rises above 25°C provide ample ventilation and sufficient shading.

Table 1 shows the preferred temperatures in four seasons.

TABLE 1: Temperatures in degrees Celsius

	Spring	Summer	Autumn	Winter
Day	15 - 20	20 - 25	20 - 22	15 - 20
Night	12 - 15	18 - 20	15 - 18	12 - 15

2 Light Exposure

All living creatures need sunlight. So do variegated clivias. Without a certain period of light exposure the yellow or white stripes on the leaves will begin to deteriorate and the whole plant will not grow well. Therefore light exposure is a very important element.

In the forests of South Africa the sunlight shines through the branches and provides dappled sunlight. This is the best light exposure for variegated clivias. Therefore we need various shading materials, especially in summer.

There are many ways of shading. Making shade tents above the greenhouse is one. It should be a little bit higher than the greenhouse to provide good ventilation and reduce temperatures. There are different shading materials such as reed matting, bamboo screens, and modern shade cloth. The ideal height above the roof of the greenhouse is 30 cm. Based on different growing areas there should be different shading requirements.

Table 2 is the shading requirements for northern China, southern China should reduce the light exposure accordingly.

TABLE 2: Shading requirements in percentage

_	Jan	Feb- March	April - May	June - Sept	Oct Nov	December
Shade requirement	20	30	30	50 - 60	20	10

3 Water

Water is a very important element to support plant life. Without water the variegated clivias will die. Variegated clivias need proper watering to grow well. High temperature water, over-watering, keeping the roots too wet, will affect their normal growing. Although to a certain degree that clivias resist drought, but they can=t be kept too dry without affecting their normal growth. During the active growing season, the medium should contain enough moisture, yet not too wet or too dry. There is a saying among growers. Totally dry B totally wet. This saying is incorrect. If the medium is allowed to dry out, the next time one waters the water will channel through the medium without wetting it properly. In this case the root system cannot get enough water or nutrients and thus the plant will become weakened, however the total wet part of the saying is correct.

The proper pH value for variegated clivia should be neutral, about 6.5 to 7 and moisture in the medium should be around 20-40%. And the ambient RH (moisture) should be around 60-70% which is lower than normal clivias prefer. If the humidity is higher, the leaves of purely variegated clivias become susceptible to diseases which is not beneficial to their culture. Therefore special attention should be given to humidity control.

4 Soil and culture medium

Natural habitat of variegated clivias is humus in the forest floor. Therefore we can cultivate them properly by using compost made from pine needles or (some tree >A= leaves). Here is an example of the formula the authors currently use:

First we should use mature compost, which is brownish red, screening is not necessary but take our branches and twigs. Add river sand or charcoal into the compost. The size of the sand would be about that of rice grains. The size of charcoal should be from rice grain to soybean size. Wash them before making the formula.

Tree A : river sand = 8:1; Tree A : pine leaves = 5:1; Tree A : charcoal = 8:1

5 Nutrients/Fertilizer

In the process of growing variegated clivia needs a lot of nutrients and mineral nutrients, including carbon, hydrogen, oxygen, nitrogen, phosphorus, potassium, sulfur, calcium, magnesium and some minor elements such as iron, copper, manganese, zinc, chlorine, molybdenum, and boron. These elements are indispensable.

Currently, Japanese use soil free media to grow Clivia and therefore they add the required nutrients in liquid or granular forms. In our growing methods using the compost and adding periodically, solid or liquid fertilizers can guarantee the clivia is getting enough nutrients.

The common solid fertilizers are bone meal, sesame seeds and castor oil, and other seeds. These solid fertilizers are long lasting, odourless and thus are suitable for greenhouse or indoor growing. The method of application is to heat them rapidly and apply every six months. After heating the fertilizer is applied every 6 months, usually in spring or fall, mix it into the growing medium.

6 Care of seedlings

It takes about 60 days for the seeds to germinate and the new leaves should show their variegation. They need to be transplanted at this time, and the seedlings picked out with variegation and grow the rest altogether. After a period of time one can make second selection and screen out the ones that have no variegation.

The first stage seedlings are small. We can plant 4-6 seedlings in a 4" size pot. The growing medium for seedlings should be 90% of compost and 10% of river sand or charcoal, or 20% pine needles with 80% compost.

Put the medium into a pot and flatten it. Use pencils or sticks to make holes and gently insert the seedlings into the holes. Be careful that the leaves should be towards one direction, the upper side should be towards the sun.

Seedlings of variegated clivias are weak and thus can=t tolerate strong light exposure. The growing temperature should not be too high, around 10-20°C in order to prevent elongation of the leaves the temp should not be in excess of 22°C. Furthermore they should not be kept too wet. 20% relative humidity should be enough.

7 Care for immature plants

In summer, due to the hot climate, the medium dries up faster than usual, therefore one should keep an eye

on the moisture in the medium. Usually, watering once everyday should be enough. On cloudy days, water evaporates more slowly and watering once every other day should be enough. Remember to water the plants thoroughly.

In winter in northern China, the temperature in the greenhouse and in homes is lower than it is in summer and thus water evaporates more slowly. The frequency of watering depends on the moisture in the potting medium, usually one can water every 3 B 5 days or even less frequently. And when watering, water should go through the drainage hole at the bottom.

In order to grow variegated clivias well, the amount of fertilizer given should depend on the purity of the plants. Purity depends on the portion of white or yellow stripes on the leaves. The larger the portion the higher the purity and vice versa. Variegated clivias of low purity can be fertilized as normal clivia. With plants of high purity, feeding depends on the amount of variegation. Liquid from fermented sesame seeds or soybeans can be used as fertilizers. The concentration should be 1 per 100 H2O. It is better to fertilize with lower concentration with higher frequency. Fertilize every 10 to 15 days. Fertilizer should not touch the leaves or get in the crown. If fertilizer is on the leaves, use water to wash it off to prevent leaf burn.

The size of the pot should depend on the size of the plant. Seedlings of variegated clivia can be repotted when they are one year old or older. The best seasons for repotting are spring and autumn. The size of the pots can be selected judging from the number of leaves.

```
2-3 leaves
                                               use 4" pot 2 plants in each pot.
$
$
$
$
$
$
                              3-5 leaves
                                               use 4" pot, 1 plant per pot.
                              5-8 leaves
                                               use 5" pot, 1 plant per pot.
                              8-9 leaves
                                               use 6" pot,
                              10-15 leaves
                                               use 7" pot.
                              15-20 leaves
                                               use 8" pot.
                              20-25 leaves
                                               use 10-12" inch pot.
```

As the plants grow bigger they need more nutrients, in addition to the fertilizing with fermented water solid fertilizers should be given in spring and autumn. The amount depends on the size of the plant.

As mentioned before sesame seeds and castor beans and bone meal can be used as solid fertilizers. The mixture of bone-meal and charred sesame seeds gives good results. The amount is

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$ 4" pot = 10 gm sesame seeds, 7 grams of bone meal
$ 5" pot = 15 gm sesame seeds and 7 grams of bone meal
$ 6" pot = 20 gm sesame seeds and 10
$ 7" pot = 30 gm and 15
$ 8" pot = 50 gm and 25
$ 10" pot = 80 gm and 40
$ 12" pot = 100 gm and 50
```

Plants should be fertilized when they are growing, no pests or diseases or rotten roots are present. After using the solid fertilizers, one should wait at least 3 months before using liquid fertilizers. Higher purity variegated clivias should get less fertilizers.

To sum it up, constantly observe the growing condition of the plants and change the growing practice when necessary. Thus you can grow them better.

8 Pests and diseases

Pests. Variegated clivias are pretty strong and seldom have pest infections. So far only one, mealy bugs are found living deep between the leaves. They may encroach on the entire leaf surface and suck the juice out of the plant. Thus the whole plant becomes weaker and can not grow properly.

Prevention or cure once they are found, use cotton soaked with soapy water to scrape them off the leaves at the same time increase ventilation. Lower the humidity, increase the day-night temperature drop. This can not only inhibit its reproduction and also deter any of pests or diseases. Chemicals can also be used to control this pest such as AKwWE 1@ in a 1500 x dilution.

There are quite a few diseases found on variegated clivias e.g. rot, burn and spotted leaf diseases.

Rot is the most common disease for variegated clivias. The disease usually starts from the sheathes and roots and in a short period of time there can be only a few leaves or roots left. If serious the whole plant including the meristem will die. This disease usually happens in summer or fall. The reasons are due to hot and humid weather and high indoor temperatures, insufficient ventilation. Untreated physical damage and water stuck between the leaves.

Cure and prevention. In summer and fall seasons plants should be given less light and increase the ventilation to lower the temperature. The clivias can grow normally and decrease the possibility of the infection. Any physical damage should be treated immediately with charcoal powder and the areas is kept dry. Do not water on the leaves especially on those of blooming plants. Inspect the plants regularly and carefully. Chemicals can be used if the disease is discovered early. First cut off the infected tissues. Then use antibiotics with a concentration of 1000:1. Apply charcoal powder on the cut wounds.

Spotted leaf disease. A fungus causes this disease. Physical damage to roots allows infection by the fungus. The best way to find out about the infection is to cut an infected leaf off and inspect it with a microscope.

Cure and Prevention. Cut off the infected leaves to prevent expansion of the spores. Chemicals can also be use for prevention

Sunburn. It happens in summer and fall when the leaves exposed under high sun exposure, the cells are killed starting with the white or yellow portion of the leaves progressing to the leaf tips. The whole plant may die if it is just left untreated.

Cure and Prevention. In summer and fall special care should be taken on shading nd ventilation, lower temperature and by avoiding direct sunlight.

Another kind or burn is from fertilizers, which is caused by high temperature, over concentrated solid fertilizer or untimely watering. The yellow burn mark start from the tips of the leaves gradually expands towards the base and the whole plant may die if all the leaves turn yellow.

Treatment stop fertilizing use pure water resume fertilizing after the plant is back to health.

..*..

Nick Primich ^ Kry >n foto by Nick

Nicholas William Primich was born on 16.01.1933 in Johannesburg. He was the youngest of four children, three boys and one girl. He had his junior school education in Johannesburg, but finished his high School in Uitenhage.

He remembers his childhood as being a busy and industrious time. There was not much time for play outside of school activities, but whenever the chance came he would make his way into the veld and into

the world he loved best. The veld around Johannesburg was very different in those days to what it is now. The grass abounded with rabbits, rats, mice, snakes, meerkats and sundry creatures. Most of the trees outside of farmland had been cut down by foragers, so by and large this was a world of grassland, with a few dongas, a dam or two and a few interesting koppies. The bird population was limited to the grassland birds, but there were plenty of them. Down under the grass was another world again. This was the word of fairies and mushrooms, insects and spiders, and the unending variety of plants.

His father, who was an accountant, ran a small poultry farm in his spare time. The family was expected to dig in and do all the work, for Dad was only home on the week-end in daylight hours. He was a bird fancier too, and kept pigeons, canaries and a few others. However, unlike Wessel, he prevented his birds from flying, and any hen that flew over the wire fence immediately had one of her wings clipped.

Nicholas did well at school, and also did well on the sports field. He was interested in a wide range of subjects, and was quite unsure what he should do when he left school. He did a year fulltime service in the S.A. Navy in lieu of part time ACF training. When he completed this he became apprenticed as an optical and laboratory instrument-maker. Owing to various problems connected to the fate of the Carl Zeiss optical works after the end of the war, he left. He went to the then Southern Rhodesia, and joined Rhodesian Cables in Salisbury. He stayed there for twelve years, and had with the help of the firm studied for his A.M.I.E.E.

When he returned to his father=s house in Johannesburg, he intended to go in for construction work in the electrical field. However, when he got there he found that his cousin from Dubrovnik, who had bought a butchery in Johannesburg was seriously ill. He took over the shop and learning as he went, managed to get things under control. His cousin returned to Croatia (then part of Yugoslavia), and after a lingering illness, passed away. Nicholas was now stuck with this shop that he did not particularly want, but had little option but to hold out until a buyer could be found. That eventually came about and he was able to enter the construction field.

^ iets was nie reg mbt die verwysing na die kinders nie skakel Nick.Nicholas married Pauline Joy Schabram in 1963. They had two children, Dianne, and Neville. In 1972 they were divorced, and Joy took the children and went to live in Pietermaritzburg. Nicholas got remarried to Roselyn Mary Healey. She had three sons, Clifton, Tyrone and Raymond. They lived in Krugersdorp. Nicholas was a keen gardener as were his parents before him. Now that he was away in the field most of the time he had little chance to do much gardening, but he did manage to build up an extensive collection of succulents. In 1984, he retired from construction work and bought a boarding house in Roodepoort. Here he was able to garden to his heart=s content. The succulent collection, which contained many aloes, gave way to a bulb and orchid collection. These plants were much more to his liking and he soon built up an enormous collection. He was in touch with many collectors of bulbs rather than orchids. For all the orchid=s exotic appeal he preferred the bulbs.

One day, when he still lived in Krugersdorp, he stopped at a nursery to pick up a few plants. In the entrance to the nursery there was a miniata in full bloom. The price tag was R40! This was still in the 70's and this was a big sum of money then. He schemed how to get hold of the money, but by the time he got it the plant was sold. They were just not available in this part of the world at that time.

A few years later, he was able to buy a nobilis from von Lyncker who had a bulb nursery in the Cape. This was his first Clivia, and he still has the plant. Yellows were unobtainable then. The growers who had them, such as Cynthia Giddy and Jim Holmes did not even reply to any correspondence. The Australians, Bill Morris, Kevin Walters, and Ken Smith sent him yellow seeds in exchange for various bulbs. Indeed, it was in corresponding with these three gentlemen that he conceived the idea of a universal newsletter for clivia.

He conceived a novel method of starting the newsletter. He was corresponding with \forall 50 bulb collectors around the world at the time. He dunned a few of the knowledgeable correspondents for an article each, and issued the first three numbers free of charge. He still has the letter from one Bill Morris where Bill says that it will be fine for a few issues, but what will one write about after that!

He put an advert in the RHS Journal, and that brought in quite a few overseas customers for the second volume. It was then a story of continual growth. The last two years have shown how much the Club can really grow when young and energetic people use the media intelligently.

_____ACTIVITIES OF CLIVIA CLUB BRANCHES

KWAZULU/NATAL BRANCH

The Swamp Clivia

A most interesting and enjoyable day was had by a group of 10 club members who went on a field trip to visit the clivia growing in swamp conditions down the South Coast of Natal. It was a really beautiful day, cool and not too humid. We all piled into the back of our host=s van and set off down bumpy and slushy conditions through the banana plantations.

The area was riverine coastal forest. There were various ferns growing in amongst the clivia, as well as epiphytic and terrestrial orchids growing on uMdoni trees and on the forest floor.

The Gardenii were generally very large, robust plants with broad, leathery leaves, similar to those of Caulescens. The flower colour varied from dark orange with green tips to pale orange with greenish yellow tips. The peduncles also varied in colour from dark pinkish red with dark flowers to pinkish green with pale flowers. The plants appeared to rise up out of the watery conditions with the roots having the appearance of a prop-like maize stem. There were also plenty of young plants growing around the parent plants in all conditions.

Some plants were growing on banks out of swampy conditions while others were actually growing in running water. Parts of the swamp ware stagnant and there were signs of various diseases amongst the colony.

We then returned for a bring and braai. After a lot of talking and laughing we went to another area which was situated around a waterfall. The plants looked similar to those in the swamp area but were growing in a sandy soil covered with a layer of decomposing leaves and vegetation. There were E. natalensis cycads, aloes, orchids and clivia growing high up in the rock-face overhanging the falls. The falls and surrounding area was relatively undisturbed and pristine. A most knowledgeable, enjoyable and interesting day was had by all.

Val Thurston.

NORTHERN CLIVIA CLUB

Synopsis of address by Dr Keith Hammett

Dr Keith Hammett addressed the Northern Branch of the Clivia Club on 18 June 2000 at Unisa Park in Irene. Dr Hammett, a botanist, is conducting clivia research at the University of Auckland. From time to time his delving into this subject brings him to South Africa to study the plant in its natural habitat

and to obtain plant material needed to do much needed research on the genus.

Dr Hammett opened by stressing the rare privilege of belonging to a club dedicated to an indigenous genus: associations are usually formed to promote exotic plants. We should also be taking advantage of the fact that the clivia club is experiencing a growing curve while interest in many other plant associations is declining.

What brought Keith to South Africa this time is his research on the so called Aswamp clivia@. Testing on one example of this type of plant revealed an extra chromosome band which genetically distinguishes this plant from the other four species, but as conclusions cannot be made on tests done on just one plant only, further research is needed before the swamp clivia can be declared to be a fifth species of clivia.

The swamp clivia is a very robust plant which morphologically resembles *gardenii*. Its leaves are long and narrow with more rounded tips and clear vein markings. It typically occurs where there is an accumulation of water under overhanging trees. In the Transkei the swamp clivia forms a caulescent stem, as does the miniata from that region. When describing the stem of the swamp clivia as caulescent, Keith stresses the fact that the term caulescent, which can be used to describe a caulescent stem of an example of any of the four species, is not to be confused with the caulescens species.

When conducting DNA-tests, root tips are used, as active cell division is most likely to occur in this area. This use of root tips is revealing, aside to the main aim of the research, that clivia root growth is not constant throughout the year.

Keith described the theory as to why different populations of clivia evolved in nature. Thousands or even millions of years ago, forest is believed to have covered much of southern Africa. As the rainfall pattern changed, large areas of forest was replaced by grassland. Grass fires encroached on the remaining forest patches, limiting these habitats even further. Over time, the clivia occurring on each location evolved its own distinctive features. Sadly, many populations have totally disappeared already, especially due to the plants= traditional medicinal use. Truck loads of clivia are removed from location to be sold for this purpose.

Keith explained how the clivia was taken from southern Africa to the United Kingdom, Belgium, China, Japan, Australia, New Zealand, and the USA. Examples from different locations, having different features, ended up in different places where the characteristics of that specific plant (broad leaves for example) were further developed through selective cultivation. The introduction of the clivia to China is quite interesting. Two introductions are known of. The first was by a German priest into northern China in about 1875. Before the outbreak of World War II Hirohito presented the Chinese Emperor with clivia plants. The state of clivia as well as current trends in the above said countries were shortly described. Keith stressed the importance of conserving the natural form of the four species, warning against ending up with mongrel plants only in cultivation.

The last part of his address was spent discussing the colour of clivia flowers. Keith commenced by listing the so called Group 1- and Group 2 yellows. This classification is important because of the following:

Selfed Group 1 yellows produces mainly yellow flowering plants.

Selfed Group 2 yellows produces mainly orange flowering plants.

Crossings between a plant in Group 1 and a plant in Group 2 produces mainly orange flowering plants.

Crossing two group 1 plants will produce mainly yellow flowering plants.

Crossing two group 2 plants will produce mainly yellow flowering plants.

The groups are as follows:

Group 1 Group 2

Kirstenbosch Transkei

Howick Natal

Eshowe Giddy

Watkins Jardine

Karkloof Gibello

Holmes Apple Blossom

Vico

Kewensis

Bodnant

Floradale

Walters

Solomone

It is likely that differently named yellow plants are of exactly the same type. This will have to be verified by genetic testing.

An explanation was given on how gene mutations affect the production of a range of enzymes which controls the colouring of the petals.

Keith concluded by stressing how little we yet know about clivia and how much can be discovered by means of existing technology. It is only the lack of funding and the non-availability of plant material that hampers the rapid expansion of our knowledge of clivia. Overcoming the last said hurdle with regards to the swamp clivia was Keith=s main aim with his visit to South Africa during June 2000. The first hurdle remains an obstacle which more often than not has to be overcome by use of researchers= own resources.

Sunelle Geyer.

FORTHCOMING EVENTS

Pretoria Clivia Show

Dates: 2 - 3 September 2000

Venue: Hoërskool Die Wilgers in Frank Street, Lynnwood, Pretoria

Times: Saturday 2 September 9 am - 4 pm; Sunday 3 September 9 am - 2 pm

Entrance fee: R5.00, children under 12 free

Contact person: Sarel Naude at tel 012-661 5491 (h) or sarel.naude@sita.co.za

A seven-day holiday at La Lucia Sands and plants (including yellow-flowering clivia, can be won as prizes. Watch the local press for details on times of slide shows, and talks and demonstrations on clivia. Plants and seed will also be on sale. Contact Kerneels Buitendag (021 - 998 3089) for enquiries regarding sales areas. Lena van der Merwe should be contacted (012 - 804 1899) for registration of exhibit plants

Pietermaritzburg Show

Dates: 16 -17 Sept. 2000

Venue: Royal Agricultural Show Grounds in Pietermaritzburg

Times: 9.30 am - 4.00 pm

Entrance fee: R5.00

Contact person: Sean Chubb 031 - 781 1978 or Val Thurston 032 - 943 1316 (a/h)

Continuous Slide Show on both days; lectures daily at 11.00 am and 3.00 pm on potting mixtures and seed propagation; local clivia growers will be selling plants and seeds on both days of the show - these will include peaches, yellows etc; .Sunday 2.00 pm an auction will take place on which a selection of winning

plants will be sold as well as other plants of quality.

Sunday 14 October - visit to see C. miniata in Greytown area

Saturday 2 December - "All fall down Xmas Party" at the home of Mark Laing and Dave Moon

Saturday 27 January 2001 - Annual General Meeting - KwaZulu Natal Clivia Branch

Please contact Val Thurston for what to bring, times and where to meet nearer the date of the outing or function. Tel (032) 943 1316, e-mail thur001@iafrica.com

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Cape Town Clivia Show

Dates: 23 - 26 September 2000

Venue: Sanlam Hall at Kirstenbosch Botanical Gardens

Times: 9am-5pm

Entrance fee: R3 per adult, children under 12 years free, free to seniors on Tuesday in line with

Kirstenbosch Garden's policy for seniors to have free entry to the gardens on Tuesdays.

Contact person: Joy Woodward at tel (021) 762 1166, fax (021) 797 0002 or e-mail

woodward@nbict.nbiac.za

Each day of the show yellow flowering clivias can be won as prizes. Plants will also be on sale.

Port Elizabeth Clivia Show

Dates: 30 September & 1 October 2000

Venue: Verkenner Primary School, Salvia Crescent, Linton Grange

Times: 9 am-5pm

Entrance fee: R5.00, children under 12 free

Contact person: Fred Gibello tel (0422) 296 1807

Plants, including yellow-flowering clivias, can be won as prizes. Plants and seed will also be on sale. Contact Charl for starting time of lectures.

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_____FOR SALE

From the Clivia Club:

Advertisements. Tariffs for advertising in the Clivia Club Newsletter:

Full page - R200,00; 2 page - R100,00; 3 page - R50,00; per line - R5,00;

A4 separate page insert - R800,00; A5 separate page insert - R400,00.

(You will be sent an account from the treasurer for the appropriate amount.)

Copies of back volumes. These are available from the Public Relations Officer.

Each year=s back copies will cost R25,00 (US\$15.00 or equivalent).

Membership lists. Full membership lists are available from the club for R25,00 (US\$15 or equivalent).

ATHE CLIVIA@ by VA Thurston. R100,00 a copy. Cost of book **plus registered post**: South Africa - R110,00 (signature on delivery); UK - ,25; USA - \$35; Australia - \$55. Allow ∀ 3 weeks for printing and delivery. **Address:** Mrs V A Thurston, PO Box 3181, Westbrook 4400, South Africa. **Phone no.** (032)

943 1316 after 4pm. **E-mail**: thur001@iafrica.com

Clivia miniata, pendulous species and specialities e.g. Multipetals - mature plants and seedlings available. Connie Abel, 89 Brampton Rd, Lynwood Manor 0081. Tel (012) 361 6406.

Clivia miniata F₁ (yellow x orange), Apinks@ and pastels, flowering size @ R12. Clivia miniata yellows, flowering size @ R150. C. miniata >Stef=s Perfume= @ R18,00. Extra for postage and packaging. Dries Bester, PO Box 75, Levubu 0929. Tel/Fax (015) 583 0299.

Clivia miniata plants for sale, 3 years old, R5,00 each out of ground. Contact Roly Strachan, Box 57, Highflats 3306 or phone or fax (039) 835 0085.

Imported clivia from Belgium. Plants are cultivated to flower from 18 months and will arrive at the end of May 2000. Two year old flowering size plants @ R80,00 per plant. Postage and packaging excluded. To place your order phone Louis Swanepoel as soon as possible at 083 297 4533 or (011) 391 1197 (a/h).

BARK ENTERPRISES. Excellent seedling mix, potting soil and specialised prescription mixes (PRE 02) for sale. STEVE TROLLIP, PO BOX 3622, BRITS 0250, SOUTH AFRICA. Tel/Fax: +27 (12) 252 7582, Tel: +27 (12) 252 7535, Cell 1: 082 771 8497, Cell 2: 082 789 3730, e-mail: trollip@lantic.co.za



STOCKTAKING

Visitors to my place will be used to the clipboard and computer sheets that are seldom far from my hand. Many people have asked me "Do you keep your clivias on computer?". Well, yes, sort of, let me try to explain.

Fortunately for me I learned to be familiar with word processors and computers in the early days. I have the most atrocious handwriting, and it is utterly useless for recording any information that one may need later.

The program that I use is a spreadsheet. You can use Lotus, or Excel or any other. One does not really need much of the power of these programs to do what I do with them. If you only keep a handful of plants perhaps you can manage with handwritten records, but the plants have a way of sneaking into your house and the next time you look there are considerably more.

Firstly, you need what I call a stock list. That is, a list that tells you what plants you have in stock. Secondly, you need to number each and every pot with a systematic numbering system. In the beginning one series of numbers may do you, but as the numbers grow you may find that it is easier to have a series for each class of clivia. Thus you may use BL0001 for your first broadleaf, and Y0001 for your first yellow.

The next type of list that you need is a hybridization list. Thus, on the first of January 1999, I started my list for this year. The first hybridization that I did was 9901, and the last one on my list now is 99166. Next year I will start with 0001.

Now on these lists you can keep as much detailed information about your plants as you wish. I like to keep the source and date of the acquisition, age or an estimate thereof, colour, leaf style and short data notes. This all on the stock list. On the hybrid list I have the ovary parent x pollen parent, date of

pollination, number of fruits, number of seeds, number planted, germination notes and notes about reds and yellows etc.

As you work through the year you will make many notes on these sheets, and you will faithfully put these notes onto the hard disc of your computer. Then you will find that when your sheets get left in the rain or become indescribably dirty, you can print out a lovely spanking new one that is fully up to date.

The hybrid number goes onto the seed tray along with the batch of seeds, and even when I plant them out into 2 litre Coke bottles cut in half, the hybrid number written on the side of the bottle suffices to identify them. In their fourth year I put them into 16cm shrub pots ready for flowering, and when they flower they will need to be entered onto the stock list so they will have a number for the hybrid list.

I have found that one can so easily lose numbers, helped by visitors who insist on pulling out the plastic tags and replacing them where ever, so when I repot I tend to write a number on the pot, or better still on opposite sides of the pot, on the plastic tag, and on one of the central leaves. Then you might have a chance.

When you start a new sheet, your computer has a handy device for generating series of numbers, thus it is able to list your pots such as Y0001 - Y0100 automatically. Imagine having to type all that out! You can also keep totals in the columns that are devoted to figures. If you do not know anything about spreadsheets, ask around and you will surely find an acquaintance who can enlighten you. They are really simple programs to learn to operate. I have not found use for most of the great features in these programs, and if anyone does find something I will only be too glad to hear about it. I hope you will find this of some use. I have been able to identify and establish my best breeders with these records. The best breeders are not always the best looking plants either. Good luck with it.

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ON THE COMPOST HEAP

Everyone is going mad about this >new= Swamp clivia, and yet it was probably around before all the others when the dinosaurs were still on our continent!

I am kept so busy on the net these days that I haven=t had much time to do much munching. I hope to hibernate in a >pod=, sorry >berry= for the winter.



Lily Borer (*Brithys crini pancratii*)

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^ insert back cover