

ISSN 1819-1460

CLIVIA NEWS

Newsletter
of the Clivia Society

VOLUME 23 - NUMBER 1 | JANUARY - JUNE 2014



*Anderson's Vera
Peach*

CLIVIA NEWS



The Clivia Society www.cliviasociety.org

The Clivia Society caters for Clivia enthusiasts throughout the world. It is the umbrella body for a number of constituent Clivia Clubs and Interest Groups which meet regularly in South Africa and elsewhere around the world. In addition, the Society has individual members in many countries, some of which also have their own Clivia Clubs. An annual yearbook and three newsletters are published by the Society. For information on becoming a member and / or for details of Clivia Clubs and Interest Groups contact the Clivia Society secretary or where appropriate, the International Contacts, at the addresses listed in the inside back cover.

The objectives of the Clivia Society

1. To coordinate the interests, activities and objectives of constituent Clivia Clubs and associate members;
2. To participate in activities for the protection and conservation of the genus Clivia in its natural habitat, thereby advancing the protection of the natural habitats and naturally occurring populations of the genus Clivia in accordance with the laws and practices of conservation;
3. To promote the cultivation, conservation and improvement of the genus Clivia by:
 - 3.1 The exchange and mutual dissemination of information amongst Constituent Clivia Clubs and associate members;
 - 3.2 Where possible, the mutual exchange of plants, seed and pollen amongst Constituent Clivia Clubs and associate members; and
 - 3.3 The mutual distribution of specialised knowledge and expertise amongst Constituent Clivia Clubs and associate members;
4. To promote the progress of and increase in knowledge of the genus Clivia and to advance it by enabling research to be done and by the accumulation of data and dissemination thereof amongst constituent Clivia Clubs and associate members;
5. To promote interest in and knowledge of the genus Clivia amongst the general public; and
6. To do all such things as may be necessary and appropriate for the promotion of the abovementioned objectives.

More information on the Clivia Society available on
www.cliviasociety.org

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SEE INSIDE BACK FOR CONTACT DETAILS.

The *Clivia* Society Newsletter started as a black and white news-sheet dated July 1992, numbered Volume 1 Bumber 1, called '*Clivia* Club'. It formed a means of communication for people interested in the plant genus *Clivia*. It was edited/written by the late Nick Primich with issues respectively 3, 5, 8 & 5 during the first 4 years dated with the month of publication.

The frequency was fixed on four annually issues with Vol. 5 No 1 of March 1996.

The date changed to the southern hemisphere seasons with Vol. 8 No 1 of Autumn 1999. The name changed to 'CLIVIA CLUB NEWSLETTER' with Vol. 9 No 1 Autumn 2000 with full colour photos on the cover pages. Another name change to 'CLIVIA SOCIETY NEWSLETTER' came with Vol. 10 No 4 Summer 2000, and in 2005 monthly dating was reinstated.

CLIVIA NEWS is the continuation of this series.



EDITORIAL

It was with great sadness that I heard about the death of a *Clivia* great, John Winter. His influence on *Clivia* is felt far and wide, including through plants like 'Kirstenbosch Supreme', amongst many plants which we will cherish fondly in our collections. We express our deepest condolences to his wife and family, whom we hold in our thoughts.

Our condolences also go out to the families of Toy Jennings, Brenda Nuss and Roly Strachan. These people have made huge contributions over years to the *Clivia* world, for which we are for ever indebted.

Some plant-related clubs and societies seem to be struggling to survive in the current age of instant gratification brought about by the readily available bandwidth provided by the electronic media. A lot of media seems to be focused on selling things, and some publications are mere delivery devices for adverts and advertorials. The electronic media seems to be heavily slanted toward the visual as compared to the word, and there are hardly any publishing time delays from the time a contributor places some pictures with a brief description online until it is available for consumption. Feedback is also more readily obtained, and enquiries can be dealt with efficiently, without much hassle. It is in this context that I attempt to reposition the *Clivia News* and the *Yearbook*. The electronic versions of these should ideally be distributed as widely as possible as a means of reaching more potentially interested parties who could either become clients of our constituent members, join our clubs or just become friends.

As Editor I published a total of 332 pages over the past year by way of the *Clivia News* and *Yearbook 15*. I would like to thank all the people who have played a role in some way in helping to produce these two Society publications over the past year – all the article contributors, Helen S, Helen M, Sue, Sakkie, Marlene and Christo, Fréda, Annatjie and Anita. Thank you for your time and all the valuable contributions.



Cover photo: 'Anderson's Vera Peach'

I believe we should always work hard at making place for all the different kinds of people who have an interest in *Clivia* by way of our tolerance for one another and through the love we have of nature and our *Clivia*. The upcoming quadrennial conference in September this year in KwaZulu-Natal is an ideal opportunity to re-connect with old friends and to make new acquaintances. I am very excited and looking forward to the conference.

I returned from a *Clivia* visit to China at the beginning of April. It was fascinating to visit a number of growers in the Changchun and Shenyang areas and to learn more about various aspects of *Clivia* in China. This included some insights into their market structure – breeders, re-sellers, middlemen, window-growers etc. and the histories of various Chinese heritage plants such as 'Great Victory', 'Painter', 'Painter Face' and 'Monk'. I also learned more about how these plants bring characteristics valued by various Chinese breeders and collectors to the breeding of *Clivia*. ▼

Joubert van Wyk: Editor – Clivia News

P.S. Cut-off date for submissions for the next Clivia News: 21 September 2014.

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CLIVIA PERSONALITIES

Visiting the Andersons in Toowoomba

By Tino Ferero

When Sintie and I visited Australia in 2011, we had the pleasure of meeting Ian Anderson and his son Greg at the Toowoomba show at the peak of the *Clivia* flowering season. Both Ian and Greg were so involved in the *Clivia* Show that we could not fit in a visit to their collections. Fortunately they had some of their beautiful plants at the show for all visitors to see and admire.

We had the opportunity of visiting Australia again towards the end of 2013 until the middle of January 2014. This time I was determined to visit Ian and Greg and made prior arrangements with Greg for the visits, even if it was not in the *Clivia* flowering season.

In early January, Nicky and I first visited Greg and Jo where we had a delicious lunch, and then went to visit Ian and Claire. These visits were one of the highlights of our stay in Australia.

Whilst viewing the *Clivia* in both collections, the most interesting discussion took place of how Ian got started with *Clivia* and the various lines he had bred. I did not take notes, but arranged with Greg that I would email him a list of questions to which he undertook to reply. Here is the list of questions I sent to him:

- 1) How and when did Ian start with *Clivia*?
- 2) What is the history of the 'Anderson Peach' and 'Jelena'?
- 3) You have already given me information regarding 'Jelena' and 'Madeline' and will be sending me photos. Many beautiful flowers have been grown from crosses between 'Anderson Peach' and 'Jelena'. Could you please supply names and photos of some of these?



PHOTOS BY TINO FERERO

'Anderson's Elizabeth Peach' – ('Anderson's Peach X 'Jelena') – photo by Helen Marriott – a close up from the same batch of photos by Helen was used on the front cover of *Clivia News* Volume 19 Number 2 April – June 2010

- 4) What was his breeding philosophy: Selfing, line breeding, out-crossing, etc.?
- 5) Any other information that will be of interest to members.

Greg replied as follows:

After retiring from the family farm to Toowoomba in 1993, Ian & Claire became very keen gardeners. Ian loved growing Dahlias and at times he entered his better Dahlia blooms in local agricultural shows. The late 1990s brought with them a prolonged period of drier than normal seasons and Ian started to



'Anderson's Madeline Peach' - 2012 season ('Anderson's Peach' X 'Jelena')

look beyond the Dahlias as they required a fair amount of water.

He first saw *Clivia* in a Carnival of Flowers garden during this period and was told that they would be more drought-tolerant. He purchased a seedling from a local Sunday market and when it ultimately flowered in 2001, much to his surprise, it was not the expected orange but a beautiful peach.

At the time, one of Ian's friends, the late Noel Giddings, was one of the leading *Clivia* enthusiasts in Toowoomba and Noel recognised the potential of this new *Clivia*. He advised crossing it with a plant that he had at the time which he referred to as Pinky Peach & Cream (subsequently renamed 'Jelena'). As Ian was new to the *Clivia* game, Noel took care of 'Anderson's Peach' for the first season and pollinated it with 'Jelena'.

Its characteristics are: It has a leaf width of 65mm and length of 600mm and is a

consistent producer – it has never missed a flowering season. For the initial three seasons it produced a single umbel and since that time it has produced a double umbel every alternate year.

The umbel is large and held above the foliage. Flowers are tulip or cup-shaped, although this may be a result of the tightly formed umbel. When it produces an additional umbel, the flowers are further apart and this allows each one to open up a little more. Colouring is made up of pink and cream tones with a yellow throat, giving the overall tone of light peach (D8 on the Cape Clivia Chart).

Origins of 'Anderson's Peach': As well as 'AP', a number of other European-type peaches appeared in and around Toowoomba in the late 1990s and early 2000s and the exact origins of most of them are unknown, but it seems as though some at least may have originated from seed that had been imported



'Jelena' – 2012 season (There was an article by Gary Kitchen on 'Jelena' in *Clivia News* Volume 19 Number 2 April – June 2010)

from Europe by a local nursery. The seedlings, being widely dispersed when the nursery closed down, subsequently yielded an occasional peach.

Breeding with 'Jelena': The progeny resulting from this cross has proved to be very consistent and many Australian enthusiasts consider an 'AP' x 'Jelena' to be a must-have in their own collections. The majority of the offspring are broader leaved types with excellent vigour and display tulip or cup-shaped flowers with polychrome characteristics. Ian has followed the protocol of naming his best plants as individuals rather

'Anderson's Peach' – 2012 season (There was also a photo of 'Anderson's Peach' and an article by Helen Marriott in the *Clivia Society Newsletter* Volume 14 No 3 - July - Sept 2005).



'Anderson's Madeline Peach' X
'Anderson's Peach' – 4 year old
1st flowering in 2013 – potential
multitepal with 2 x 8 petals and 3
x 7 petals]

than as a cultivar group. Named plants from the cross retained by Ian for breeding purposes include 'Anderson's Elizabeth Peach', 'Anderson's Madeline Peach', 'Anderson's Catherine Peach' and 'Anderson's Vera Peach'. There are a large number of progeny spread throughout collections all over Australia. Some of these have been named by their new owners, however many remain simply as an 'AP' x 'Jelena' so as to retain their notoriety.

Ian's breeding program: As appears to be the case with many European Peaches, 'Anderson's



'Anderson's Vera Peach' ('Anderson's Peach' X 'Jelena') – 4 year old 1st flowering in 2012



'Peach' has proved to be a poor self-pollinator. Even when a flower is successfully self-pollinated, it tends to produce just one or two seeds. To date, Ian has only kept a small number of self-pollinated progeny through to

flowering. Results have been varied in both flower shape and colour (from pale through to very dark peach and both tulip and semi-open florets). Until recently Ian's breeding program has been concentrated within 'AP' and 'Jelena'



lines and we are now seeing the results from crosses with 'AP' with some of its own progeny. The pink tones are being accentuated with the 'Elizabeth' crosses and excellent vigour with the 'Madeline' crosses (including a potential multitepal which displayed five multitepal flowers on its first flowering as a four-year old seedling in 2013).

Outbreeding: Initially of course with 'Jelena', Ian also obtained an offset of 'Jordan's Apricot' from Brian Steven. The cross is compatible and the resulting progeny have shown

predominantly apricot toning and have been very popular. Ian has retained one plant from this cross, namely 'Anderson's Carnival Apricot' for breeding purposes.

In later years Ian obtained an offset from an excellent Cameron Peach (an "offset of an offset" that was imported into Australia when Mike Christie disposed of his collection), with the first progeny expected to flower in 2015. Clones of 'Vannery Imam' and 'Esmond Jones' are among some of the other European peaches added to the breeding program in





recent years.

Ian has always been very particular regarding pollen hygiene. A visit to him during September will find flowering peaches in almost every room of the house. All of the breeding peaches are isolated in this way to limit the risks posed by foreign pollen. Each peach also has its own individual pollen brush to further avoid the possibility of cross pollination.

I wish to thank Greg for the time and effort he put into his above-mentioned reply and for the wonderful kindness and hospitality extended to Nicky and I during our visits to him, Jo, Ian and Claire. I also want to express my admiration and gratitude towards Ian for his love for and dedication to the breeding and enhancement of *Clivia* in Australia and now also extending to countries beyond its borders. Thanks Ian. ▼

CLIVIA SOCIETY

Please note: All conference material can be obtained at <http://cliviaconference.za.org/>

Report from the Chair - 1 June 2014

By Glynn Middlewick

At the Annual General Meeting held in May 2014, we were honoured to be elected to the Executive Committee of the Clivia Society. Our Vice-Chairman, Piet Theron, is from the Garden Route Clivia Club. Sakkie Nel, from the Northern Clivia Club, has been re-elected as

Treasurer. Maylene Turner is the Secretary and a member of the Joburg Clivia Club. Joubert van Wyk is the Editor of both the Clivia News and the Yearbook. He lives in Johannesburg and is a member of both the Joburg and the Northern Clivia Clubs. Paul Kloeck completes the list of

Executive Committee members and he is from the Lowveld Clivia Club.

The role of the Society, with the Executive Committee (ExCo) running it, serves a vital role in ensuring that good networking between the Clubs is maintained. The strength of the Society is the constituent Clivia Club members. The ExCo is there to represent your interests. To ensure that we are able to serve you, your feedback is necessary. This may vary from requests for Show dates, lists of judges, updated information for contacting the various Clubs and Interest Groups or requests for payments of affiliation fees. Your questions and recommendations are welcome and will be appreciated.

We are well aware of the disappointment with the delivery of the annual Yearbooks. Our ExCo is made up of members of individual Clubs and our fellow members are quick to remind us that they are unhappy about the lack of delivery. We are also disappointed! The good news is that the Yearbooks 14 and 15 should be with you at this stage. No Yearbook for 2013 will be published. The absence of the Yearbook for 2013 has, after negotiation at the Annual General Meeting at George in May, resulted in a reduction in the affiliation fee to the Society for 2014. In South Africa the reduction will be R40.00. The Clubs will be responsible for working out an arrangement with their individual members regarding the reduction. Going forward, Yearbook 15 was published in late May and the Yearbooks will in future be published annually in April. The four editions of the *Clivia News* will be replaced by three editions per annum, published in July, October and January.

The year 2014 is a year in which the Quadrennial Conference takes place. The hosts this year will be the KwaZulu-Natal Clivia Club. We need as many *Clivia* members as possible to support the Conference and the visits to indigenous *Clivia* growing areas. This is the only Club that has the privilege to be situated close to naturally growing *Clivia*.

Our website is at present being revamped by Gideon Scheepers. This is not a small task. We hope to be able in future to list the Yearbooks and *Clivia News* on the site – perhaps with licenced viewing rights, perhaps with Cloud storage.

Individual Clubs are encouraged to develop their own websites. Gideon will help with this development. Contact the ExCo if you have any problems with this. The Society website will then refer browsers to regional websites. The Clivia Forum is one of the avenues that fills the role of internet communication between Clivia enthusiasts. Many of the Forum members belong to affiliated Clivia Clubs and we hope for a closer relationship with the Forum in the future. The other international website is the Yahoo Clivia Enthusiast Group which allows for further exchange of information via the internet.

A Handbook of Judging has been written by Koos Geldenhuys and his committee members representing each club in South Africa. This document is freely available, also in electronic form. We encourage fellow judges to study this Handbook and appreciate the basic principles contained therein. A list of Judges will be circulated at a later date with details of judging experience of each Judge included. We hope to standardise the future training of learner judges. For this to succeed, we will need the co-operation of the qualified Judges to ensure adequate training of new candidates.

Some well-known *Clivia* enthusiasts have been made honorary life members of the Clivia Society. These life members include Lena van der Merwe of the Northern Clivia Club, who served as executive secretary of the Society for many years. Their motivations are recorded in the minutes of the Annual General Meeting of May 2014. On behalf of the Society, I'd like to congratulate them and believe that the honour is well deserved.

One portfolio is vacant and that is Public Relations. This portfolio will be managed by the ExCo. The Society has partly supported a student completing his Master's degree at the University of Natal. His research was into diseases of *Clivia* and he will present two talks at the Clivia Conference in September.

There are several interesting and challenging prospects for the ExCo, but as long as we do not lose sight of the fact that we are here to promote *Clivia* and appreciate the pleasure that the plant gives us, we will succeed in our challenge as an ExCo. ▼

What future is there for *Clivia*?

By *Glynn Middlewick*

South Africa has had a *Clivia* Society for the past 20 years. With time, new Clubs, interest groups and international enthusiasts have joined the Society and at present we have about 1400 members worldwide.

The appeal of our Society is that it is open to anyone interested in *Clivia*. To ensure the continued popularity of the Society, we face the challenge of successfully recruiting new members. South Africa is fortunate to be the home of indigenous *Clivia* and we have, together with international members, managed to develop the *Clivia* flower to such an extent that the colour and size of the present day hybrids continue to fascinate all members. South Africa has a strong core of keen gardeners and the majority of them are aware of the beauty of the *Clivia* flowers. The annual Shows held in most South African cities appeal to all gardeners and attract new members to the Clubs annually. The appeal outside South Africa is greatest where similar growing conditions are experienced. In colder areas, the plants need to be protected from the cold winter weather and these plants are mainly kept in pots.

The impressive *Clivia* flowers seen at the South African Shows annually make one forget the origin of the plant in the habitat. The unappealing flower of the wild flower protects the plant from unscrupulous collectors. The enthusiast will still be tempted to dig up unusual flowers in the wild, but the species itself will not be harmed by the loss of a small numbers of plants. The larger threat is the destruction of natural vegetation with urbanisation and the stripping of plants for medicinal purposes. The privilege of seeing a *Clivia* plant in its natural habitat remains a unique experience and we will hopefully be able to protect the *Clivia* in nature. The development of different coloured *Clivia* flowers with interspecific hybridisation continues to amaze fellow growers. The future as far as colour variation is concerned seems almost limitless and the South African grower is well suited to continue to improve this

aspect of *Clivia* breeding. Another breeding line that has produced exceptional flowers is the breeding of the interspecific hybrids. This line has also produced flowers that have the combined features of both the upright and pendulous species. The future development of colour patterns in the interspecific crosses is a breeding challenge with enormous potential for the successful grower.

Owing to the breeding of recessive traits, so popular amongst the growers, with the accompanying unusual flower colours, the health and hardness of the plants have suffered. A robust, disease resistant *Clivia* with some sunlight tolerance would appeal to all gardeners. This goal would provide an interesting challenge for the breeder.

The doubling of the chromosome number has been achieved by *Clivia* breeders. This achievement is itself remarkable, but the usage of this advance to improve the flower, leaf, resistance or fertility of the plant remains to be seen.

The *Clivia* leaf development is the speciality of the Chinese and the Japanese. Many local growers have visited both of these countries and brought back specimen plants. To obtain very good specimens in China is both difficult and expensive. The Chinese continue to sell their prize plants for high prices and the market for these prized plants remains positive. South African growers have a long way to go to achieve the broad, short, dark veined symmetrical and rigid leaves so evident in the best Chinese plants. The prices of the Chinese plants are stimulated by the large number of Chinese growers and the enormous appeal that a compact plant has to the Chinese population.

The availability of the internet has allowed for an easy means of communication between hobbyists. Sites such as the *Clivia* Forum and Yahoo *Clivia* Enthusiasts allow for almost immediate interaction between internet members. This type of communication will grow and I believe that in the future all information will be sent via the internet. Postage and printing

is a cost limiting factor and these will both be overcome with digital transmission. eBay, another internet facility, allows for the sale of *Clivia* plants and seeds and the usage of PayPal provides an easy means of payment.

Local Club meetings will continue to appeal to sociable people and allow for interaction between *Clivia* growers. The meetings provide physical interaction between members and this demand cannot be met by internet communication. The survival of the Clubs will depend on the provision of information and a friendly atmosphere where fellow growers may develop into friends. The interaction between

the internet groups and the Clubs is a way forward that will benefit all *Clivia* enthusiasts. We often lose track of the fact that the majority of us are hobbyists and our main reward is the enjoyment of the cultivation of *Clivia*. The benefit of breeding an unusual flower adds to our incentive to continue hybridising.

Educating school children about plants in general allows an interest to develop at a young age. This is a long-term investment for the future *Clivia* growers, but the majority of new members will be found amongst the members attending *Clivia* Shows and *Clivia* meetings. ▼

Permit requirements for *Clivia* enthusiasts

By Glynn Middlewick

(A reply to an enquiry about the necessity to have a permit for breeding, owning, selling or exporting Clivia)

Reply from Magdel Boshoff, Department of Environmental Affairs, 18 February 2014

In terms of the current list of threatened or protected species (TOPS) and the regulations, a permit is required for any activity involving a listed species, such as possession, growing, selling, transport, export, etc. The definition of species (as defined in the Biodiversity Act) includes cultivars and hybrids. Therefore these activities will also require permits if it involves a cultivar of a listed *Clivia*.

Unfortunately, until 2009 the Biodiversity Act did not make provision for the Minister to exempt a person from any of the requirements of the Biodiversity Act. However, the Act was amended to include an exemption clause and a process to review the regulations and species list was initiated to start exempting specific activities from permit requirements.

In terms of the proposed amendments to the TOPS Regulations, most of the activities involving wild specimens will be exempt from permit requirements, and only collection/picking, growing and export from the country will require permits. As for artificially propagated specimens, most of the activities will be exempt from permit requirements, but export from the country will still require a permit.

Clivia gardenii, *C. miniata*, *C. nobilis* and *C.*

robusta are on the proposed vulnerable list, and *C. caulescens* is on the proposed protected list. Please keep in mind that these provisions are still in draft form and have not been finalised yet, therefore there may still be changes. However, I think it will give you a good indication of what could be expected.

An enquiry was made as to why *Clivia mirabilis* was not listed above.

Clivia mirabilis is on the current TOPS list (Protected), but I am not quite sure why it has not been included in the proposed revised list.

The indication provided below of the activities that will require permits, and the ones that won't, apply to when *Clivia* are used for medicinal purposes. I am not sure if the approach will be the same for commercial purposes.

We have requested SANBI to clarify these two issues, as they led the process of amending the species list. As soon as I get feedback, I will let you know.

After the AGM in George a further enquiry was made as to the possible submission of an application for exemption from permit requirements for certain *Clivia* activities at this late stage:

Dear Glynn, 26th May 2014

It is not too late to submit a request for exemption of *Clivia* breeding, as we are going to re-publish the TOPS Regulations and species list for public participation, due to substantial changes we have made based on comments received during the public participation process in April 2013. Once it has been published

in the *Gazette*, we will also publish it on our Departmental website. This will probably happen in the next 3 - 4 months, as we are still busy with the governmental approval process.

I hope the above answers some of your questions. We await the latest publication and then will submit an application for exemption should it be necessary. ▼

CLIVIA BREEDING

What dreams are made of...

By Carrie Krüger, Utopia Clivia

When I first laid eyes on these plants eight years ago, I was blown away by the shape and size of these three-year old plants in comparison to our normal interspecifics. They were broad-leafed, sturdy and large. All were selfed seedlings of a Nakamura-bred interspecific, grown from seed

by Kerneels Buitendag. The first selfing of this plant only produced about 8 -10 seeds which grew into these magnificent plants. I fell head over heels in love with them and managed to persuade Kerneels to part with them. These have grown into large robust, broad-leafed plants. When they came into flower, I knew



'Apricot Dreams' Interspecific



'Dream On'



'Dreamcatcher' - single flower

they were special.

The first plant to flower, I named 'Dreaming' and it has a distinct white picotee edge around the flower. The flowers are large and semi-open. These plants all have flowers with picotee-type edging, and semi- to broad leaves, up to 90mm. I have named this collection, the "Dream Series": I have been crossing them with each other, in order to line-breed and keep the quality of the flowers with the unique characteristics of these plants.

Below: Dream Series plants in 35 cm pots at the back and normal interspecifics in 20 cm pots in front





'Dream-catcher'

'Dreaming'



Leaf width 90 mm



'Sweet Dreams' - single flower

Some of the others that have flowered and have been named: 'Dream Catcher', 'Sweet Dreams', 'Apricot Dreams', 'Dream On', 'Dream Land', 'Dreaming Hearts', 'Day Dreamer' and 'Dreamscapes'.

These are very fertile plants which set seeds well. I have also utilised their pollen extensively on my other interspecifics and cannot wait for the resultant seedlings to flower within the next season or two. Some of the seedlings show signs of variegation, making them even more striking. I will keep you updated on the results. Exciting times await us, as these seedlings grow and come into flower over the next few seasons! ▼

Breeding for the serious enthusiast

By Piet Theron

After some years of collecting, growing and breeding I realised that it would be good practice to have some strategy in place that could possibly lead to reaching my goal. Whether this is an exceptional or large flower, broad leaf, particular colour variation, Daruma-type plant, multitepal, interspecific, green throats, etc. what you are aiming towards will depend on what your main interests and ideals are.

Below I have set out my approach to my breeding program to achieve my objectives:

1) Aims of my breeding program

It is often said that the collection and breeding of *Clivia* is a numbers game as one never has enough space. One should therefore try to define your main field of interest as soon as possible.

My interests and aims are mainly multitepals, compact and broadleaf yellows, breeding with 'Bronze Green Boy' and its progeny, and



Multitepal



'Bronze Green Boy'



Compact yellows

interspecifics, mainly of my own breeding. Also I aim to keep reserve pollen for any other interesting crosses.

Living in a more temperate climate, I am often amazed at the photos shown of *Clivia* flowering with a backdrop of snow or harsh desert conditions. To these particular enthusiasts, the

problem is even more acute and I really admire their perseverance and fortitude. We all like to have a large variety of good plants and should continuously strive to improve our collections. If, however, that exceptional one of a kind has been the result of your own breeding, it is so much more rewarding.

Multitepal breeding: Initially there were just not good multitepals available. This led to a search and eventual acquisition of the multitepals of Gert Wiese which forms the basis of my breeding for multitepals. In breeding with multitepals, one should also adhere to all other characteristics such as flower colour, distribution, shape and size, and leaf shape and size, but I will for now only deal with observations of the multitepals.

One would assume that pollinating two 100% multitepals with one another will result in a 100% multitepal. However this does not always seem to hold true. I had the experience of selling a seedling of a cross such as this to a friend for R30 (less than US\$3). I kept the more vigorous seedling and grew it to flowering. Mine has never had any multitepal flowers and his has consistently produced 100% multitepal flowers and has also won the category on our local show. The reverse cross was more successful.

MP1 x MP2 = MP < 5 seedlings only

MP2 x MP1 = MP
also = No MP

In an attempt to increase my number of multitepal plants in order to have larger



MP7 - third year



MP7 - Randolph



MP7 - first flower



Tulip with multitepal



Multitepal influence to large flower

numbers to work with, crosses were made to other good flowers to introduce other aspects into multitepal breeding. I experienced better results using a known multitepal plant as the seed parent rather than using good multitepal pollen on other good plants. However, the bigger amount of potential "Petal Material" transferred at pollination has given me the impression of leading to larger flowers, if not to multitepals.

There seems to be a number of traits that occur in multitepals (flowers and the plants) that are present on an individual basis in other plants (non-multitepal). I would like to put this theory into practice and see if I could produce a multitepal by adding more such elements in subsequent generations.

For example, the well-known stigma dividing into four, five and possibly six. There may be more than six petals, or maybe just petaloids where the stamen is attached to the petal or part thereof or imbedded in a keeled petal. Probably

less well observed is the division of pedicels or semi-fused pedicels, and the tendency for the main plant to split into two or three new growth points which often becomes apparent at flowering.



Rose MP1



Petioles



Stamen imbedded in petiole

Last year an old plant of mine "presented" itself to me and I found it difficult to ignore. It stood in the garden and was put amongst those earmarked for selling, where it continually demanded attention. I would walk past it, stop, return and wonder what interests me about it. There was a marker in the pot on which I had written about a year ago: "this wants to be a multitepal splitting into 4, 5 and 6". The flowers were rather pale and colourless on first appearance and a second scape also started elongating. When eventually the flower colour developed with a peach hue, the occurrence of

virtually 90% multitepal flowers also became apparent. This seemed to be a Group 1 Peach by looking at the flowers but with a broader leaf than Chubb Peach.

The possibility of breeding improved peach multitepals was not immediately available due



Pedicel split and fused



Three way split



Rose MP1



Peach MP1



Peach MP1 leaf



Peach multitepal seed



Rose seed

to a lack of other peach multitepals, and a two-stage approach had to be adopted. Multitepal 'Rose' was used as the pollen parent and the reciprocal cross was also done.

MP Peach x 'Rose'

'Rose' x MP Peach

Both took, so I will in future have some material to work with, hoping for Pink in the F1 and a larger flowering Peach in the F2. Other pollination attempts with Group 1 Yellow flowers that have slight multitepal properties on other flowers yielded poor results. It thus seems as if this will turn out to be at least another 10 year process. The following photos show failed attempts.

Luckily, I have one multitepal that has a tendency



Peach multitepal pollination

to produce more of the "sunflower-type" flowers as opposed to the "chrysanthemum-type". The aim is to produce a picotee-type multitepal. It is fortunately a compact type plant which needs very little space.

Compact and broadleaf yellow: My goal is to breed compact yellow plants similar to Chinese yellows. Initially there were no breeding plants



multitepal Peach - pollination 2



MP4



MP5

available and I had to produce some myself. Luckily by self-pollinating a fairly compact plant that produced a few green stems, I got started. These yellows plants were cross pollinated with better quality compact orange-flowering plants. The best looking orange-flowering plants from this cross have now been pollinated with other compact Group 1 yellows.

My results using a narrow leaf Group 2 yellow as a pollen parent have not been encouraging. When using a more compact Group 2 yellow the results have been better because the leaves are broader.

Self-pollination of a fairly compact Group 1 yellow also seems to yield broader leaves. By cross pollinating two relatively compact orange



Compact yellow



Compact yellow



Orange split for Gr2 Yellow



Compact yellow x self



Compact yellow x self



Orange split yellows leaf



Orange split yellows



Orange split yellows

flowering plants, both split for yellow, I hope to better my chances of ending up with an improved leaf on a yellow-flowering plant.

Initially only the different aspects of the leaves were taken into consideration but lately, as more material becomes available, the size and shape of the flowers and umbel are simultaneously taken into account. The

best larger yellows that I have to work with at present are the following.

Large flowers: It seems that a better result is obtained if you pollinate a plant with a larger flower with pollen from the plant with the desired colour, rather than the other way round. Particular attention has been paid to introduce a reddish colour to the larger flowers as it has for long seemed that the red colour was somehow restricted to smaller flowers. I like larger flowers



Polyloid yellow a



Leaf of a yellow



Yellow



Leaf of a Polyloid yellow



Large flower

on a compact plant. Large flowers with good green throats will be an extra bonus.

'Bronze Green Boy' and its progeny: 'Bronze Green Boy' (BGB) was discovered by Ian Vermaak, my mentor, who lived around the corner from me. It is difficult to breed with, as it does not readily accept pollen and seldom produces seed. Even the pollen is not consistent, often being dry and sparse and sometimes of different particle size. The breeding with BGB remains a challenge and every viable seed is sown to hopefully eventually flower in a similar version. BGB No 1, the first seedling, reproduced very good flowers. At the time larger orange green throat flowers were still very scarce. The best pollen I had to offer Ian was MP2. Some really good looking seedlings resulted. The best flowers I have are 'Rusty' and a good orange/white/green with multitepals.



'Rusty'

The only success that I have had in pollinating BGB is with 'Rusty'. This was done after hearing a theory that it only sometimes accepted pollen from progeny. However the seedlings remain slow growing and the result is still a long way off. Only four seedlings were grown from seven seeds.

Interspecifics:

In short, my methodology entails the following:

Gardenii x Group 1 Yellow

X

Caulescens x Chubb Peach



Orange white green throat



'Bronze Green Boy' & 'Rusty'



Interspecific



Pink interspecific



Yellow interspecific multipeal flower



Leaf



Leaf

This is also an ongoing process and at present the aim is to produce more compact yellow interspecifics and to increase the multitepal flower count. A broadleaf interspecific also sounds like a very desired entity to aim for using a plant as shown in the photo above.

Clivia miniata flowering twice a year: This is shown as an example of an opportunity that presented itself. One plant of Belgian seed origin was found to flower at two years and five months and thereafter regularly twice a year, not surprisingly as the Belgians do select plants for early flowering. As can be expected, it was a fairly compact plant and luckily a bronze green throat as a flower. Pollen of a similar looking flower was used and I now have about 12 of these. There is always one in flower, leading to year round enjoyment. When flowering at the regular time, the resultant seed set seems to be better.

2) Know your plants

Successful results with a plant will influence your decision whether to use the same plant for future breeding. For early determination of inherent qualities it is good practice to self-pollinate a plant at first flowering.

Seeing a first leaf emerge with a green stem, a tendency towards being broad and now also a suggestion of median variegation, compels one to return to the seed parent that was self-pollinated and search for the indication of variegation that could explain the manifestation. These photos show 'Orange Belle' x 'Golden Chalice'. A bit of its history is that it was self-pollinated



Flowering two year old plant



'Orange Belle' x 'Golden Chalice'

and yielded a very compact dark yellow. The plant was also self-pollinated and the three seedlings are showing a lot of promise, and one even shows a bit of median stripe variegation. I went back to the compact yellow and on closer inspection the slight variegation was seen. This plant, although not flowering to full potential, last year had 50% flowers with eight tepals. This enhanced its status in the *Clivia* house and the possibility of featuring even more prominently in my breeding program. This of course refers to the possibility of a compact/broader leaf yellow multitepal. There are yellow flowering multitepals around but few are really good and consistently flower well.



Compact yellow



Leaf tip



Variegated compact yellow



Fl yellow



Variegated compact yellow

3) Observation

Considering various crosses, one must simultaneously observe the leaf for structure, width, colour, veining, erectness and leaf formation, and its overall relation to harmony. Also bear in mind the health of the plant, disease resistance, good root system, peduncle, pedicels, umbel, and possibility of being able to withstand more light and other traits deemed desirable.



Broad leaf and 'Painted Face'



'Painted Face'



'Blokiesblaar'

Leaf tip plays an important role with the example of a good Chinese leaf and yellow-flowering plants as opposed to the sharper point. The following pictures show examples of what could be considered desired leaf qualities as opposed to those that are less acceptable:

- Dark green in contrast to light green.
- Width/length ratio.
- Sturdiness - What I call a backbone instead of being floppy.

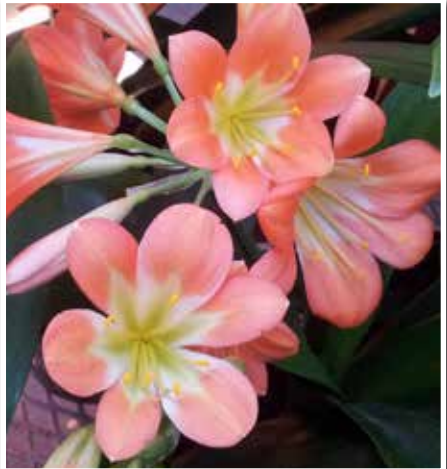
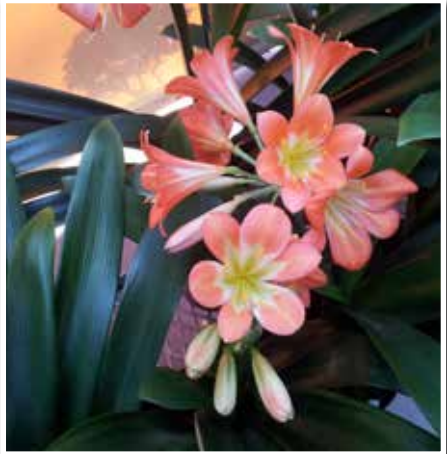
4) Peduncle, pedicels, umbel and size of flowers

I group these aspects together as I believe that there may be nature's own auto regulatory mechanisms at work here. Bigger flower size seems to reduce the amount of flowers. Although in a specific cross there will always be variations in the eventual outcome, the aim should be to achieve a predictable consistency, however difficult this may be.

Colour being the most important aspect to many growers, plays such an important role, and here individual preference and existing trends are probably the main influences motivating a specific cross.



Variegated



5) Availability of parent material

One uses what is available to you. It may mean that certain plants or pollen could become an absolute must to have in order to further your aims and to save you five years. Breed with only the best. Purchase good quality breeding material and the best pollen. A friend and



fellow enthusiast bought a very good Hirao a year after starting. That year virtually everything that flowered was pollinated with his new acquisition. This is probably not such a bad idea for a beginner.

6) Health and vigour of your plants

Breeding with a plant that is not in good overall condition may lead to a poor seed set and thus limit the outcome of the potentially good cross. It is often maintained that you need at least five seeds, or multiples thereof of a particular type to be able to realistically expect one very good result. It is not wrong to breed with a first flower but initially in my experience it led to a small plant just taking too much stress. Lately, if managed correctly, re-potted and treated for stress and trying to prevent root rot after proof of successful pollination, I have had better results when the plant is allowed to rest the next year if it should flower for the first time.

7) Record keeping

Adequate record keeping is essential, even though the way and extent may vary from person to person. One does not want to possibly miss the last remaining opportunity to do a particular cross with potentially interesting results due to poor record keeping. Here is a photo of one of my plant markers to show how my extensive record



Pink miniata and Pink interspecific



Compact pastel



Seedling



keeping contains notes and aims. In conclusion, I hope that I have been able to adequately illustrate my goals in breeding *Clivia*. I want to promote good breeding practice, even with limited space and resources.

The renowned breeders will always be able to whet our appetites with new and increasingly amazing results and possibilities, but I hope that I have managed to stimulate interest in the breeding of *Clivia*. ▼

Growers and their plants that have inspired me through the years - Part 2

By Carrie Krüger

Visiting any grower who is passionate about their collection and who is willing to share their knowledge and assist with seeds and seedlings has always been one of my greatest inspirations since starting with breeding *Clivia* more than 14 years ago. I would thus love to share some more of my early memories of a few of these visits to breeders and their collections.



'Bella Oprah' seedling



F2 Interspecific

The Guillaume family: Oom Bertie and I met telephonically many years ago when we both were growing Inca lilies on a large scale. As I started my *Clivia* collection in 1998, he assisted me with my choice of first plants. It was extremely exciting! We often spoke over the phone about breeding. He was always willing to part with his advice and assist wherever possible.



In Oom Bertie's shade house



Interspecific in one of the shade houses

Unfortunately, I never had the privilege of meeting Oom Bertie (as he was fondly known) in person, before he tragically passed away in 2009. This was a shock to the *Clivia* community and condolences poured in from all over the world. His memory lives on in many *Clivia* collections throughout the world.

In 2010, I had the honour of meeting the late Tannie Erda, Oom Bertie's wife, and their daughter Celia, when I visited their farm with some other *Clivia* friends. Their hospitality to



The famous 'Bell Boy'

visitors is well known throughout the *Clivia* community and they always made an extra effort to make you feel at home.

Never have I ever seen so many *Clivia* in flower, planted en masse under the trees and in multiple shade houses on the farm. We were treated like royalty and after selecting plants out of the hundreds in flower, we were treated to a visit to the late Oom Bertie's shade house. This was truly a house of hidden treasures with many famous plants in flower like 'Bella Donna',

'Bertie's Bronze', and 'Apple Blossom'.

Since my visit, dear Tannie Erda also sadly passed away and the collection is now closely guarded by Celia and her brother. Together this family shared a passion for *Clivia* breeding that resulted in some of the most sought after *Clivia* today. Their love and passion for *Clivia* will always be an inspiration to me and my future breeding programme.

Rest in peace, Oom Bertie and Tannie Erda. ▼



Masses of clivias in the garden

Harvesting and storage of *Clivia* pollen

By Sakkie Nel

Many of our *Clivia* enthusiasts noticed that some of our most precious plants flower out of season, which then robs us from an opportunity to cross pollinate this flowering plant with another and which might produce a very special plant in our breeding programme. In order not to miss such an opportunity, it became necessary to harvest pollen every year and keep it fresh and ready in the refrigerator for use in such instances.



Harvesting tool and carton

The pendulous species do not flower at the same time of the year as the *Clivia miniata*. So to cross pollinate for interspecific varieties, you need to have your pollen ready in the fridge at all times.

The tools: To harvest and store pollen successfully you first need to obtain the correct tools for the job. The tiny knife/scissors combination was brought from Germany by Heidi Nerurkar in 2010. Each member of the *C. mirabilis* tour to Nieuwoudtville was fortunate enough to receive as a gift one of these beauties!

Empty pill capsules can be bought very cheaply from your local pharmacy while small plastic bottles with tight screwing caps can be obtained from Plastilon or any firm selling packaging materials. The tape to label the bottles and larger plastic containers can also be obtained from the same supplier. Lastly, you will need a piece of clean carton or a sheet of paper "to catch the small anthers, should they fall down".

Berry plant in seclusion: Willie le Roux wrote about the "safe sex" method of pollinating



Labelled bottles

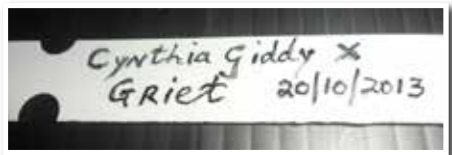


Pill capsules

in the July-December 2009 edition of *Clivia News*. If a *Clivia* breeder wishes to guarantee the quality of the seeds that he offers to prospective

buyers, then it is necessary that the berry plant be removed from the rest and be placed in a secluded area. This is done to ensure that no other pollen reaches the stigma of the berry plant to be pollinated.

If the breeder is not interested in the plant's own pollen, it is best to cut the anthers off on the day that the flower buds open. At this stage the pollen on the anthers is not yet ripe and therefore cannot fertilise the stigma.



Pollination label



Ripe pollen



Tools combined

When the anthers are removed from a flower you can start pollinating the stigma at least twice per day (normally at 10:00 and 16:00, during the cooler part of the day).

Harvesting of pollen: If you want to harvest the pollen of this plant and you wish to cross-pollinate it with the pollen of another beauty, you will have to be on your toes for a number of days. Like Willie explained, you will have to slide a plastic cold drink straw over each stigma on the first morning that the bud opens. This is done to ensure that no pollen makes contact with the stigma. Once that is securely done, you need to wait for a day or two until you can see that the anthers “have popped” and the pollen is ripe and dry. Make sure your hands are clean and dry, and do not

put one side of the capsule in your mouth while harvesting the pollen.

While somebody holds the carton or sheet of paper beneath the umbel, you cut off the anthers (as short as possible) with the scissors and put them into the larger part of the pill capsule. I normally put the anthers of two flowers into one capsule. After the six anthers are harvested successfully, you carefully cut the stamen shorter without damaging the stigma. This is done to make your task easier when you later pollinate the plant from another pill capsule, by pushing the one “empty” end over the tip of the stigma putting pollen on the stigma tip. It is better to do this indoors so that the wind does not blow the other end of the capsule away, losing all of your anthers.

Once all the anthers are harvested, you can close the pill capsule securely, shake it vigorously a number of times so that the pollen can spread evenly on the inside, and store it in the refrigerator for use during the next five years. I use the pollen straight from the fridge to pollinate and never leave it at room temperature after use.

Please remember to put a plastic strip marker around the scape of the berry plant to show the date and with which pollen you have pollinated it.

Utmost care must be taken when harvesting pollen from *Clivia mirabilis*. I found that the pollen ripens very quickly and then dries out just as quickly, which might leave you empty-handed! The seeds likewise ripen within three months and if you do not secure them in pantyhose or fine netting you will forever wonder what happened to them.

With the tape and permanent marker pen or typed labels, mark your plastic bottles containing the capsules and ensure that the lids are tightly screwed. Put the bottles inside the plastic container and store in the fridge with a very stern warning to your partner and domestic worker that it is not to be touched! Carefully wash and dry your knife-and-scissors tool to be ready for the next round. ▼

Remarkable variegation

By Paul Kloeck

In 2003 I purchased some Chinese seed through Connie and James Abel. Among the many pleasant surprises, a splendid, almost perfect Mandarin Duck variegation developed and grew into a plant that was exhibited and awarded Best on Show medals at the Northern Clivia Club and Lowveld Clivia Club shows in 2008, 2009 and 2010.

The plant was placed "into retirement", but in 10 years it has still not flowered and over the



Variegation - Best on Show Lowveld Clivia Club 2009

last three years the Mandarin Duck variegation has changed to an almost perfect Fukurin-type variegation. I enclose two photographs, the first taken in 2009 and the most recent photograph of the same plant taken in January 2014. Note the Mandarin Duck variegation on the bottom left in the second photo. Can anyone offer an explanation? ▼

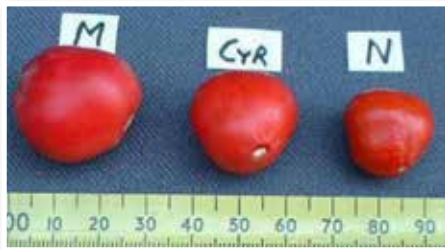
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Two *Clivia* photos from the early days

By Connie & James Abel

At a recent Joburg Clivia Club meeting we discussed aspects concerning *Clivia* species and interspecies, including identification. *Clivia News* editor, Joubert van Wyk, suggested that a particular slide would be of interest to *Clivia News* readers, so it is reproduced here.

In the early days we had soon learned of the deep red colour of the endocarp* of *nobilis* compared to that of the other species in which it is translucent. This is the thin layer that surrounds the seed in each of the three locules or seed chambers of the ovary (berry). It is often not noticed when peeling seed and quickly



develops fungi if left moist. While peeling some *cyrtanthiflora* (*miniata* x *nobilis*) berries we noticed that the endocarp was pink, or intermediate in colour between the two parents.



This is shown in the photograph where the berry colour (or epicarp = outermost layer) for the

three forms is very similar.

It is frustrating that the parentage of so many of the beautiful interspecies that so attract us is unknown, and in a limited number of cases this observation may provide a guideline.

*Endocarp (Gr. "inside" + "fruit") is a botanical term for the inside layer of the pericarp (or fruit), which directly surrounds the seeds. It may be membranous, as in citrus, where it is the only part consumed, or thick and hard as in the stone fruits of the family Rosaceae such as peaches, cherries, plums, and apricots. [Wikipedia]. ▼

Exploring growth and flowering of *Clivia* under various colours of Knittex SpectraNet: A layman's trial

By Paul Kloeck

This trial was conducted purely for personal information in consultation with Knittex. Clear documented evidence that some cultivars e.g. roses, respond very favourably to red shade cloth, producing longer stems,

and apples appear to grow better under blue SpectraNet, I was interested to ascertain whether *Clivia* would respond in a similar fashion. Owing to many enquiries by *Clivia* growers, our findings in respect of % mortality and % flowering are



shared for general interest.

Members requiring specific details or more information are welcome to contact Tommy Rogers, CEO of Knittex or Kosie Smith, the Knittex Technical Manager at trogers@multiknit.co.za or research@multiknit.co.za

The purpose of the trial was to determine if the effect of light, filtering through different colours of SpectraNet would influence the growth, development, health and subsequent flowering of *Clivia miniata* on our farm, Clivia Kingdom, outside Nelspruit in the Mpumalanga Lowveld of South Africa.

I decided that none of the *Clivia* seedlings and plants would be sprayed prophylactically against any of the prevailing *Clivia* diseases and pests, nor would they be treated when bacterial or fungal problems were noticed. The aim here was to determine if insects possibly had a predilection for a specific colour shade cloth and if plants would be healthier and more vigorous under a specific colour. There was no evidence of insects preferring any particular colour.

3000 yellow and 500 peach seeds were harvested, cleaned and sterilised in Sporekill. They were mixed, fairly evenly divided and planted under different colours of shade cloth in August 2009.

The seeds were germinated in a 15m x 1m seedbed, under a double layer of SpectraNet Code 80 made up of the following colours: Active Blue, Photo Red, Photo Red/Photo Red/Active Blue, Black/Black/White and White. The first SpectraNet cover was placed 25cm above the seeds, to keep the potting medium moist and the second at about 2 metres.

All the seeds were planted in pine bark potting medium and no additional compost, fertilizers or growing stimulant was applied until planting out into standard 4 litre Casmar plastic bags at about 7 months. Seeds were watered daily until germination and then 3 times per week until they were transplanted.

Seedlings were transplanted between 1-3 February 2010 and trans-located from the SpectraNet colours under which they had germinated to the



same colours under SpectraNet Code 80 Active Blue, Photo Red, Photo Red/Photo Red/Active Blue, Black/Black/White and White respectively in a large commercial shade house. The shade house faces north, to maximize sun exposure throughout the day. In 2010, 2011 and January 2012 all seedlings were given 1 teaspoon (5g) of 3:1:5 in September of that year and again in January. No further water was administered and growth was entirely reliant on natural rainfall. Accurate records of mortalities under each colour were kept.

Knittex officials photographed and measured samples frequently to record growth rates and health status. Every seedling used in the trial was initially photographed and the number of roots, leaves and respective lengths recorded. Photos were again taken at 4, 7, 9, 11, 14, 18 and 25 weeks and thereafter every 3 months.

Researchers from the North-West University conducted preliminary trials to determine Stomatal Conductance, Chlorophyll Content Index, Performance Index, CO₂ Assimilation Rate, Spectral Radiance, Radar Plots and OIIP Kinetics. The conclusion of North-West University's preliminary results indicated that plants grown under Photo Red/Photo Red/Active Blue and Active Blue SpectraNet can more effectively absorb and transfer energy for photosynthesis, resulting in a more effective system and therefore a happier and stronger plant.

Nelspruit, Mpumalanga is a sub-tropical area with an average rainfall of 667 mm. Rainfall recorded between 2011 and 2013 was between 987 and 1098 mm per year. Average midday temperatures for Nelspruit range from 21.4 °C in June to 27.9 °C in January. The above average rainfall resulted in considerable losses due to

seedling damp-off and bacterial rot. Fungal infections were classified broadly and no specific fungi were identified or isolated. Throughout the 3-year trial period, fungal infections were more prevalent on plants under Code 80 Photo Red, although not all of them succumbed to fungal infections. Interestingly enough, the temperature under Code 80 Photo Red on sunny days was always 2 - 3 degrees Celsius higher than under the other colours.

1. Shade and transmittance

Code 80 SpectraNet refers to the construction of the net and not the shade %. A Code 80 Black SpectraNet will give 80% shade, but a Code 80 Active Blue will only give a 72% shade and a Code 80 White only 30% shade.

The table below shows the difference in the shade factors of the various colours of SpectraNet as well as the light transmitted that is needed for plant growth (Blue and red light). The PAR (Photosynthetic Active Radiation) is the total transmitted light used by plants for growth.

Each plant species has its own optimal PAR (PPF value).

		Active Blue	Photo Red	P Red/P Red/ Act Blue	Black/Black/White	White
Shade %		72	66	72	62	30
Transmittance	Blue light %	53	20	26	37	50
	Red light %	18	44	33	39	53
	Average PAR %	32	32	28	38	57.5

2. Mortalities under different colours of SpectraNet

2.1 Seedling and plant mortalities by numbers

2.2 % Mortalities over a four year period

Year	Active Blue	Photo Red	P Red/P Red/Act Blue	Black/Black/White	White
2010	6.73	17.05	7.8	8.51	38.89
2011	6.73	8.73	4.68	4.56	3.07
2012	0.45	4.57	2.73	3.11	5.95
2013	0.22	1.23	2.14	1.04	1.19
Total	14.13	31.58	17.35	17.22	49.1

*

Following the high mortality rate of the 7-month seedlings under Code 80 White, Knittex decided to add a Code 30 Active Blue under the Code 80 White to give a measure of protection. Subsequently an interesting observation was the increased growth of *Clivia* under this colour over the winter months. Winter growth under Code 80 White/Code 30 Active Blue outperformed the others, suggesting that it may be prudent in the Lowveld, where practical, to have two colours of SpectraNet, one for summer and one during winter.

3. *Clivia* flowering under different shades of SpectraNet

3.1 Flowering by numbers between 2011 and 2013

SpectraNet colour		Active Blue	Photo Red	P Red/P Red/Act Blue	Black/Black/White	White
No. plants in trial		446	481	513	482	252
Flowering 2011	2 years	5	0	3	11	3
Flowering 2012	3 years	149	71	172	181	58
Flowering 2013	4 years	204	115	211	199	60
	Total	358	186	386	391	121

3.2 % *Clivia* flowering between 2 and 4 Years

SpectraNet Colour		Active Blu	Photo Red	P Red/P Red/Act Blu	Black/Black/White	White
No. plants in trial		446	481	513	482	252
2011	2 years	1.12	0	0.58	2.28	1.19
2012	3 years	33.41	14.76	33.53	37.55	23.02
2013	4 years	45.74	23.91	41.13	41.28	23.81
	Total	80.27	38.67	75.24	83.19	48.02

Acknowledgements: I wish to acknowledge Tommy Rogers, Kosie Smith and Debbie Coetzee (Knittex) for their expertise, enthusiasm, time, effort and financial input into the trial. It was a real pleasure working with them. I also wish to express my gratitude to Professor Leon van Rensburg and Misha de Beer of North West University for their professional and analytical input.

P.S. Owing to some interesting results, a second trial using broad leaf Belgian hybrids was initiated in 2011 under various SpectraNet colours, totally separated from one another. These results will be published in a later edition. ▼

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CLUBS & INTEREST GROUPS

Clivia events in Australia

By Lisa Fox, Melbourne *Clivia* Group

For the first time, Australia will host three exciting *Clivia* events in September 2014 run by local *Clivia* associations. The three events are spread out over an eleven-day period which gives local and international visitors ample time to attend all three events.

Clivia Expo 2014: The Melbourne *Clivia* Group will host the fourth annual CLIVIA EXPO 2014 on Saturday, 13 September at the Uniting Church, corner of Burwood Highway and Blackburn Road, Burwood. The event will run from 10am – 4pm with plant sales commencing from 9.30. There will be a large display of flowering plants and demonstrations. For more information please visit <http://www.melbournecliviagroup.org.au>.

2014 Toowoomba *Clivia* Show: The show will run from Friday 19 September through to Wednesday 24 September from 9am to 5pm during the Carnival of Flowers. The event is held at the TAFE Horticultural Pavilion on Lindsay Street, Toowoomba and 2014 will be the 10th anniversary of this event. Please visit <http://www.toowoombacliviasociety.com.au/index.php/events/upcomingevents> for more information.

Clivia Society of NSW inaugural show: On Saturday, 20 September, the *Clivia* Society of NSW will host their first inaugural show. The venue is the Don Moore Community Centre, corner of North Rocks Road and Farnell Avenue, North Rocks. ▼

From Briza Publications

Clivia – Nature and Nurture CD-ROM



AUTHORS: Dirk Swanevelder & Roger Fisher

ISBN: 978-1-920217-27-3

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Clivia: Nature and Nurture CD-ROM has been compiled with the layman in mind and clearly identifies and characterises all the species in one volume, describing all varieties, habitats, distribution, ecology and endemism. The South African origins, ecology and habitat of the genus is emphasised, particularly for the overseas user.

It locates the genus in a broad natural and socio-cultural context, explores the commercial value of the genus, as well as identify ethno-botanical practices and the current conservation status of and threats to populations and conservation strategies. It presents the anatomical, physiological and genetic make-up of the plant in layman's terms, but at the same time it serves as a model for a broad spectrum of plant growers. It introduces growers to the principles and practices specific to the genus, as well as aspects of pests and diseases and their control.

Selling points:

- A practical, informative guide.
- The first to clearly identify and characterise all the species in one volume.
- It lists and illustrates the better known named cultivars and their breeders in South Africa.
- Text boxes cover a range of fascinating topics to support and complement the main text.
- Richly illustrated with photographs and artwork, some of it specifically done for the publication by South Africa's first black botanical artist, Sibonelo Chiliza.

ABOUT THE AUTHORS: **Dirk Swanevelder** is completing his doctoral studies on plant-insect interactions. In his masters degree he examined the genetics, ecology, taxonomy and distribution of the Clivia genus. He has authored numerous articles for the Clivia Society Yearbook as well as scientific papers, and is co-author of descriptions of both a new species and variety in the genus.

Roger Fisher is a Professor of Architecture in the Department of Architecture, University of Pretoria. His interest in the genus Clivia is as a hobbyist and as an aspect of cultural heritage. He is a member of the Clivia Society and he was editor of the Clivia Society Newsletter and was lead editor for the Clivia Society Yearbook.

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Show dates in South Africa

Show Dates	Club/Interest Group	Venue	Times and contact person	Entrance
Saturday 30th August	Newcastle Interest Group	Drakensberg Primary School Firmstone Avenue Pioneer Park, Newcastle	Saturday 09h00 - 14h00 Henry Howard 083-655-0750	No Charge
Saturday 30th August Sunday 31st August	Clivia Forum	Rooihuiskraal Laerskool Cnr Panoramia/Maraboe Streets Rooihuiskraal Centurion	Saturday 08h00 - 16h00 Sunday 08h00 - 13h00 Martin 074-136-2758	No Charge
Saturday 6th September Sunday 7th September	Lowveld Clivia Club	Lowveld Botanical Gardens Environment. Education Ctre	Saturday 09h00 - 17h00 Sunday 09h00 - 15h00	R10.00 Over 12 years
Saturday 6th September Sunday 7th September	Northern Clivia Club	Venue - tbc	Saturday 09h00 - 16h00 Sunday 09h00 - 14h00 Elma 082-673-0532	R15.00 Over 12 years
Saturday 13th September Sunday 14th September	Northern Free State Clivia Club	Toronto Hall Welkom	Friday 08h00 - 17h00 Sunday 09h00 - 13h00 Hannes 083-367-7113 Dewaal 083-257-4813	No Charge
Saturday 13th September Sunday 14th September	Joburg Clivia Club	Garden World Nursery Beyers Naude Drive Muldersdrift	Saturday 08h00 - 16h00 Sunday 08h00 - 15h00 Glynn 082-650-1463	R15.00 over 12 years
Saturday 13th September Sunday 14th September	Free State Clivia Club	Checkers Hyper Fleurdal Bloemfontein	Saturday 08h00 until Sunday 14h00 David Fourie 072-614-3091	No Charge
Saturday 13th September	Vryheid Interest Group	New Republic School Cnr Utrecht/Republic Rd Vryheid	Saturday 09h00 - 15h00 Louis Lotter 078-100-4883	No Charge
Saturday 13th September	Bosveld Interest Group	Generaal Piet Joubert Skool Polokwane	Saturday 09h00 - 14h30 Willem 082-879-8305	No Charge
Saturday 13th September Sunday 14th September	Cape Clivia Club	Kirstenbosch Clivia Exhibition Kirstenbosch Botanical Gdns	Botanical Garden Times Dave 082-799-5206	Kirstenbosch fee
Thursday 18th September Friday 19th September Saturday 20th September Sunday 21st September	Kwazulu-Natal Clivia Club	Royal Agricultural Show Ground	Conference 08h00 - 17h00 Friday 08h00 - 17h00 Saturday 08h00 - 17h00 Sunday 08h00 - 17h00 Angie 083-452-8451	Sunday Tribune Show Fee

Saturday 20th September	Cape Clivia Club	Blue Route Mall Display Somerset West Exhibition	Shopping Centre Times Dave 082-799-5206	No Charge
Saturday 27th September Sunday 28th September	Eastern Province Clivia Club	Sherwood Garden Centre Walker Drive Sherwood, Port Elizabeth	Saturday 09h00 - 17h00 Sunday 09h00 - 14h00 Dawid 082-497-8304	R10.00 Over 12 years
Saturday 27th September Sunday 28th September	Cape Clivia Club	Tygervalley Shopping Centre	Saturday 09h00 - 19h00 Sunday 09h00 - 15h00 Dave 082-799-5206	R15.00 Over 13 years
Friday 3rd October Saturday 4th October	Overberg Interest Group	NG Kerksaal Hermanus	Friday 09h00 - 16h00 Saturday 09h00 - 16h00	Entrance fee R10.00
Saturday 4th October Sunday 5th October	Garden Route Clivia Club	Outeniqua Laerskool Cnr Meade/Cathedral Streets George	Saturday 08h00 - 17h00 Sunday 08h00 - 13h00	R15.00 Over 12 Years R5.00 Children
Saturday 4th October Sunday 5th October	Border Interest Group	Pioneer Nursery Gonubie Main Road East London	Saturday 08h00 - 17h00 Sunday 08h00 - 14h00	No Charge
New Zealand Show Dates				
28th September	Tauranga	139 Te Puna Road, Te Puna	Sunday 13h00 - 16h00	
4th October	Auckland	Auckland Botanical Garden 102 Hill Road, Manurewa Auckland	Saturday 09h00 - 15h00	
11th October	Palmerston North	Community Leisure Centre 569 Fergusson Street, Palmerston North	Saturday 10h00 - 15h00	
Australian Show Dates				
13th September	Melbourne Clivia Group	Uniting Church, Cnr Burwood Highway and Blackburn Road, Burwood, Victoria	Saturday 10h00 - 16h00 MCG Secretary 0410-929-510	Free Entry
20th September until 25th September	Toowoomba Clivia Society	Toowoomba TAFE Horticultural College, Lindsay Street Toowoomba, Queensland	09h00 - 17h00 every day Eileen Zahnow 0754656565 Cell 0413136861	Free Entry
20th September	Clivia Society of NSW	Don Moore Community Centre North Rocks, NSW	Saturday 09h00 - 17h00 Ken Smith 0415-181-449	Entry \$2



FREE STATE CLIVIA ROUTE

The Free State Clivia Club has established the Free State Clivia Route. This route allows one to view participating member's Clivia collections, and provides the opportunity to discover how others cultivate and care for their plants. All participating members have a board placed outside their homes (as shown in the picture top left) that easily identifies their property.

Should you wish to visit one or some of these gardens while in or passing through Bloemfontein, simply contact the members on the attached list to arrange a visit. Some members will have plants and other items for sale.

Please note that all visits are strictly by appointment only.



Garden of	Contact	Address	GPS Co-ordinates
André du Toit	084 811 0152	20 Reyger Street Westdene, Bloemfontein	S 29 06 064 E 26 12.681
André and Annatjie Schlemmer	072 922 1574	6 Gerhard Beukes Street Universitas, Bloemfontein	S 29 07.443 E 26 11.308
Eugene Swanevelder	083 731 9434	10 Wag 'n Bietjebos Avenue Pellissier Park, Bloemfontein	S 29 08.879 E 26 26.168
Hannes van Rooyen	083 367 7113	36 Mozart Avenue Riebeeckstad, Welkom	S 27 56.029 E 26 26.807
Hennie van der Mescht	082 776 3985	18 Mettam Street Fichardt Park, Bloemfontein	S 29 08.170 E 26 10.318
Johan Spies	083 652 6130		
Jurie Swart	082 303 1099	11 Willie du Plessis Avenue Fichardt Park, Bloemfontein	S 29 09.279 E 26 10.722
Petrus and Marelize van Zyl	082 775 6839 084 401 2239	8 Frans Kleynhans Road Groenvlei, Bloemfontein	S 29 03.092 E 26 10.205
Riaan Roux	082 487 7068	19 Calais Road Bayswater, Bloemfontein	S 29 04.918 E 26 14.468
Richard Nichol	082 554 5443	10 Wildealskloof Road Tredendam Hill, Bloemfontein	S 29 02.499 E 26 14.395
Stef de Swardt	082 891 3966	10 Kolperd Street Pellissier Park, Bloemfontein	S 29 09.048 E 26 10.060
Stefan Ferreira	082 902 3666	33 Ravel Street Riebeeckstad, Welkom	S 27 56.050 E 26 48.413

Cultivating and growing *Clivia* near the edge of the Arctic Circle in Sweden

By Michael Herbertsson

My first encounter with the beauty called *Clivia*: For many years I enjoyed working in the garden and had a general love for most, if not all plants. Four years ago I decided to grow summer plants and vegetables like tomatoes from seeds. Three years ago I saw on an Internet website the very first gorgeous *Clivia* plant and flower! I was hooked instantly and this beauty literally hypnotised me! Frantic searches through Google gave me much more information. Eighteen months ago I bought my first *Clivia* seeds and 500 of them are slowly but surely growing into seedlings and juveniles. The rest of my collection consists of about 100 plants of various sizes.

Location: I live in a small green village Herrö, located on the slope towards Lake Sveg. Herrö has about 135 residents in a part of Sweden



Seedlings

called Härjedalen. Sveg is the main town of the region with about 5300 inhabitants and 15 km away from Herrö (14°Longitude and 62°Latitude).

PHOTOS BY MICHAEL HERBERTSSON



Clivia House



Seedlings

Sveg's main attraction is the world's largest wooden bear (photo)! It weighs 80 tons and stands 13 meters high. The village Herrö is located on a peninsula in Lake Sveg which was created in 1975 where the two rivers Härjeån and Ljusnan join.

Against all nature's odds, growing *Clivia* here in Herrö without additional measures, as you can imagine, is quite impossible and challenging. We have long winters with little sun and much cold. Not at all uncommon are temperatures below minus 30°C and believe me, lots and lots of snow!

So I must keep my plants mainly in a small house (photo) on the farm where I have a temperature of 10-15 degrees and with extra lighting. In



Wooden Bear trabjorn.

another room in the main house (photo), I have my seedlings and some of the juvenile plants. I installed additional lighting here too, and had to



View of Lake Sveg.



View over Herrö.

increase the temperature by about 10°C. I must confess that having the right lighting for the plants and seedlings is the biggest problem for me, but also my lack of enough space for future *Clivia* is a huge threat!

Members in China where extreme cold temperatures are also relevant might be able to advise how to handle this problem successfully. One photo shows the shelving with seedlings and lighting. I am now fitting more shelves for the ever increasing seedlings. It seems that *Clivia* lovers will never have enough plants, do they? This year I started a small shop where I sell seeds and seedlings, but never have enough *Clivia* material.

Renewed Swedish interest in the genus *Clivia*: *Clivia* used to be a common flower in Swedish homes but the general interest now indicates that it is becoming very popular again and most homes want to display a *Clivia* plant or more. Materials are just not available for the seeds and plants that people try to buy from me, while I am still a buyer myself!

Being new to most things when it comes to *Clivia* and still having so many amazing things to learn, I try to read as much as possible and find more information about these wonderful plants.

I anxiously await the publication *Cultivation of Clivia* which I ordered from The *Clivia* Society.

It is just great fun to be involved and to make *Clivia* popular again and to show people that there are amazing *Clivia* in a wide range of colours. Many people here just think *Clivia* have orange flowers but become very enthusiastic when I show them what is available!

Denmark, Norway and Finland: On my Facebook page I now start to get interest from friends in Denmark, Norway and Finland with just as many questions (or more) as my own. It would have been very nice to have had some stalwart growers of *Clivia* here in Sweden to talk to and see how they work! At the moment, however, I can only try to win the lottery so I can afford to emigrate to a country with warmer weather and learn from their growers.

A word of thanks: I received fantastic help and support from various growers in South Africa, China and Japan. I would like to conclude by thanking the following people in particular for all their help and support during 2013: James Holmes, Lionel Bester, Rouzell van Coller, Cui Guichang, Qiang Li and Shigetaka Sasaki.

Hopefully we can one day establish a Swedish Interest Group. ▼



Clivias now available for this season!!!

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Auction Application Form

To be submitted by Saturday, 30 August 2014 to Joubert van Wyk:
Signed, scanned and emailed to myclivia@iafrica.com

Name of applicant ("Seller"):	
Telephone number:	
Email address:	
Postal address:	

Seller's banking details:

Account name:	
Bank:	
Branch:	
Branch code:	
Account number:	

Plants submitted for consideration:

No.	'Name' or description and a short history of the plant (e.g. breeder, name of photographer, date of photo, colour number from Clivia Colour Chart II, etc.):	Live auction	Photo*	Reserve price, if any

For office use only:

No.	Plant selected (yes/no)	Live auction	Owner informed	Reserve price	Winning bid	10% commission
Total:						

* To be paid by seller.

* Three digital photos of the plant including a flowering umbel must accompany the application form. The photographs must be no smaller than 800 kb and no larger than 1.5 mb. Recommended size is 800 x 600 pixels at 72 ppi in 8 bit mode. Please do not interpolate photographs upwards.

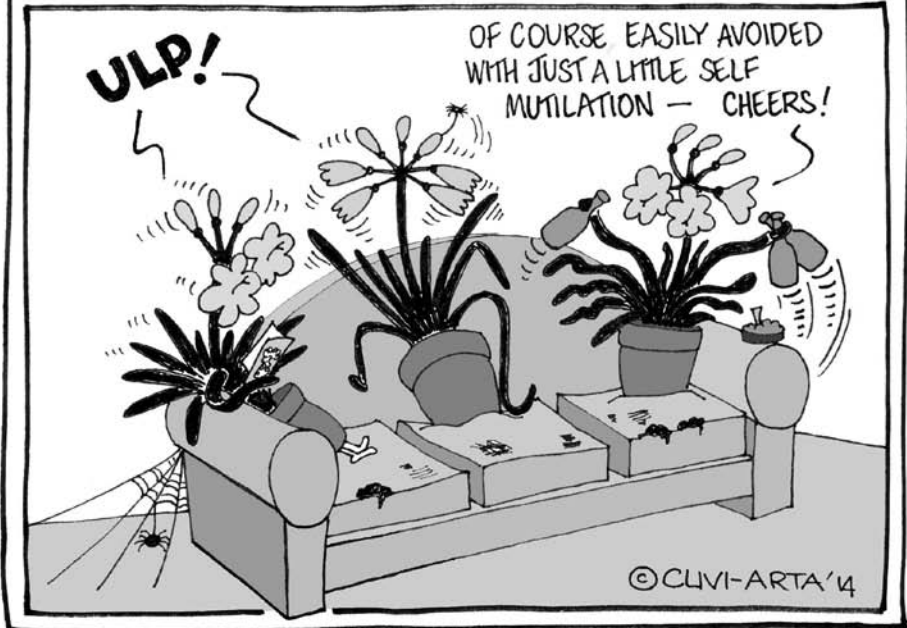
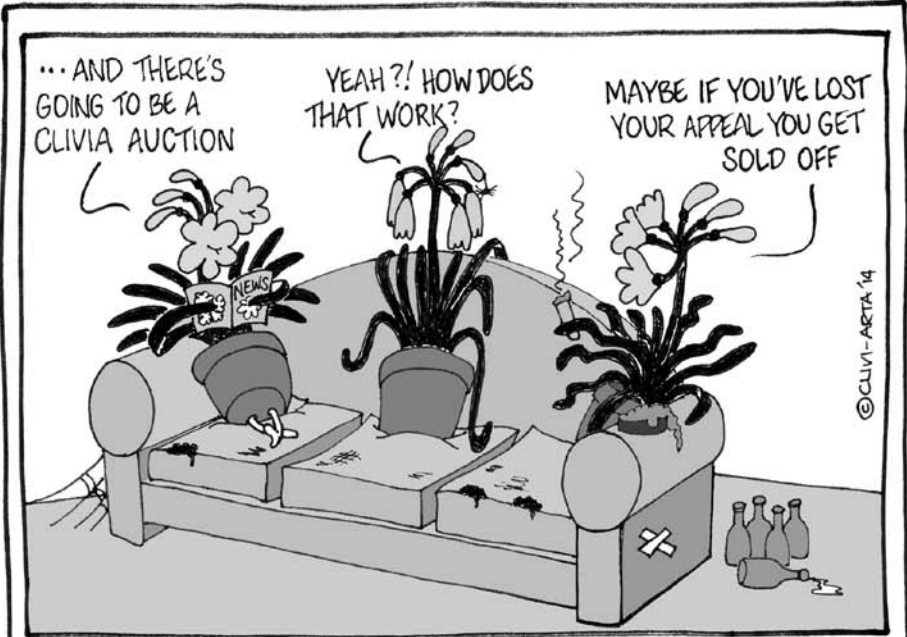
The seller herewith authorises the Clivia Society and the KZN Club to publish the pictures that accompany this form and the information relating to the plant(s) mentioned on this form in any manner deemed fit. The seller further authorises the Clivia Society / KZN Club to pay the net proceeds, i.e. after deduction of 10% commission, to the seller by EFT to the account number specified above in this form, at the risk of the seller.

The Clivia Society / KZN Club makes no warranties or representations of any kind concerning the accuracy of the information provided to it by the sellers and provided to potential bidders. All such information is provided on an "as is" basis by the Clivia Society / KZN Club.

In no event shall the Clivia Society and the KZN Club, its respective office bearers or agents be liable for any direct or indirect consequential damages resulting from the offer or sale of any auction plants or the transfer or payment of any monies.

Signed by the seller:	
Date:	

CLIVI-ARTA BY HELEN SANDERS



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www.clivasociety.org

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CLIVIA CLUBS

Cape, Eastern Province, Free State, Garden Route, Joburg, KwaZulu-Natal, Lowveld, New Zealand, Northern and Northern Free State

INTEREST GROUPS

Border, Bosveld, NKZ-N (Newcastle), Overberg, Highway (Durban area) and Vryheid



Carrie Krüger 'Dreaming'