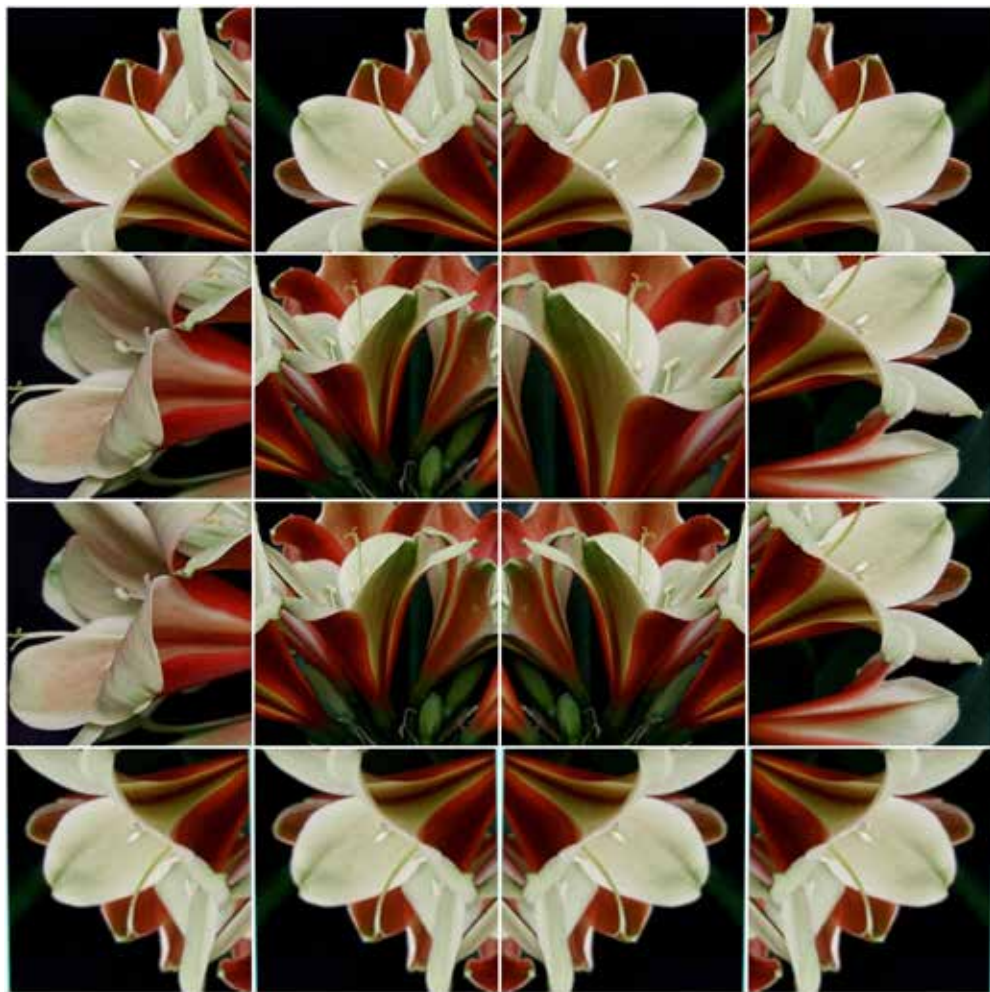




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Clivia News



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Should you be interested in advertising in the *Clivia News*, please contact
Sakkie Nel at 012-361-6415 for further details

Editorial

Hi Readers,

Wishing all *Clivia* enthusiasts a great New Year. May all your problems be a thing of the past and hopefully this year, all your *Clivia* plants will have exceptional blooms! A big thank you to all members who provide photographs and articles for publication in the various *Clivia News* editions and the Yearbook.

The collage on the front cover is developed from Carrie Kruger's 'Star Green.'

Cora de Kock has written an article on the Garden visits, prior to the conference, Glynn recounts his Japanese tour, Francois van Rooyen's presentation on interspecific *Clivia*, at the congress, is included in this edition. Dawie's article on the developing his Paljas strain is also one of the talks presented at the conference. Pikkie and Elize outline their breeding with their '777' strain of plants. Jaap Smit shows us some unusual seed development in one of his *Clivia* plants. I would like to include more photographs of members, so don't be shy to submit images of groups at shows or meetings. Many members prefer pictures and don't take much interest in the written word, so they will hopefully be happy with this edition.

I have included a species comparison chart, published by the University of Pretoria. This chart was compiled by Z. Swanevelder.

Photographic competition requirements are included in this *Clivia News* publication. Articles and photographs for the Yearbook 2019 are requested. The closing date for the photographic competition is the end of February 2019.

For inclusion in the Yearbook: All clubs, interest groups and societies are invited to submit photographs of their shows and show winners, together with a short article about the show. The submissions will be edited if they are too long or if too many photographs are submitted. Due date please the end of February 2019. 🌸

Glynn Middlewick



COVER: Collage using a photograph of 'Star Green' of Carrie Kruger



BACK PAGE: A photograph of 'Star Green Destiny' from Carrie Kruger

From the Chair

Another year and the 'business cycle' of the Society starts from scratch. The Society is dependent on all the members who give their time to ensure the smooth running of the Society. These include the International representatives, the Society Executive, the club and interest group committees. We owe these members a big vote of thanks for their continued service.

Several members have sent me requests regarding the format of the future publications. Many prefer the hard copies and are prepared to pay the extra cost to cover the price of the publications. The hard copies will continue to be printed as long as we are able to afford it. A big thank you to Helen Sanders, who continues to supply us with her 'Clivi-Art' cartoons. The Annual General Meeting takes place in Cape Town on the 11th May 2019. Nominations for members of the Executive and the various portfolios are needed. Joy will be circulating the requirements for the AGM in February this year.

The number of members willing to participate in the running of the Society, a voluntary organisation, is limited. The young are too busy with families and employment, the older people want to relax and not have any responsibility. We need people to fill the posts! Please look for suitable candidates to nominate for the various Society portfolios and let us know.

Graham Duncan has updated his book 'Grow Clivias', and it is available at R200.00 from the National Botanical Book Shop in Kirstenbosch.

Electronic media continues to grow as a means of communication, distribution of photographs and advertising. Most of the posts are positive and promote friendship and the *Clivia* plant benefits and gains in popularity. Unfortunately, criticism is not taken well by most people, even constructive criticism. Personal attacks and sometimes incorrect facts may result in a lot of unpleasantness. The benefits of the electronic media far outweigh the disadvantages and it will continue to expand. Members are affiliated via their clubs with the Clivia Society. The Society cannot accept responsibility for the actions of all their affiliated members. Should there be unhappiness with some or other member of the Society, the 'Clivia Society' should not be criticised as the responsible body. The problem, if there is one, is a private matter between the individuals involved.

We all look forward to the challenges and rewards provided by our *Clivia* plants. The networking with like minded people is an added bonus for us all. 🌸

Paljas Magic – A new colour strain

Dawie Strydom

**Clivia Select, 32 Louie Avenue, Northcliff, Johannesburg,
South Africa**

1. Introduction and objective

This article focuses on the breeding of a new colour and shape of *Clivia* flower. The development of a Paljas Magic strain took place over a period of two generations of *Clivia* breeding. 'Jumbo Yellow' and 'Four Marys' were used in the original cross. The resultant colour outcome was very pleasing. The different stages of breeding and colour variation will be explained. An important question, regarding the possibility of crossing two completely different colour strains, was answered with the results seen from crossing 'Jumbo Yellow' and 'Four Marys'.

2. Plants used in the breeding program

An outstanding plant, 'Jumbo Yellow' with giant yellow flowers, was chosen as a suitable plant to use as a pollen parent, to cross onto 'Four Marys'. The 'Four Marys' *Clivia* flower, is

small and has narrow tepals. What is fascinating about 'Four Marys', is the gradual increase in the quantity of red pigment in the tepals over the bloom period of the flower.

Some characteristics and the origin of 'Jumbo Yellow':

- 'Jumbo Yellow' has a flower diameter of 11 cm, tepals of 4 cm wide, a sturdy peduncle which supports a flower head of 25 cm in diameter.
- 'Jumbo Yellow' was grown from seed in my nursery. This exceptional plant won the 'Best on Show' award at the Joburg Clivia Club Show in 2005. The seed was produced from the sibling crosses of 'Big Yellow', made by the late Nick Primich. He had grown his plant, 'Big Yellow', from seeds he received from Yoshikazu Nakamura.
- 'Jumbo Yellow' is probably related to 'Chiba



Figure 1a. 'Jumbo Yellow' flower. Full umbels with recurving broad tepals.



Figure 1b. 'Jumbo Peach' from a Group 1 peach crossed with 'Jumbo Yellow'. These crosses gave good results, with features of the 'Jumbo Yellow' evident.

Yellow', developed by Mr. Nakamura in Japan in the early 2000's.

- 'Jumbo Yellow' is a Group 1 yellow and is compatible with peach, apricot and orange flowers, producing offspring with exceptional flower quality (Figures 1a and 1b).

CHARACTERISTICS AND ORIGIN OF 'FOUR MARYS'

- The 'Four Marys' plant used in this exercise was obtained from Margot McNeil and was acquired in 2002.
- The tepals are narrow with an open flower pattern.
- The flower is a versicolor, with orange on the back of the tepals and yellow inside. The tepals change to pink with age. (Figure 2).

3. Flower colours of the stage one and stage two crosses

The first stage of the crossing produced orange and yellow flowers, with no evidence of any colours similar to 'Four Marys'.

Sibling crosses were made between the F1

orange and F1 yellow flowers. Most of the resultant plants flowered in softer colours, like 'Four Marys', but with a variety of colour and flower shapes. The colour and flower shape will be discussed in more detail in the following section.

4. Classification of the colour and flower forms

There was a significant variation in the form and colour of the the F2 flowers. I have classified the Paljas Magic strain flowers into different categories. This classification is not final and may be updated in the future, as more of the plants flower.

When considering the general colour and shape of the flowers of the Paljas Magic strain, one example has been used, which has been named 'Paljas Magic Prime'. This flower is full, with broad tepals and a beautiful soft orange on the tepal tips, changing into shades of pink as the flower ages. The light pink pigmentation on the back of the tepal changes to a darker pink with age. (Figures 3a-3c). The flower is still relatively small, varying from 7-8 cm in diameter. This colour pattern may be



Figure 2. The 'Four Marys' used in the breeding of the Paljas Magic strain of flowers.

described as 'pink-tipped'.

The Paljas Magic strain of flowers can be separated into 'pink-tipped', 'green-centred'

and 'prominent-versicolor' forms. Some of the flowers have spaces between the tepals, reflecting an inherited trait from 'Four Marys'.



Figure 3a. The early colour stage of the full, broad-tepal 'Paljas Magic Prime' is yellow with light orange tips.



Figure 3b. The light orange tips become pinkish at a later stage of the flower development of 'Paljas Magic Prime'.



Figure 3c. A bright pink colouration of the tips, showing the typical colour of the final stage of the ageing of 'Paljas Magic Prime'.



Figure 4a. A relatively small, but full Paljas Magic strain flower with pink tips.

3.1 'Pink-Tipped'

Apart from the plant previously discussed, more examples follow, illustrated by photographs

of plants that can be grouped into the 'Pink-Tipped' category of the Paljas Magic strain (Figures 4a-4d).

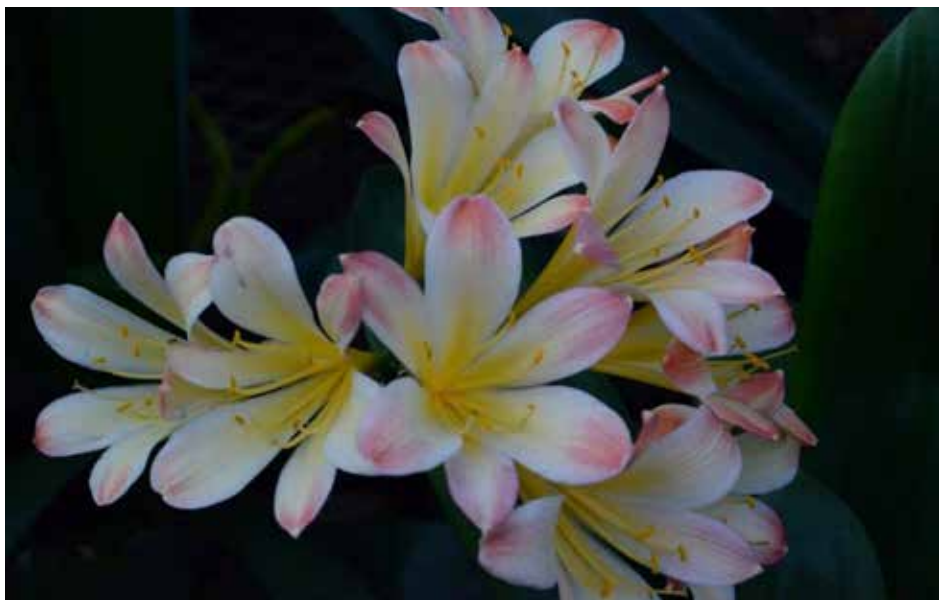


Figure 4b. Open tepal configuration on a beautiful 'Pink-Tipped' form of Paljas Magic strain.



Figure 4c. An example of 'Pinked-Tips' form of the Paljas Magic strain, forming a pink rim.



Figure 4d. The pink tips are smaller and almost represent a pink spot on the tepals in this example of 'Pink- Tips'.



Figure 5a. 'Green-Centre' form of the Paljas Magic strain when the flower first opens.

3.2 'Green Centre'

Flowers of the Paljas Magic strain of flowers with green centres are not common, but at

least two plants flowered with some evidence of a green throat (Figures 5a and 5b). This green throat remained present throughout the flowering stage of the plant.



Figure 5b. The final ageing stage of the 'Green-Centre' form of the Paljas Magic strain.

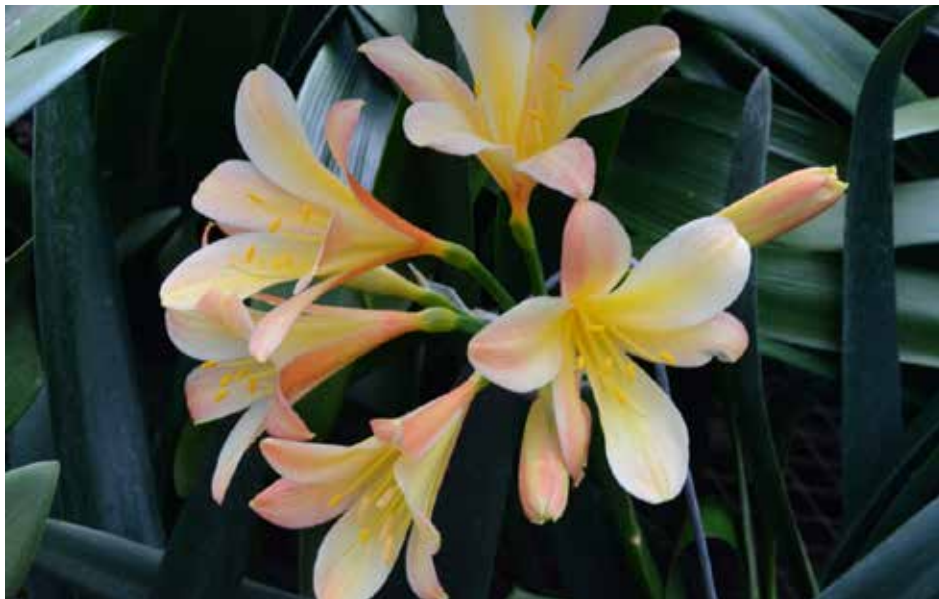


Figure 6a. Strong versicolor with a pinkish tint inside the flower.

5.3 'Strong Pink Versicolor' group of 'Paljas Magic'

One plant flowered with remarkable pink

colours on the back of the tepals. The colours changed to a dark pink colour as the flower aged. (Figures 6a and 6b).



Figure 6b. The final stage of the versicolor flower in figure 6a, showing a prominent, bright pinkish colour as the flower ages.



Figure 7. 'Paljas Magic' flower (left) compared with a 'Jumbo Yellow' (right).

6. Conclusions

'Jumbo yellow' crossed with 'Four Marys' produced excellent results.

- Two *Clivia* generations were necessary to produce the Paljas Magic strain of *Clivia*. 'Paljas Magic'. (Paljas = charm, magic or potion). These colour results are truly 'charming'.
- The flowers vary, from yellow to pink to a light orange, some picotees and some versicolors, changing to pinkish white with age.

- A much better flower shape than the original 'Four Marys' was achieved. The Paljas Magic strain has flowers with broader tepals, filling the spaces between the tepals.
- The Paljas Magic strain produced some remarkable 'Pink-Tipped' flowers and one superb 'pink versicolor' flower.

There is a possibility that further breeding with the plants of the Paljas Magic strain will improve the size and shape of the flowers, without changing the unique, desirable colour patterns. (Figure 7). 🌺

Photographic Competition

Prominent space will be allocated in the Yearbook to winners in all categories as well as other entries of merit. The name of the Photographer will be publicised with each relevant photograph. The best photograph in each category will be selected from all entries in such category. The Habitat section, by definition, is only open to photographs taken in the *Clivia* endemic areas of Southern Africa.

Categories are as follows:

1. *C. miniata*
2. Pendulous species – all species
3. Interspecific *Clivia*
4. Habitat *Clivia* plants (Photographs of habitat plants may only be photographs of plants taken in Southern Africa in their natural surroundings.)
5. Single flower - any species
6. Other *Clivia* photos e.g. buds, berries, foliage, floral art

The conditions and rules of entry are:

1. The completed attached entry form must accompany submissions.
2. Entries must be submitted by the end of February 2019, to participate in the competition. No extension of the deadline will be possible as this deadline allows for the publication of the Yearbook on time.
3. Entries are limited to three per category per person.
4. Photographs may be mailed to Clivia Photographic Competition,
P O Box 1383 Roosevelt Park, 2129.
Johannesburg, Gauteng, South Africa.
(Flash drive or CD-R)
Or e-mailed to: gcmidd@mweb.co.za (Use 'Wetransfer' or Dropbox if you like.)
5. Photos must be submitted in one of the following formats:
 - a. All photographs must be recorded in jpeg format, no larger than 2 MB per photo.

No scanned or printed photos are to be submitted.

- b. The resolution of the image must be saved on at least 300 dpi.
- c. The pixel size should be a minimum of 1024 x 768 pixels.
- d. Photographs must be on their own and not embedded in another program e.g. MS Word.
- e. Names, dates or watermarks are not permitted to be included on an image. If any photographs are submitted with any evidence of ownership, they will be disqualified.
6. Neither CD-Rs nor flash drives will be returned after the competition.

The decisions of the Panel of Judges on the winners of the competition by way of the respective categories are final and no correspondence will be entered into regarding the competition or any aspect relating to such.

Remember to take aspects such as the following into account when capturing, editing and selecting your competition entries: Beauty of the flower, uniqueness of the flower, sharpness of the image, colour trueness, absence of distractions, good or unique composition, unique angles, framing and cropping, lighting (backlit, side lit, diffused, hard, flash, natural), background (contrast, tidiness and complementing colour), correct white balance etc.

The Clivia Society and its affiliates reserve the right to free reproduction and use of any of the images entered in this photographic competition to promote or advertise *Clivia* through whatever medium they deem fit. The copyright will remain with the photographer. With any publication of a photograph, credit will be given to the photographer. The receipt of an entry form (either by email by way of scanned copy or by post) will constitute the granting of such aforementioned permission by the photographer, and that the entrant agrees to abide by the rules of the competition. 🌸

CLIVIA SOCIETY PHOTOGRAPHIC COMPETITION ENTRY FORM

NAME OF ENTRANT:

ADDRESS

PHONE:

EMAIL:

PLANT OR CULTIVAR NAME:

DATE PHOTO TAKEN:

NAME OF GROWER:

ENTRY NUMBER (1 to 3):

CATEGORY ENTERED: X relevant box		<i>C. miniata</i>		Pendulous species	
Interspecific		Habitat		Single flower	
Other					
Flash drive		CD-R		Email, 'Wetransfer'	



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Garden Tours at the Clivia Society Conference 2018

Cora de Kock

As a delegate who had registered for the Society Conference, I had to make a decision concerning the visiting of the member's gardens in Pretoria and Johannesburg, prior to the conference. The garden visits extended the time spent away from my beloved plants to four days. Spring is such an exciting time in my own shade house, that I was tempted not to visit the member's gardens and spend more time with my own plants.

A good number of local and international *Clivia* enthusiasts chose to join the tours. The large variety of plants on display, the hospitality of the hosts and the shared knowledge of the owners made these occasions well worth the time and effort to attend. A further benefit gained from visiting the various gardens was to see the cultivation methods used by the growers and whether these could be used by me in the future.

The first day of garden tours was spent in Pretoria. Here we visited four different gardens. Three were on the eastern side of Pretoria and one on the northern side, in Pretoria North.

The first garden I visited was that of Elize and Pikkie Strumpher. These two growers are well known for their breeding success with the '777' strain of clivias. This husband and wife team have succeeded in producing a variety of special and interesting plants. They practise a disciplined approach to breeding and are very selective regarding the plants chosen for further breeding. This allows them to restrict the plant numbers needed to create their breeding successes.

Many of us were surprised and stared in disbelief



Sue Kloock, Annie de Wet-Steyn, Cora De Kock and Liz Boyd

at the large number of '777' strain plants present in their garden.

The second garden we visited was that of Rouzell van Coller. Rouzell loves her animals and is passionate about her collections of clivias and orchids. There are thousands of clivias in flower and what a sight it is to behold! Her favourite clivias are housed in a single shade house. The eats supplied here were delicious and had we had more time, they may have run out of these!

The third garden we visited on eastern side of Pretoria was that of Pieter Saayman and Michael Holt. These two also live on a smallholding, like Rouzell.

Here we discovered a new house and garden with a new shade house. What stood out here was the neatness and orderliness of the plants in the shade house. We all wish for such a well organised arrangement of plants, but often don't succeed at this!

The next garden we visited, was a good one hour away on the northern side of Pretoria.

Henriette Stroh is well known in the orchid and *Clivia* communities for her large collection of



Visiting Henriette Stroh

plants in several shade houses. Any plant that doesn't meet her standards is planted in the garden. Fortunately Henriette has a large area of shade available to accommodate the clivia plants not wanted in her shade house. Her garden provided large drifts of flowering clivias and her collection of multitepal clivias was the highlight of our visit.

An interesting anecdote from Henriette was that despite careful instructions, one of her friends who helped with the pollination, decided to pollinate all the plants with his hand, moving backward and forward over the plants. Despite this misunderstanding, some superb crosses resulted from this mishap.

The second day of garden visits was spent in Johannesburg. Here our choice was two gardens on the eastern side and two on the western side.

We chose to visit the garden of Michael Boyce first. Michael and his brother had spent a lot of time preparing for the visitors. Several plants had been repotted. Michael keeps his favourite plants on the verandah of the house. The collection in full bloom was a beautiful sight.

The second garden visited, close to Michael's, was that of Joubert van Wyk. Not many people have had the privilege of seeing Joubert's collection. We are all well aware of his interest in acquiring exceptional plants. Joubert together with his son Jan, welcomed us all. Joubert's collection is housed on the site of an old tennis court. He does not believe in feeding or watering his plants and chooses to enjoy the natural growth and beauty of his plants. The exceptional display of beautiful flowers proves that he is



Rouzell van Coller



Michael Boyce and Paul Kloeck

doing something right. He ensures clever use of space by germinating his seed in planting boxes fixed to the boundary walls.

The third garden we visited, situated on the western side of Joburg, was that of Dawie and Ebeth Strydom. The flowers here were a little late in deciding to bloom. Nevertheless there were several superb plants in flower. Dawie is well known for his 'Jumbo' yellow plants and he



Eddie Pang, Pikkie Strumpher and Dawie Strydom



Cora de Kock and Paul Kloeck at Glynn's garden



Above: Arrangement at 'Meet and Greet'.

Above right: Bloom of Pikkie and Elize.

Below left: Bloom at Michael and Pieter.

Below right: Bloom right and below of Dawie Strydom and him in his shade house.





willingly shared his knowledge and experiences of his 'Jumbo' breeding with us.

The last visit of the day was to Glynn Middlewick,



also on the western side of Joburg. All the tour groups ended their garden tours at Glynn's house. The garden has a mass planting of *Clivia* under the indigenous trees. These are all plants grown from purchased seed of crossings, which then flowered orange or some other unexceptional colour or were of less desirable shape. The shade houses, contained plants on racks, pleasingly displayed. Some of the plants were late to bloom, but there were sufficient in flower to be enjoyed by the visitors. In addition to the *Clivia* plants, many species of cycads are grown. Succulents, hybrid aloes, lithops and many colourful parrots are also evident.

A lovely 'Meet and Greet' function followed the garden visit. Guests enjoyed sundowners on the patio. The breath-taking view to the north and the sunset were followed by a five-star dinner prepared by Glynn's friends, Lucille and Gail. No visitor could be left in doubt about attending the next *Clivia* garden visit, if one or more are included in the 2022 Society conference in Cape Town. 🌺



Interspecific Breeding

Francois van Rooyen

The increase in interest in interspecific *Clivia* has surprised me. A few years ago, there was very little interest and no demand for interspecific *Clivia*.

Why breed interspecific *Clivia*? The interesting colours found in the pendulous species and the versicolour present in most pendulous species are desirable features to try and include in *C. miniata* flowers. With these in mind, what has developed, is that the interspecific plants have extended the flowering season and more importantly have developed to such an extent, that today they are appreciated by and appeal to growers as a, separate groups, of outstanding plants. They are neither narrow tubular flowers nor inferior *C. miniata*, but instead are appreciated for their unique beauty.

As breeders, we are spoilt for choice, as there are six species of *Clivia* to use for our breeding programmes. There is no correct or incorrect way to breed interspecific *Clivia*. All six species may be used successfully. Five of these six species are pendulous and one is an upright species.

Desirable features of the parents:

If we want to breed a desirable interspecific plant, what should we consider the most important factors in choosing suitable parents.

- a) Flowers. This is the most important factor here. Chose specimens with at least thirty flowers in the umbel. The greater the number the better. *C. nobilis* umbels are known for the large numbers of flowers present. Flowers should be chosen for their size, the bigger the better.
- b) Leaves. The leaves play an important role in the overall appearance and balance of the plant. Leaf quality is often neglected in the breeding of interspecific plants. When you start a breeding line, please include the leaf appearance as an important factor in selecting the parents.
- c) Peduncle. The height of the peduncle is important. The height should allow the

display of the umbel above the surrounding leaves. Preferably choose a tall peduncle. A cross with the short peduncle of a Chinese plant, however does work well.

- d) Colour. Most pendulous species are versicolour. Choose flowers for their interesting colours or combination of colours.
- e) Flower shape. When you are choosing a *C. miniata* parent, if possible, select a bloom that is large and recurved. These desirable qualities may not appear in the first generation but will be evident by the second generation.
- f) Pod or pollen parent. Claims have been made previously that the choice of which parent is to be used as pollen and pod parent is important, however this is not so in the breeding of interspecific plants.

'Compatibility'

When using the word 'compatible', I am referring to the production of green-stemmed seedlings. There is a varying compatibility of the pendulous species with group 1 and group 2 yellow *Clivia*.

- Yellow *Clivia caulescens*, when crossed with a group 1 yellow, produce yellow seedlings.
- Cream Midlands *C. gardenii*, when crossed with a group 1 yellow, produce green-stemmed seedlings. Use the Midlands *C. gardenii* as the pod parent and this will result in faster growth and maturity of the seedlings.
- *C. robusta* displays no obvious compatibility with group 1 yellows. The close relationship of *C. robusta* to *C. gardenii* would lead one to expect green-stemmed seedlings with group 1 yellow flowers.
- *C. nobilis* yellow is compatible with group 1 and 2 yellows and green-stemmed seedlings will result.
- *C. mirabilis* yellow is compatible with group 1 yellows.
- *C. Ngome* complex. When crossed with



5 Star Versicolor' Breeder and photo Carrie Kruger.



Q08 Interspecific – photo and owner Carrie Kruger.



'Spirit Ember' Breeder and owner Carrie Kurger

both group 1 and 2, they produce green-stemmed seedlings. The flowers are yellow, but blush with age.

When the Ngome *C. gardenii* are crossed with '777' and 'Andrew Gibson', green-stemmed seedlings are produced.

The importance of the 'Generations' in breeding

- 1) When crossing *C. caulescens* with *C. miniata*, good results are achieved in the first generation. These results are improved in the second generation of plants.
- 2) When crossing Ngome *C. gardenii* with *C. miniata*, good results are achieved in the first generation.
- 3) *C. nobilis* crossed with *C. miniata* results in some good first generation plants, but the F2 generation is even better.
- 4) *C. mirabilis* crossed with *C. miniata* produces good results in the first generation.

The importance of 'refuelling' your interspecific crosses

If and when your interspecific crosses start resembling 'inferior quality *C. miniata*' flowers, consider 'refuelling' your plants. This is done by crossing your 'miniata- like' interspecific with a good quality pendulous plant. Good results will ensue!

Interspecifics may be crossed with pendulous species or with *C. miniata* plants and neither is necessarily incorrect.

Inter-pendulous species crosses

Crossing pendulous species with each other is a consideration when looking for hybrid vigour or the development of interesting colour combinations. Hybrid vigour is not evident if species are closely related. The results of crossing the pendulous species with each other, depends on which species are used.

- a) *C. nobilis* crossed with *C. mirabilis* results in no hybrid vigour, however the F1 results



are very pleasing. These seedlings are slow growing. The slow growth of these plants may obscure the hybrid vigour.

- b) Crossing Midlands *C. gardenii* with a Ngome *C. gardenii*, provides hybrid vigour.
- c) A *C. mirabilis* crossed with a *C. caulescens* provides varying results, but excellent growth and flower count are evident from the hybrid vigour.
- d) Midlands *C. gardenii* crossed with *C. robusta* provided no evidence of hybrid vigour, indicating their close relationship to one another.

Previously, interspecific breeding was based on crossing a *C. miniata* with a pendulous species. The F1 generation was then crossed with a *C. miniata*, as was the resultant F2 generation. This eventually resulted in poor quality *C. miniata* blooms.

What advice would I give to anyone interested in breeding interspecific hybrids?

Firstly, don't be afraid to experiment.

Secondly, select good quality plants as parents and persist with the breeding into the second generation to appreciate the improved results. 🌺

Unusual development of *Clivia* seeds

Jaap Smit

We do know that *Clivia* seeds are recalcitrant, which means that they can germinate spontaneously, even in the ripe fruit. For some or other reason this plant had a rupturing of the berry walls. The size of the

seeds increased with time. Eventually I removed the seeds and they all germinated. This plant has had a similar event occurring in the berries previously. Some of the seeds showed signs of germination. Why it should happen in this plant remains a mystery. 🌸



A Tour to some of the Japanese breeders

Glynn Middlewick

In late 2017 an opportunity arose, to join a tour to Japan, with seven other *Clivia* enthusiasts. The tour, a short one of 10 days, would be guided by a Japanese grower who does understand English. Fortunately, there were two other South Africans on the tour. The total number making up the group was eight, three Americans, one Australian, one British and the three South Africans.

Japanese growers have an outstanding reputation for hybridising excellent quality *Clivia* flowers. When I started off with my *Clivia* hobby, my first purchase of *Clivia* seed, was obtained from Mr Nakamura in Japan. Many *Clivia* growers, in South Africa, have successfully grown his seed and some excellent blooms have been produced. The names of the Japanese on the list to be visited, included Mr Nakamura, Mr Hattori, Mr Nakayama, Mr Koike, Mr Harigae, Mr Tsuruoka and Shige Sasaki.

To give you some idea of the costs involved, the flight cost R15000.00 via Singapore. The hotel accommodation with breakfast and the hire of the vehicle and 'bullet train' journey, cost R20000.00 each. Other meals were extra. A visa is necessary, as is an import permit from the department of Nature Conservation should you wish to bring back any plants. Advice received from previous visitors, was that only cash could be used to pay for any suitable plant purchased. There are many '7 – 11' Stores that allow cash withdrawals using your credit card. The flight time is 10 hours to Singapore and six hours to Japan.

We arrived in Singapore and had four hours to wait for our connecting flight, so we visited the exhibition of orchids on display in the concourse of the airport. A very impressive display and very colourful.

The first grower we visited was Nakamura. His well-known '*Clivia* Plantation' is situated in a very attractive area. Mr Nakamura is now frail and lives alone and his is not able to care for his plants in the shade-house. There were not many flowers on the plants and not many purchases

were made from him. I wondered what is likely to happen to his collection. Mr Koike was visited next. He is well known for his green 'Hirao' flowers. For some reason, he no longer sells any *Clivia*. We visited his shade houses and saw some spectacular flowers, but also noticed that his interest in the *Clivia* plants was no longer his main interest.

We visited a 'garden centre' on our way to Mr Hattori. Very impressive, well attended, with a wide variety of flowering plants on display. Hattori was visited in the afternoon. He had an impressive display of flowering *Clivia*. The prices were fixed here, all the multi-tepal compact oranges sold at R4400.00 and the yellow blushes sold at R2200.00. The availability at Mr Hattori was made up of picotee flowers, multi-tepal compact oranges, bronzes, blushed yellows, compact yellow flowering plants and some green throated oranges. It is very easy to spend money at this venue. I had been informed that South Africa has a much higher light intensity, so I should be careful with the selection of orange colours, as they would become much darker in Johannesburg. The selection of plants was like being in a sweet shop with a sweet tooth!

The following day we visited Shige Sasaki and had a tour of his neat and impressive collection of *Clivia* plants. Some 'Hirao' and 'TK' green flowers were available to purchase. Seedlings were also available for sale of his 'Hirao green' crosses. A special trip to a grower was arranged to see his plant 'Perm' with the recurved leaf ends. The seedlings, some variegated, also showed the recurved leaf tips. The afternoon visit was to Mr Harigae. He breeds only compact broad-leafed plants. There were four types, yellow, orange, variegated yellow and variegated orange.

Commercial sales were the driving factor for their production. Mr Nakayama was the next breeder to visit. He and his wife, wiry and fit, are both in their eighties. He is well known for his multi-tepal breeding. Some superb multi-tepal



Orchids at the Singapore airport

bronzes were available. Prices here were not cheap and the best plants sold for R8000.00 each. Mr Tsuruoka was the last breeder to be visited. He is well known for his broad leaf

orange 'Akebona' plants. No yellow 'Akebona' plants were available. Here some 'Tiger' variegated plants were available. Prices here were expensive. The next day we spent washing



the plants, to remove any soil and pests from the plants. Prior to departure for home we had an inspection, at the airport, by the inspectors for our phytosanitary certificate.

As you may notice there was not much time to take in the sites of Japan, other than what we saw from the transport vehicle. We travelled long distances and arrived at our destinations at night. What is noticeable is the neatness of the streets, with no litter and no rubbish bins. Toilets are placed in convenient places and even at bus stops. All the citizens presumably



Liz Boys and Cora de Kock with the orchids



Steve Hickman from England

take their litter home with them to dispose of it. There are lots of people in Japan, but they are all well-disciplined and polite. There is no reason to worry about carrying cash on your person, as honesty is one of the many attributes of the Japanese people. Shop sellers have a basic understanding of English, but Japanese is the only language spoken. Cell phones are provided free of charge in the hotel rooms and public buses don't charge any fee. No tipping of the helpers was necessary as this is not a custom in

Japan. There is a custom of providing a small gift to all breeders visited, a pen or nuts, sweets, soap or some such. In turn, a gift for the group was offered. Green tea is served freely by most of the breeders visited. The end of March is also

cherry blossom time and they were evident, in pink and white, everywhere. A visit to the Narita shrine was also arranged and a pleasant tour of their gardens and stalls was enjoyed by the group of South Africans.



Orchids Singapore airport



Home of Mr Harigae

Mr Nakayama multitepal right



Singapore airport orchids



Information for the tour group
from Shige



Helping out with the packing of bought plants.



Perm' flower



'Perm' seedlings



Petaloid multitepal - Hattori



Superb 'Tiger'
variegated of Shige



A display at the Clivia show



One of the flowers in Mr Koike's shade house



Steve Hickman, Shige and Mr Koike



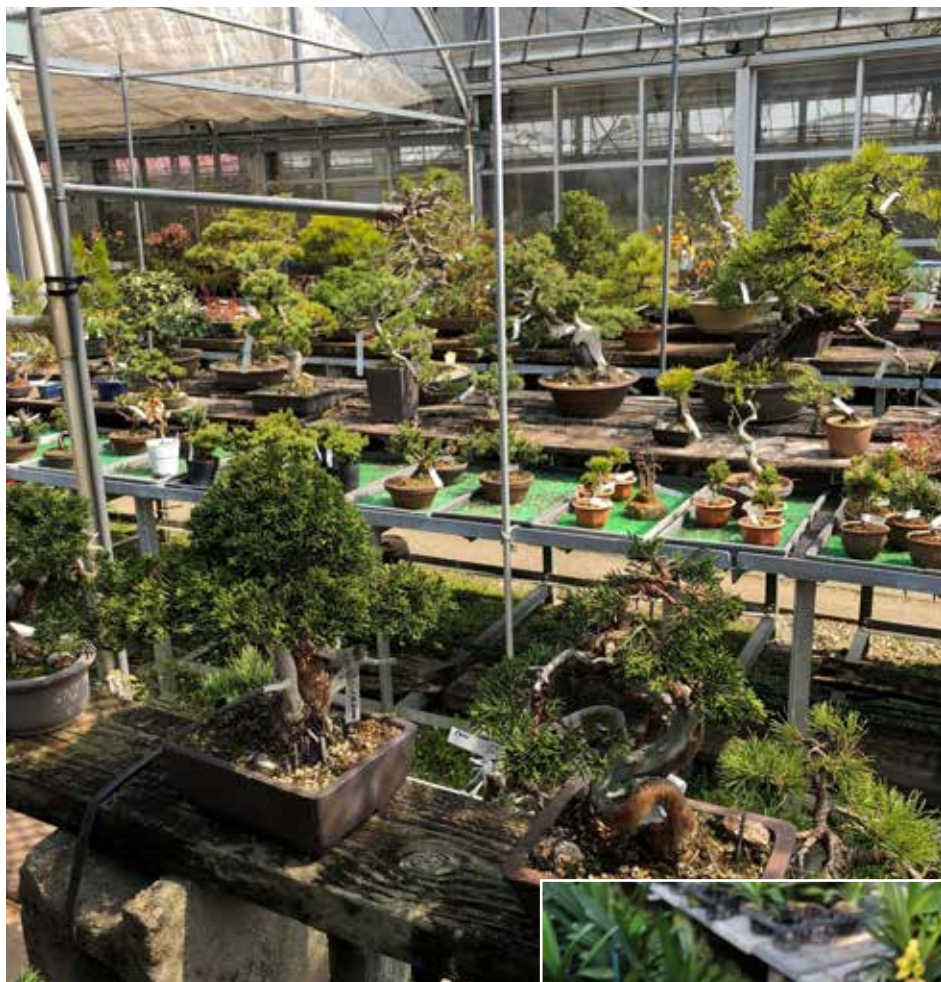
Mr Koike's shadehouse



Mr Nakamura and
Cora de Kock



Cora de Kock and
Liz Boyd admiring the
beautifully shaped tree



Well stocked garden centre

Clivia show attendees



Mr Hattori – petaloid multitepal



Picotee of Mr Hattori



Multitepal yellow of Shige

Akebona
broad leaf of
Mr Tsuruoka



Multitepal Mr Nakayama



Left: Blush Mr Hattori



At Mr Koike



Left: 'Blush' at
Mr Hattori

Tour group in Shige's shade
house





Shige Sasaki at Mr Koike



Mr Harigae



Marilyn Paskert with her purchase



Export plants at
Mr Hattori



Cherry blossoms

Mr Hattori and Shige



Petaloid multitepal of Mr Hattori



Sweet delicacies



Slimmers' platter – chocolate,
ice cream and wine – mine!



Broad leaved 'Tiger variegation'



Mr and Mrs Nakayama



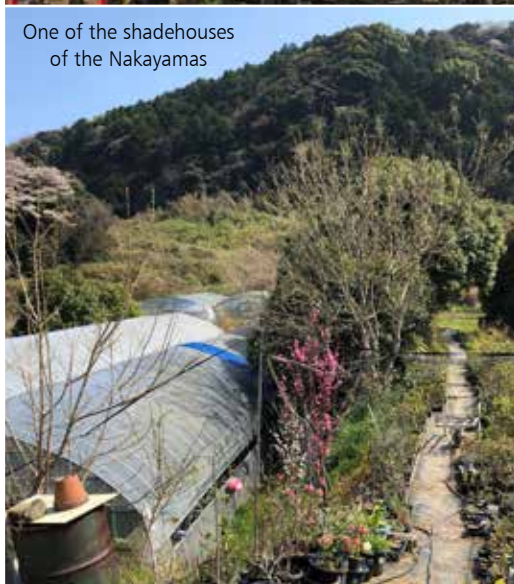
Peach bloom at Mr Koike

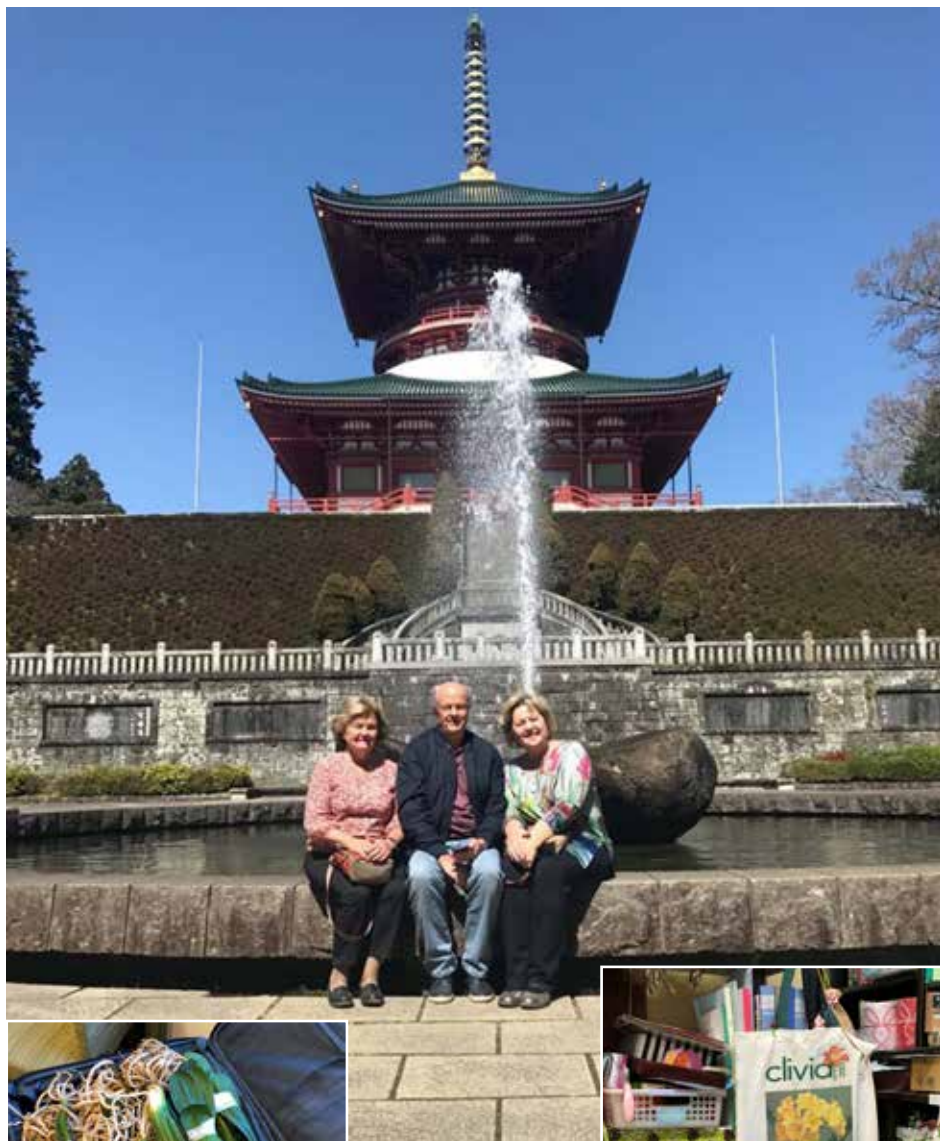
Mr Hattori's shade house





One of the shadehouses
of the Nakayamas





Tourists at the Narita Shrine

Memorabilia from Pretoria at Mr Tsuruoka

Ready for phytosanitary inspection





Mr Harigae and tour members



After the farewell meal in the shadehouse of Shige



Mrs Sasaki and Kerry

The progress and future of my breeding with '777 Elize'

Pikke and Elize Strumpher

Collecting and breeding *Clivia* is a passion of both my wife and myself. When the first '777' flowers bloomed, I named them after the three most important persons in my life, namely my wife Elize, my daughter Jessie (dog) and my son Bambi (dog). The three plants bloomed with flowers that were similar in colouration. I believe that '777 Elize' is the most attractive of the three flowering plants.





'Pink Blush'

'777 Elize' has more prominent brown speckles on the back of the tepals and the creamy-white colouring of the insides of the flowers has the most prominent green throat.

My first objective was to breed a stable line of *Clivia* that looked similar to '777 Elize'. The flower number in the umbel needed to be increased, as the original flower count of '777 Elize' was seven.

I used '777 Elize' as the pollen parent on all three of the original flowers, namely '777 Elize', 'Jessie' and 'Bambi'. The best flowers of these crosses were selected for future breeding. '777 A Dash Of' is a plant with a flower colour very similar to the original '777 Elize', but better in aspects such as flower count, umbel appearance and a bigger more prominent green throat. Most of the '777's had low flower counts in their first flowering season. Often with less than ten flowers present. The flower count improved dramatically with the second and third flowering seasons. The aim of increasing the flower count was achieved, but I realised that if the number of flowers present were too numerous, the evidence of the

versicolor would not be obvious to the eye.

With the line breeding, I expected that the '777' progeny to become more similar in their colour pattern. Surprisingly the variation in the colouring continued with each new generation. My next goal was to select two or three plants with flowers of the same or very similar colours and line breed



'777 Green'



'Dark Blush'

them. I have grouped them as follows:

Ever since the first bloom of '777', I have cross pollinated a variety of plants, to determine

the 'colour compatibility'. By this I exclude any flowers that are orange. Over the past ten years I have flowered hundreds of plants from various

crosses and in general, plants like 'Rumpelstiltskin', 'Andrew Gibson', 'Naude's Peach', that have unpigmented stems were compatible with the '777' plants. Yellow plants, both group 1 and 2, though they have unpigmented stems, when crossed with '777', produce orange flowers. The compatible crosses of '777' with 'Rumpelstiltskin', 'Naude's Peach' and 'Andrew Gibson' produced flowers that were not orange in colour, but disappointingly the form, colour, shape and green throats were inferior to the '777' plants. Using '777' as the berry parent, I have performed some reverse crosses, which should flower next year. Of the 'colour compatible' crosses, two interesting blooms that were



'Peach Blush'

attractive are:

I have also crossed 777 with plants of the F1' pigmented seedlings. These all flowered orange with some green throats. Sibling crosses of these F1's plants gave mixed results and were rather disappointing.

The Future

From my past experience of breeding with the '777' plants, I have decided that I will now concentrate on the different colour groups of the '777's and line breed them, without any out-crossing. I think that the diversity of the '777's has so much potential and they will continue to improve and vary and should keep me



'Secret Cross'



'Ode to Beauty'

pleasantly occupied for the next five to ten years. I firmly believe that the potential of *Clivia* flower colours and colour patterns is unlimited. By continuing our breeding for colour variation and patterns, flower sizes, umbel shapes and disease resistance amongst other things, our interest in *Clivia* will keep us and future generations fascinated by this plant. What I do know is that this success is not limited to the larger breeders, but is possible to be achieved by anyone with dedication and passion. 🌸

'Clivi-arta by Helen Sanders'

THE FUTURE: CLIVIAS IN SPACE

THEIR FIRST MISSION: THE MOON



AFTER A SUCCESSFUL
TOUCHDOWN ...

WE'LL DO ONE VERSION
WITH 'BOTANY' AND ONE
WITH 'ANGIOSPERMS' -
WHEN YOU'RE READY...



OK, HERE GOES...
IT'S ONE SMALL STEP FOR CLIVIA,
ONE GIANT LEAP FOR
BOTANY!



University of Pretoria publication

Z Swanevelder

SOUTHERN HEMISPHERE OBSERVATIONS

Character	<i>C. caulescens</i>	<i>C. gardenii</i>	<i>C. miniata</i>	<i>C. mirabilis</i>	<i>C. nobilis</i>	<i>C. 'robust' gardenii</i>
Pedice Length	15-35 mm	20-40mm	30-70mm	25-40mm	20-40mm	15-60mm
Flower Orientation	Drooping	Drooping on stiff pedicels	Erect	Drooping	Drooping	Drooping on stiff pedicels
Flower- Perianth shape	Tubular and curved, inner tepals recurved	Tubular and curved. (falcate) downwards, inner tepals segments	Open, funnel-shaped with spreading flower	Tubular, linear to curved, increased flaring at the apex	Tubular and linear, straight inner tepals	Tubular, somewhat falcate, increased flaring at apex
Leaf Sheath colour	Green-Light red	Green-Light red	Green-Light red	Flushed deep carmine maroon	Purplish	Green-Light red
Leaf Orientation	Arching	Recurved	Arching	Stiff, erect	Stiff, sub-erect	Arching-erect
Leaf Length mm	300-400(-900)	350-450(-900)	400-500(-900)	600-1200	300-700(-1000)	300-800(-1200)
Leaf Width	35-50(-70)	25-50(-60)	50-65(25-70)	30-50	25-45	30-70(-90)
Leaf Margin	Rarely serrated	Cartilaginous, minutely toothed	Usually entire	Entire, cartilaginous, usually smooth	Serrated	Cartilaginous and dentate
Leaf Apex	Obtuse-acute	Obtuse-acute	Acute	Obtuse-acute	Retuse and oblique	Abruptly rounded, retuse

Character	<i>C. caulescens</i>	<i>C. gardenii</i>	<i>C. miniata</i>	<i>C. mirabilis</i>	<i>C. nobilis</i>	<i>C. 'robust' gardenii</i>
Leaf-Special Characteristics					White stripe may or not be present	White stripe may or not be present
Aerial Stem	Usually present when mature up to 3m long	Rarely present - old specimens	Rarely present, old specimens	Not reported	Absent	Usually present in swamp forms
Flowering Time	September to November	May to July	August to November	October to mid November	August to January	March to early August
Season	Spring	Late Autumn to winter	Spring to early Summer	Late Spring	Spring to Summer	Autumn to Winter
Flowers Number	14-50	10-20	10-40	20-48	20-50	15-40
Umbel Form	Usually tight and flattened on one side	Usually loose, flattened on one side, rounded on the other	Big round umbels, almost globose	A tight umbel	Dense, compact round umbel	Variable, loose, slightly globose
Stigma protrusion from perianth tube	<7mm	>7mm prominent	Variable	Slight	<6mm	Variable. Stigma usually pushed out beyond anthers
Anther protrusion from tip	Slight	Always prominent	Variable	Slight	Variable	Slight to prominent
Flower Length - Perianth and Ovary Length	30-35mm	40-52mm	Variable	35-50mm	24-40mm	30-55mm
Pedicle Orientation	Stiff, erect, drooping near flower	Stiff, erect, sub-erect	Stiff and erect	Drooping	Slightly curved along length/ drooping	Stiff, erect, sub-erect

Character	<i>C. caulescens</i>	<i>C. gardenii</i>	<i>C. miniata</i>	<i>C. mirabilis</i>	<i>C. nobilis</i>	<i>C. 'robust' gardenii</i>
Pedical colour	Usually green	Usually tinged with red or orange	Green	Red/Orange during flowering or green when fruiting	Usually green	Variable
Seed Number in Berry	1 to 4	1 or 2	1-4(-25)	1-4(-7)	1 or 2(-6)	1 or 2(-4)
Seed Maturation time (months)	9 months	9 to 12 months	9 to 12 months	4 to 6 months	9 to 12 months	9 to 12 months
Seed Size-diameter	Medium 12mm average	Large. 18mm average	Medium 12mm average Eastern Cape forms larger	Small 10mm average	Small 9mm average	Large 10-18mm
Endocarp colour	Colourless	Colourless	Colourless	Colourless	Red pigment	Colourless
Distribution in the RSA	Limpopo, Mpumalanga and Swaziland	KwaZulu-Natal	Eastern Cape, KwaZulu-Natal, Swaziland, Mpumalanga	Northern Cape	Eastern Cape	Southern KwaZulu-Natal, Eastern Province (Pondoland)

Observations in this table are based on information from: J Truter, A Hardinge, R Dixon, Hooker, Pole Evans, Dyer, Obermeyer, Duncan, Malan, Koopowitz, Rourke and Z Swanevelde

2019 Membership fees to the Clivia Society

Three Clivia Newsletters and a Yearbook, are issued to paid-up members every year.
Subscription fees are paid to the following persons:

NO.	GROUPS, CLUBS OR INTERNATIONAL INDIVIDUALS	2019
1.	Australia: Pay to Lisa Fox in Australia: lisa.fox@gmail.com Equivalent of \$25.00 US	Aus\$35.00
2.	International mem: Pay to Sakkie Nel: corgas@vodamail.co.za Equivalent of \$25.00 US	US \$25.00
3.	New Zealand: Pay to Tony Barnes: tony.john@xtra.co.nz Equivalent of \$25.00 US	NZ \$40.00
4.	United Kingdom: Pay to Sakkie Nel: corgas@vodamail.co.za Equivalent of \$25.00 US	Br £ 20.00
5.	United States: Pay to www.northamericancliviasociety.org USD \$25.00 per year	US \$25.00
6.	European Union Pay to Sakkie: corgas@vodamail.co.za Equivalent of \$25.00 US	Euro €22.00
7.	RSA Club Treasurers: Pay fees in bulk to the Clivia Society, not later than 31 March of each year... ++ Postage extra will be added	R150.00 ++

Students and scholars pay only 50% of the abovementioned membership fees.

For International members the fees are 25 US dollars a year or the equivalent fees listed above for various countries. Fees may be paid in advance. The amount due is calculated on the fee of 25 US dollars a year.

Overseas members: The Clivia Society's PayPal particulars:

The Clivia Society: corgas@vodamail.co.za

NO.	PUBLICATION	PRICE
1.	Yearbook 1,3,5 – 19 R70.00 – POSTAGE INCLUDED	US\$10.00
2.	Digital copy of yearbook 2 & 4 (Out of print) Each R60.00	US\$5.00
3.	Ten or more copies of yearbooks by a Club or Group each POSTAGE EXTRA	US\$9.00
4.	Book: <i>Cultivation of Clivia</i> R80.00 – POSTAGE INCLUDED	US\$15.00
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8.	Clivia Color Chart II R200.00 – POSTAGE INCLUDED	US\$20.00
9.	Book: <i>Illustrated Terms and Definitions for describing Clivia</i> POSTAGE INCLUDED	US\$23.00
10.	Book: <i>Illustrated Terms and Definitions for describing Clivia</i> Reg. airmail included for RSA	R287.00
11.	Clivia Newsletters 1992 – 2017: Digital copies on website: www.cliviasociety.org No charge	

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