

# CLIVIANEWS

### THE OBJECTIVES OF THE CLIVIA SOCIETY

- 1. To coordinate the interests, activities and objectives of constituent Clivia Clubs and associate members;
- To participate in nature conservation activities in relation to the protection and conservation of the genus *Clivia* in its natural habitat, to promote the genus *Clivia* and in that context also to promote the observation of conservation laws and practices;
- 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;
- 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 objectivs.

### **CLIVIA EXECUTIVE COMMITTEE MEMBERS**

▼ CHAIRMAN	<b>Chris Vlok</b> Tel H +27 12 998 5942	PO Box 99583, Garsfontein 0060 e-mail: vlokac@wol.co.za
▼ VICE-CHAIRMAN	<b>John van der Linde</b> Tel & Fax +27 21 671 4535	1 Wheelan Str., Newlands, 7700 e-mail: vandal@iafrica.com
▼ SECRETARY	Lena van der Merwe Tel & Fax +27 12 804 8892	PO Box 74868, Lynnwood Ridge, 0040 e-mail: cliviasoc@mweb.co.za
▼ TREASURER	<b>Bossie de Kock</b> Tel +27 12 807 2173	PO Box 38539, Garsfontein, 0042 e-mail: bossiedekock@absamail.co.za
▼ OFFICE BEARER	<b>Ken Smith</b> Tel +61 2 47543287	593 Hawkesbury Rd., Winmalee, NSW 2777, Australia. e-mail: cliviasmith@hotmail.com

### **REPRESENTATIVES OF CONSTITUENT CLIVIA CLUBS**

- ▼ Cape Claude Felbert, Gerrit van Wyk and Johan Schoombee
- ▼ Eastern Province André Calitz, Willie le Roux and Wimpie Maas
- Northern Lena van der Merwe, Peter Lambert and Bossie de Kock
- ▼ KwaZulu-Natal Sean Chubb and Liz Boyd
- ▼ Free State Hennie van der Mescht
- ▼ Garden Route Gerrie Brits
- ▼ Joburg Glynn Middlewick and Koos Geldenhuys

	Table of Contents	
▼ ▼	CLIVIA EXECUTIVE COMMITTEE- AND CONSTITUENT MEMBERS EDITORIAL - <i>Roger Fisher</i> CORRESPONDENCE NAMES & THE GENUS <i>Clivia</i>	Inner Front Cover 2 3
•	Robert Allen Dyer PEOPLE BEHIND THE PLANTS - Gill Condy STORIES BEHIND THE COVERS	4 6
	Front Cover Back cover TRIBUTE	7 8
•	Mentor and friend remembered - "Oom" Frans Gerber CLIVIA 2006: SPEAKERS & TOPICS <i>Tony Barnes - Clivias</i> in New Zealand <i>Sean Chubb -</i> A practical approach to colour breeding in <i>Clivia minia</i> <i>Ian Coates - P</i> hotography: for the record for science and for disp <i>Joe Dana -</i> The Joe Dana Clivia Collection <i>Roger Fisher -</i> The seeing hand - the genus <i>Clivia</i> depicted <i>Hein Grebe -</i> A photographic expedition to the <i>mirabilis</i> populations of the Western Cape <i>Rudo Lötter -</i> Colour in <i>Clivia</i> <i>Helen Marriott -</i> Nakamura's contribution to Clivia breeding <i>Victor Murillo -</i> Breeding the Victorian Peach <i>Ken Smith -</i> Registration of <i>Clivia</i> <i>Johan Spies -</i> Genetic aspects of <i>Clivia</i> breeding <i>John van der Linde -</i> Some clivias and the men who found them <i>Aart van Voorst -</i> Ploidy research in <i>Clivia -</i> an update with new resu <i>A Rashid Qureshi -</i> Plant Genetics <i>Song Xueguan - Clivia</i> in China GROWERS A BREEDERS NOTES Q's & A's RED RUBY GLITTER	olay 12 12 17 17 18 18 19 19 20 20 20
•	CLIVIANA Cinderellas – Stamps with Clivia Tabs - Sakkie Nel CLIVI-ARTA Conference Eagerness - Helen Sanders REPRESENTATIVES OF CLUBS & ENTHUSIASTS CONTACT DETAILS	26 28 Inner Back Cover

The Clivia Society Newsletter started as a black on white newssheet dated July 1992, numbered Volume 1 number 1, called 'Clivia Club'. It formed a means of communication for people interested in the plant genus Clivia. It was edited/written by Nick Primich with a frequency of 3, 5, 8 & 5 during the 1st 4 years, using the publication month in the volume.

The frequency was fixed on 4 with vol. 5 # 1 of March 1996.

The date changed to the Southern Hemisphere seasons with vol. 8 # 1 of Autumn 1999. The 1st three used yellow paper as cover. The name changed to 'CLIVIA CLUB NEWSLETTER' with vol. 9 # 1 Autumn 2000 with full colour photos on the cover pages. Another name change to 'CLIVIA SOCIETY NEWSLETTER' came with vol. 10 # 4 Summer 2000, and in 2005 reverted to a quarterly number. *CLIVIA NEWS* is the continuation of this series.

# EDITORIAL

### It is a red-letter day.

This Clivia 2006 issue of *Clivia News* coincides with your arrival at the fourth quadrennial Clivia Conference. That is if you are here.

If you are not here and have received this by mail we hope it gives a glimpse of the scope of the proceedings, and a twinge of envy at what you have missed. You are fortunate in that four years of preparation by a team of some ten-odd dedicated persons has resulted in what promises to be a rich, varied, but – most importantly – a Clivia-saturated event.

The media is on the alert and Clivia is receiving good press across a broad spectrum of the gardening, home, leisure and lifestyle media in South Africa.

While on the one hand it seems an enormous amount of effort for only one-hundred-and-fifty delegates registered to date (more are expected) on the other hand the consequence is the contents of *Yearbook 8* which reaches a much wider and international audience. And of course the hope is that it swells the number of members of the Clubs, widens the interest in the plants of the genus *Clivia*, and hence provides for a broader spectrum of hybridising. We have read in the previous Yearbook 7 that for a combination of just a few specific characteristics in a breeding programme one needs about two thousand plants to have a statistical chance of achieving that goal. It appears that each individual grower can only cope with about four hundred plants. Hence we need more enthusiasts for a broader spectrum of hybrid cultivars.

And fortunately some are now starting young. In a recent meander to the Garden Route I visited the Utopia Nursery of Carrie Kruger in Sedgefield and was most ably and knowledgeably assisted by young Lucas (13) who is his mom's right hand man. He also assures me that he is an avid reader of the Newsletter. If there are more like him out there should we not have a young enthusiasts corner? Let us hear from the younger growers – what are your interests, expectations, and ambitions for the genus Clivia? Will we still have the privilege of habitat specimens when you inherit the Clivia enterprise or will your only access to these be through the botanical and heritage collections?

Which leads us to the stamp issue. Most people still believe there are only four species – at most, some think two, others one! (and I am NOT referring to lay-persons) – of the genus *Clivia*. While the lumper and splitter debate is inherent in the nature of taxonomists, the case can be made that, for a charismatic genus such as Clivia, splitting is to be expected. When the relegation to species is associated with a region of endemism, it still makes good sense. Although each species has a specific complement of diagnostic features, we know that none in isolation vouches for the specimen being of a particular species. That is why one needs to keep habitat populations intact, for only a specimen from habitat can, with any certainty, be ascribed to a species. The enterprise of DNA-profiling currently being undertaken at the University of the Free State may prove a useful additional tool. But with the issue of the stamps it should help fix in the popular imagination of the public that we have six species of Clivia. It is also a tidy number for the issuing of miniature sheets! Congratulations to the South African Post Office for their commitment, Gill Condy for the beauty of her artwork and Peter Lambert for driving the project.

The rest is for you to enjoy, thanks to the hours of commitment of a dedicated conference team. I'll drink to that.  $\checkmark$ 

Roger Fisher - EDITOR

EDITOR OF NEWSLETTER ROGER FISHER: PO Box 856, Irene, 0062, Republic of South Africa ▼Tel: +27 83 602 7736 or +27 12 420 2550 ▼Fax: +27 12 667 2406 ▼E-mail: clivianews@cliviasociety.org PUBLIC RELATIONS OFFICER ROGER FISHER: ▼Tel: +27 83 602 7736 or +27 12 420 2550 ▼Fax: +27 12 667 2406 ▼E-mail: pro@cliviasociety.org YEARBOOK EDITORIAL JOHN VAN DER LINDE: 1 Wheelan Street, Newlands, 7700 ▼Tel: +27 21-671 4535 ▼E-mail: vandal@iafrica.com. DESIGN & LAYOUT Fréda van Wyk082 468 8485 ▼PRINTING CPD Print, Pretoria Tel: 012-342 1978/9



### WELCOME

CLIVIA NEWS

# Welcome and Good Wishes from Brian Huntley, CEO of SANBI

The South African National Biodiversity Institute, as custodians of our rich floral heritage, applauds the success of the Clivia Society, which, from its inception, has promoted Clivia and inspired enthusiasts beyond our borders to include the USA, UK, Europe, Japan, China and New Zealand.

SANBI has developed a unique collection of Clivia at Kirstenbosch National Botanical Garden collected from habitat over many years, by John Winter, erstwhile curator of Kirstenbosch NBG. The set of stamps introduced to commemorate the 4th International Clivia Conference depict all the South African species.

SANBI is proud to have introduced *Clivia* mirabilis, a new species described by Dr John

Rourke, then Head of the Compton Herbarium at Kirstenbosch, and named in recognition of the plant's ability to withstand hot and dry conditions, unlike other species in the genus.

▼ VOLUME 15 NUMBER 3 ▼ JULY - SEPTEMBER 2006

DNA studies are presently being undertaken at the Leslie Hill Molecular Systematics Laboratory at the Kirstenbosch Research Centre, which will prove of great interest to botanists and enthusiasts alike.

SANBI wishes the Clivia Society every success with its 4th International Conference to be held in September 2006, and hopes that all overseas delegates will enjoy their visit to our great country, the home of the magnificent Clivia. ▼ *Brian Huntley* – CEO: SOUTH AFRICAN NATIONAL BIODIVERSITY INSTITUTE

### CORRESPONDENCE

### Good-day Mr Editor

[Translated from the Afrikaans – Ed]

In 1999 I bought a clivia out of the garden of Joeye van der Westhuizen in Nylstroom.

Her husband, Oom Fanie, had died suddenly a number of years previously and she had no idea as to the origin of his clivias. After some years I noticed that a number of them had remarkable flower forms. The plants, with the good care of my husband, became prize pot-plants. One was awarded Silver on a Northern Clivia Club Show.





At the Metro Show of 2005 I saw a similar bloom. If someone believes they have the same plant, do they know its origin? Where did Oom Fanie obtain his? If anyone can cast any light on this riddle it would be much appreciated. Secondly, one of my bell-like crosses had three multi-tepal flowers on its first blooming. This is from seed of my nursery planted in 2002. I have called this plant "An's Pride 001". Good wishes to all those busy with this years large event! I receive great enjoyment from the Newsletters.

> They are Beautiful!!!▼ An Jacobs Clivianna, Nylstroom, SA johanan@esnet.co.za



#### VOLUME 15 NUMBER 3 ▼ JULY - SEPTEMBER 2006 CLIVIA NEWS

### **NAMES & THE GENUS CLIVIA**

# **Robert Allen Dyer**

r R. A. Dyer described Clivia caulescens, collected by Dr F. Z. van der Merwe from the MacMac forest margin, (Plate 891 of Volume 23 of Flowering Plants) in 1943 as a separate species. In this entry is also recorded a specimen collected by E. E. Galpin (1848-1951) from Barberton in 1890 that had a stem of "12-18 inches" [300-450 mm] and placed by Baker in his Flora Capensis 6, 228 (1896-1897) with other pendulous examples from Natal and Transvaal under C. nobilis.

Dr Rober Allen Dyer was born on 21 September 1900 in Pietermaritzburg. Here he did both his schooling and completed his university education, obtaining his DSc in 1937 for a botanical survey of the Grahamstown and Bathurst district, of interest to us as the habitat of the Clivia nobilis.

He started employ in the sugar-fields of Zululand where he contracted malaria. In 1925 he was appointed to the Albany Museum Herbarium in Grahamstown, where he spent six productive years, including his fieldwork on the succulent Euphorbiae. From 1931 to 1934 he was South African Liaison Officer at the Royal Botanic Gardens, Kew. On his return to South Africa he was posted to the National Herbarium, Pretoria, where, in 1944, he became Chief of the Division of Botany. He agitated for better facilities, resulting in the new headquarters building in the Botanic Gardens built in the 1970s. He retired in 1963, but remained active in the world of botany, being awarded the South African Association of Botanists first Gold Medal in 1971, as the "doyen of South African botanists".

Some interesting aspects of his personality emerge in the Obituary prepared for Veld & Flora (March 1988, pages 31-2, on which this article is based) by P. Vorster of the department of Botany, University of Stellenbosch.

Clivia caulescens by Betty Connel ©SANBI



Clivia caulescens by Cythna Letty ©SANBI

Besides his many publications, he was instrumental in obtaining subscription for those by others, including W. Reynold's The aloes of South Africa, and Cythna Letty's Wild flowers of the Transvaal, in which the Clivia caulescens is illustrated, as well as Auriol Batten's Flowers of southern Africa, which has the Clivia miniata illustrated. He was tenacious when the occasion demanded it. He insisted being included as second author to Alain White in exchange for his own research towards the monograph The succulent Euphorbiae.

As a person he was a patriotic South African, which created difficulties during the Second World War, as his staff held widely divergent political views. His wit showed when he named *Encephalartos cupidus* as record of the removal to the premises of collector himself of the almost entire known population, hence recording for posterity "a passionate desire to the extent of greed or lust". Cythina. Letty.

He was a photographer, gardener – priding himself on his production of artichokes and African Marigolds, of which he hybridised the buiggest and most spectacular in Pretoria – collected the mown grass from the Botanic Gardens as bedding for his fowls, and tested many untried fruits as jellies.

While not a collector of earthly goods, he had a fondness and respect for books. He died in Pretoria on 25 October 1987.

# PEOPLE BEHIND THE PLANTS

# Gill Condy

Gillian Condy was born in Kenya in 1952. She was trained as a scientific illustrator at the Middlesex Polytechnic in London, obtaining a Masters from the Royal College of Art in 1976. She worked in Botswana from 1978-1982, before taking up the position of resident botanical artist at the South African National Biodiversity Institute, Pretoria (formerly the Botanical Research Institute/National Botanical Institute) in 1983, where she is still employed.

Gillian has participated in over 75 group exhibitions worldwide, including those of the Royal Horticultural Society in London (7 gold, 3 silvergilt) and the 7th International Exhibit of Botanical Art and Illustration, Hunt Institute for Botanical Documentation in Pittsburgh, USA. In February 2000 she was awarded a gold medal at the Inaugural Kirstenbosch Exhibition of Botanical Art, a silver medal in 2002 and gold in 2004.

In 1990 Gillian was awarded the Jill Smythies Award by the Linnaean Society of London; in 1992 the Beeld Stamp Design of the Year for *Edible Wild Fruits of Bophuthatswana* and 2nd place in 1993 for *Acacia Trees*. She has designed 14 sets of stamps for Botswana Post Office. In May 2002 she was awarded the Cythna Letty Medal by the Botanical Society of South Africa.

**STORIES BEHIND THE COVERS** 

She has illustrated over 200 plates for *Flowering Plants of Africa*, contributed to various other NBI publications and 8 plates for Curtis 's *Botanical Magazine*. Her artwork is found in collections all over the world.

*Geophytic Pelargoniums*, a book she illustrated, was published in August 2001 by Umdaus Press. She is working on two other books by the same author. The book on grass aloes of South Africa was published in 2006, with over 40 colour plates. She was also the major contributor to the biographical section in the book *Peeling back the Petals: SA Botanical Art*, published by Fernwood Press in November 2001.

Gillian has organised three major workshops for botanical artists in 1990, 1998 and 2002. She is one of the founding members of the Botanical Artists Association of Southern Africa and is the present National chairperson. She runs regular art courses for NBI (new SANBI) and BAASA and is an active freelance artist.

She was approached by the Post Office to depict the six species of the genus *Clivia* for the set of stamps issued in conjunction with the 4th International Clivia Conference.

Gillian has one son and in her spare time has been involved with the Scout Movement for over twelve years. ▼

### orgive me an autobiographical note by way of introduction, but this issue of Clivia News and the Clivia 2006 Conference culminates an episode in my Clivia life. As a neophyte to the Clivia game and an un-rehabilitated bibliophile I was looking for literature on the topic. Exhausted at what was available, I approached Braam van Wyk, my colleague in the Department of Botany at the University of Pretoria - whose book on Regions of Floristic Endemism I greatly admire - as to whether he'd not be interested in doing something similar but dedicated to the genus Clivia. He was far too engaged in projects of his own but was sympathetic. He in turn referred me to one of his students, Dirk Swanevelder, and his publisher, Briza, and a collaborative was formed - Dirk would take care of the Nature of the

Clivia. I their Culture (in a socio-cultural sense). To this end I made the acquaintance of Gillian Condy, in-house Botanical Artist to SANBI. I wanted to find out what depictions existed and what it would cost to have fresh depictions done. She said she had heard rumours of a set of stamps to be issued for the Clivia Conference in 2006 and did I know whether an artist had been appointed, since she was keen to be commissioned, and - should she be - would not have time for my enterprise, should this transpire, and was, anyway, too tied up finalising her contribution to the book on grass aloes. I immediately phoned Lena van der Merwe from Gill's office to find out about the stamps. Well, before I had any more clarity on the stamp matter I was saying "Yes" to being considered as a candidate for editor of the



Clivia Society Newsletter since Meg Hart had announced her imminent retirement.

And I had Sibonelo Chiliza as artist with him having precious little produced to prove his ability. Such is the nature of serendipity.

When Gill Condy was finally commissioned by the South African Post Office as artist for the Clivia stamp set the blooming season was fading for *C. miniata*, and long past for the pendulous species. So a frantic search started for flowering specimens since Gill is averse to working from anything but living examples. What follows is the consequence.

### Front Cover

*Clivia miniata* var. *citrina* hybrid was provided by Norman Weitz (*thank you Norman!*) from his own collection for portrayal by Gillian Condy. This is not used in its entirety on any of the stamps but as border on the miniature sheet of the six species. It also appears – almost in its entirety – on the bottom right hand corner of the A1 poster issued by the South African Post Office to advertise the release of the set of six stamps on 6 September 2006.

It was the one-time rarity of the yellow form of *C. miniata* that fired the imagination, and it is probably this form that must be immortalised in the annals of Clivia lore for making the genus popular amongst gardeners, collectors, growers and breeders of Clivia. The further cloning of a plant of this variety from the breeding of the legendary Sir Peter Smither's (CSNL 13:1 & CSNL 15:2, 13) by the equally legendary Yoshi Nakamura as the Vico Yellow cultivar helped enhance its status as a plant of note and desire. Clones or progeny of this form appear in the collection of enthusiasts around the globe.



### Back Cover



**Illustration I:** *Clivia nobilis.* The depicted plant derives from the Standerwick Nursery in the environs of Port Alfred, and is a clone from the farm where the nursery is located. The plant is representative of the forest form of the species, with thinner, ranging roots and narrower leaves than the dune forest form, which has thicker, asparagus-like buttress roots and shorter, broader leaves. The coastal form also seems to produce redder blooms than the inland forest forms, which may be indicative of different pollinators, or visibility to pollinators under differing light conditions. We remain particularly ignorant on these matters.



**Illustration 2:** *Clivia miniata.* The plant represented was a late blooming specimen in the collection of the University of Pretoria. The courtyard of what was once the Faculty of Agriculture (now the Department of Consumer Sciences) has a fine collection of what appear to be the Oribi Gorge form of C. miniata, since they are particularly large plants with fine umbels ranging from apricot to orange-red flowers, and obviously long established in their position in the garden. The plant depicted is unusual in that the colour is laid down as speckles on a white and yellow background. It has a typical 'wild' arrangement of tepals, separate and dainty.

**Illustration 3:** *Clivia gardenii.* Gill depicts a plant from her own collection, growing in her garden, but bought years back when the Northern Clivia Club Show was held at the National Botanical Gardens, Pretoria. The peduncle is cyanin



suffused, giving it a purple red hue, a characteristic found in varieties of this species, and shared with *C. mirabilis*. Flower colours can range from pale yellow through to purple-red (See the accompanying Auction Catalogue for some of these varieties). **Illustration 4:** *Clivia caulescens.* The plant and flower depicted are not one. The plant is from the nursery trade in White River and is a habitat form of the Lowveld scarp. It



depicted are not one. The plant is from the nursery trade in White River and is a habitat form of the Lowveld scarp. It shows the characteristic *caul* or stem from which the species gets its name (see the accompanying article of RA Dyer). The flower shown is from a specimen in the collection of Fred van Niekerk. The flowers of the species range in colour from good reds with characteristic green lips through to a yellow form (see accompanying Auction catalogue for examples of varieties).

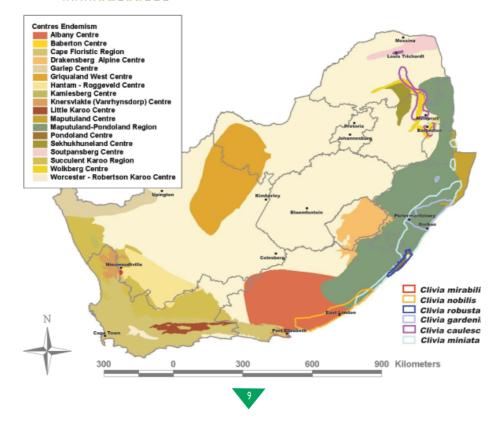




**Illustration 5:** *Clivia mirabilis.* Gill had the type plant sent up from Kirstenbosch in order to represent it. She was thwarted in her regime of working from live material in that it was not in bloom, and so had to resort to photographs of habitat material for painting the blooms and seed umbel. It is interesting that we have had released to the market almost twice as many plants as are estimated to be growing in habitat. It is probably true of most of the species that there are more plants in cultivation that in habitat.

deposited by the 1970s ar *Clivia nobilis* clumps in th the shade ho identity. They of the species It would see contentious b be contested from the stem

**Illustration 6:** *Clivia robusta.* The form depicted is that deposited by Fanie Venter in the Pretoria Botanical Gardens in the 1970s and used in *Flowering Plants* to incorrectly depict *Clivia nobilis.* The plants stood near the entrance in large clumps in the shade bearing this label, but were moved to the shade house once we alerted the curator to their actual identity. They are an orange flowered form of the larger variety of the species, which Fred van Niekerk has christened 'Maxima'. It would seem that the species status of these plants is still contentious but their association with a swamp habitat cannot be contested, resulting in them producing buttress-like roots from the stem as it rises in growth above the water line. ▼



TRIBUTE

# Mentor and friend remembered

CLIVIA NEWS ▼ VOLUME 15 NUMBER 3 ▼ JULY - SEPTEMBER 2006

### "Oom" Frans Gerber

e was a gentleman, a mentor, a teacher and true friend. I first heard of Oom Frans during the year 2000, when my grandfather gave me his number, which he found in the Church pamphlet. I phoned him, and he immediately invited me over.

That day I made a true friend. I "bothered" him with phone calls, at least twice a week, but he was never too busy to answer my questions.

During September 2000, he invited Mr. Dawie Strydom and me to accompany him on a visit to Louis Trighard, (now Mokhado) where I met a lot of new clivia friends, like Mr. Bertie Guillaume, Mrs. Ansie Le Roux, Prof. Dries Bester and Mrs. Olive Brummer. We spent the night at Mr. Bertie Guillaume's place. I still remember being fascinated by all his hunting trophies. We came home, with a car full of plants and made a lot of new Clivia friends.

During December, the same year, I was invited to meet up with Oom Frans and Mr. Andy Hardinge, at his holiday house, at Glenmoore, this was the first time I came in contact with Clivia robusta, then simply known as the Swamp Clivia. Mr. Harding took us to his nursery, as well as his Clivia collection, at his home in Trafalgar. And once again I came home happy to have made new clivia friends, and having acquired new plants.

I can't, once, remember visiting Oom Frans, and coming home empty handed. Oom Frans just loved giving, and I myself, caught on from him, as I myself can sometimes "hit" myself over the head, after giving another of my best crosses to a visitor, before it flowered.

During 2003 Oom Frans became very sick and had to get chemotherapy, that also made him feel bad, but still he was never too sick to come to the phone, and have a short talk. During September that year, he recovered, and my father and I invited Oom Frans and Tannie Sannie to accompany us on a visit to Mr. Bertie Guillaume, in Louis Trighard. There we also attended their annual Clivia Show, and we also paid a visit to Mrs. Athri Wessels.

Soon after the Clivia season, Oom Frans fell very ill. I still remember my last visit to him. There was a beautiful Clivia caulescens flowering, just outside the living room, and a wonderful bronzed flowering clivia, named "Boesman". His last word to me was "generaal, moenie warrie nie saam gaan ons nog baie Clivias plant" (General, don't worry, together we'll still plant many clivias together"). And that we will do, in Heaven one day.

I take may hat off to all that Tannie Sannie and his family did for him. He passed away peacefully on 9 November 2003 at home, with the bronze clivia flowering in his room. I know that all that knew him will agree that we lost a great clivia personality that day, and that he will be greatly missed by all.

Goodbye to the man who taught me how to love life, goodbye Oom Frans until we meet again.

George Mann mann@mweb.co.za



# **CONFERENCE NEWS**

CLIVIA NEWS

# **Speakers & Topics**

# Tony Barnes: Clivias in New Zealand

VOLUME 15 NUMBER 3



Somewhat concerned by the number of his last birthday, Tony Barnes feels he now has fewer years ahead than behind him and often asks himself, "Why didn't I start breeding Clivias 20 years earlier?" – With approximately six more generations, (and some luck !!) that elusive blue/purple may eventuate, if he lives to 120! A keen amateur is all he admits to being and sometimes his Clivias look great and sometimes a disaster. Tony made his first garden when he was 5 years old and with a farming background dropped out of University to farm and move into ornamental horticulture, which has been his passion and interest for the last 30 years. He has given talks on horticultural subjects all around NZ, and his presentation, largely visual, will be looking at the history of Clivia in NZ, growing conditions, commercial growing, and people involved in the current

JULY - SEPTEMBER 2006

Clivia scene. This isn't a scientific talk in any way, merely the observations of a keen amateur gardener and plants person with a special interest in Clivia.

Owning Ngamamaku, a Garden of National Significance that is well known around New Zealand, he is also heavily involved with the NZ Camellia Society, the Taranaki Rhododendron and Garden Festival and the NZ Clivia Club. He works part time as a consultant for the largest rose nursery in NZ. Tony first started playing around with Clivias in 1990 and now has a large selection of his own hybrids. Hundreds are now planted around his three acre garden. His special interest is in pastels and interspecifics. Tony is really excited to be meeting so many other Clivia enthusiasts and sharing information on the New Zealand scene. Having just organised the National Camellia Show for New Zealand the week before this upcoming 2006 Clivia Conference he is feeling in need of a genus change.

### Sean Chubb: A practical approach to colour breeding in Clivia miniata



Sean Chubb is a farmer by profession. He concentrates his efforts on growing sugar cane, citrus and commercial timber plantations. He also runs a small herd of Nguni cattle, which have been bred as Stud since 1977, and which is one of the oldest Nguni studs in South Africa. Above all, Sean is a nature lover and conservationist with a wide interest in all living creatures and plants. Devoted to propagating only indigenous South African plants he was once referred to as a Philistine for having very limited knowledge of plants not native to South Africa. Sean has grown Cycad species and indigenous trees commercially but now concentrates his efforts on a few species, namely Clivia, Scadoxus, Veltheimia and Kniphofia.

Sean's interest in Clivia started at an early age while attending high school at Hilton College. He collected and grew Clivia seed found

growing wild in the forest. His real passion for Clivia and the interest in Clivia breeding began when he acquired a plant that was not orange in colour but peach. The early breeding results were very slow and, with no knowledge of Clivia breeding and no one to turn to for advice, success was limited until 1994, when the first true-breeding batch of peach seedlings flowered.





# Speakers & Topics continued

VOLUME 15 NUMBER 3 ▼ JULY - SEPTEMBER 2006

With a taste for the unusual and uncommon, Sean has concentrated on breeding and perpetuating rare colours and colour combinations. He has a practical approach to Clivia breeding, which he shared during his presentation at the 2006 Clivia Conference. Sean is also passionate about conserving Clivia history and has probably the most complete collection of wild-occurring Clivia mutations, including yellows, peaches, pinks and other rare colour forms. He has started what he calls the Clivia Heritage Collection, which is essentially a collection of Clivia with traceable origins and history. This collection is only in its infancy and hopefully by keeping this collection of living historical plants some Clivia history will be preserved.

### Ian Coates: Photography: for the record... for science and... for display



This talk will appeal to a wide audience as it looks at basics in record photography, it looks at the technical side in the UV photography and it looks at the 'arty' side in the display work. Ian, a photographer by profession of nearly fifty years standing, started growing Clivia in 1965. Although enthusiasts were thin on the ground in those days, he feels privileged to have made contact with many who were the leading Clivia growers of their day and who generously helped with his collection and provided the basics for his subsequent breeding. His experience in photographic technology formed the platform for his entry into Ultraviolet photography of *Clivia* species.

As a Professional, he was Fellow of the British Institute of Professional Photographers and served on their Council and was Chairman of their

Qualifications Board. He is also Fellow of the Royal Photographic Society and has photographed numerous members of Royalty and Heads of State, the Churches and the Arts. However, he believes you are only as good as your last image!

### Joe Dana: The Joe Dana Clivia Collection



The Joe Dana clivia collection – a clivia enthusiast's intensive breeding programme towards specified form and colour objectives, with over 2200 identified clones and including the use of over 200 stored pollen lines. This presentation will illustrate plants from his collection, his own hybrids as well hybrids from David Conway, Joseph Solomone, Monterrey Bay nursery, San Marcos nursery as well other well known collections. He will also be explaining his own hybridization techniques, pollen collection and storage. He will also discuss his method of pollen storage and longevity of pollen life to be expected as well regarding his experiences.

He has presently 244 distinct and different varieties of pollen in storage and will be explaining his pollen trading and leasing activities. He ships pollen internationally and leases quite a bit of pollen which is where he approves the plants on which his pollen is used and in trade, receive 50% of the harvest.



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CLIVIA NEWS

### Speakers & Topics continued

VOLUME 15 NUMBER 3 ▼ JULY - SEPTEMBER 2006

Roger Fisher: The seeing hand – the genus Clivia depicted



This talk considers how the art of depiction satisfies ways of seeing and knowing, particularly the genus Clivia. The botanical artist is constrained by convention that requires that more be depicted than is seen. This helps in the scientific understanding of the plant. The artist, however is not anonymous in this endeavour, but reveals their presence through their style. Roger Fisher is a Professor of Architecture in the Department of Architecture, University of Pretoria. He has taught in the programmes of architecture, landscape architecture and interior architecture for the past twenty years. In 2006 he was awarded honorary membership of the Institute of Landscape architects of South Africa.

In this time amongst his teaching duties have been that of studio leader to every of the five years of study, as well as teaching in the courses of History of the Environment, Building Technology and Sustainability. He became a member of the Clivia Society two years ago at the encouragement of Ammie Grobler. He currently edits the Clivia Society Newsletter.

# **Hein Grebe**: A photographic expedition to the *mirabilis* populations of the Western Cape



WW ith access to the restricted *Clivia mirabilis* habitat, Hein will give us a visual tour of their habitat and variety as well as some of the problems facing the plants in their struggle to survive.

Hein Grebe was born in South Africa's famous Garden Route on 19 July 1961. He spent all his childhood and school years on a farm where his love for nature and plants were entrenched. From an early pre-school age he was collecting succulent plants and always had a love and admiration for trees. While studying engineering at the University of Stellenbosch

he stayed on the farm 'Old Nectar', belonging to General Kenny and Mrs Una van der Spuy. These famous authors of numerous plant and garden books further stimulated his interest in plants. He was one of the last persons that the late General van der Spuy taught to prune roses.

He started to grow clivias in 1993 when seeds of yellow clivia were bought from Jim Holmes. The same year he joined the Indigenous Bulb Association of South Africa and in 1998 the Clivia Club. He had picked up the 'clivia disease' in the late nineties after visiting Toy Jennings' clivia collection. Today Hein has a collection of several million flower bulbs (indigenous and exotic) growing on his farm outside George. His dream is to turn his hobby collection into a flower reserve for everyone to enjoy one day. His interest in clivia has shifted to the various forms of Light of Buddha and Chinese dwarfs and mutations. He is presently employed as the Chief Mechanical Engineer of the Department of Transport and Public Works in the Western Cape Province.





Speakers & Topics continued

### Rudo Lötter: Colour in Clivia



This presentation will show how colour is formed in the Clivia flower as a combination of several factors, such as cell distribution, pigment distribution, pigment dilution and mutations. These factors in combination with the primary colours, Yellow, Red, Green and White give rise to secondary colours. Secondary colours are the visible colour of the flower. The focus is on the different colours and how to group them and to distinguish between pastels and peaches. Attention is given to the five factors that can result in yellow Clivia. Furthermore, colour can be influenced by distribution factors such as pattern genes, these give rise to bicolors and picotees. Finally, a futuristic look at the possibility of blue

VOLUME 15 NUMBER 3 ▼ JULY - SEPTEMBER 2006

He was raised on a small holding just outside Pretoria. His father, a keen plant collector and bird breeder, established his love for birds

and plants from an early age. He taught him his vast knowledge succulents, cycads and palms, and also his lives experiences with birdkeeping, breeding of rare parrots, and how to care for them. His father being a scientist of nature, always tried to improve on methods to hand rear baby parrots or to breed new flowers through hybridization. He was faccinated with his work. His mother, being a faithful Christian, laid the foundation for Rudo as a hardworking and honest man.

### Helen Marriott: Nakamura's contribution to Clivia breeding



This paper will outline the contribution of Yoshikazu Nakamura of the Clivia Breeding Plantation, Japan, to clivia breeding. In addition to establishing an early collection of Clivias, from the outset and until the present, Nakamura has possessed a broad set of breeding objectives. Although his extensive use of Vico Yellow is well known, here I will endeavour to describe the breadth of his clivia breeding and also refer to the influences upon himself as well as his influence upon others. With a sole specialisation in clivias, Nakamura has promoted clivia growing and breeding in Japan and elsewhere, with his influence extending widely throughout the Clivia Society (and former Clivia Club), and he has also disseminated the outcomes of this breeding through seed (or plants) to collectors or growers in Japan and overseas over a period of around two decades, but

particularly during the past 15 years. Some of his contributions to clivia breeding include fully using different species and their combinations, and improving flower characteristics, as well as breeding for plant characteristics, especially a range of variegates in different combinations. This presentation will be illustrated with slides taken in Japan or Australia of Nakamura plant material, particularly his interspecifics, variegates and multitepals.

Helen Marriott is an associate professor in the Japanese Studies program in the School of Languages, Cultures and Linguistics of Monash University, Melbourne, Australia. Although she had had a long interest in plants and gardens, she began growing clivias in 1998 after moving to her present home and was stimulated by the receipt in that same year of a mature yellow Clivia ('Aurea') from her neighbour (whose husband had been an early distributor of these offsets in the 1980s). Now she is inundated with Clivia plants and seedlings, and devotes quite a bit of her spare time to this pursuit. One clivia-related development was the purchase in mid-2003 of a digital compact camera



to take photos of clivias. When on work trips to Japan she has had the privilege of visiting Yoshikazu Nakamura's Clivia Breeding Plantation on four occasions in recent years and has fond memories of these visits. She has also been fortunate in seeing and photographing many fine specimens of Nakamura-bred clivias in the Melbourne glasshouse of Laurens and Esther Rijke, many of which have been grown from seed.

### Victor Murillo: Breeding the Victorian Peach



The first plant used in breeding Victorian Peach, colours that have evolved, such as: Light, Medium, and Dark Peach. The range of colours, that this gene pool has produced, from Yellows to Pink. The plant habit will also be gone into in detail: its broad, sturdy foliage. New developments in Victorian Peach will be covered, such as compact habit, ideal for the city hobbyist. Other beautiful Clivia that have evolved from the Peach breeding program such as: Variegated Peaches, Multitepal Peaches, Multitepal variegated Peaches, Daruma like Peaches.

I have devoted my career to the horticultural sector

in California. For the last 11 years I have been in charge of inventory and assist with production, in charge of the Clivia and Alstroemeria breeding program at Sunlet Nursery in Fallbrook, situated about half way between San Diego and Los Angeles. We produce florist quality flowering potted plant material such as Carnations, Cineraria, Lisianthus and Ornamental Peppers to name a few. We ship to other wholesalers, retailers and garden center chains as well.

I started 'Murillo's Exquisite Clivia's in 2003, a family owned business consisting of myself, my wife Danielle and our children Isaiah, Kaya and Malayah. Through MEC we are distributing Clivias all over the world. These plants include Victorian Peach, my own named Clones and Joe Solomone's plants. I am currently working on some new interesting material.



### Ken Smith: Registration of Clivia

ead Teacher of Horticulture at Richmond TAFE College, NSW Australia. Have been growing plants since childhood and collect most types, particularly variegated foliage and flower forms. Major interest in Clivia breeding (I did a thesis on Clivia for university studies in 1988) and I have been involved with the Clivia Society since 1992. I am the Contact Person for Australian members. I was appointed the International Registrar for the Genus Clivia in 2002, as the Society is the recognised International Cultivar Registration Authority (ICRA). I am a member of the Management Committee of the Clivia Society and participate in the International Clivia Group forum.

Married to Yasmin, one son, Daniel, and one daughter, Simone. Member of Clivia Society, NACS, NZCC, CS of A, Toowoomba CS, ICG forum. Plus various other plant societies. I am interested in Crocosmia and Watsonia breeding, as well as unusual foliage forms of Camellias. I also breed Chinese Laceneck Doves and Diamond Doves.





# Speakers & Topics continued

### Johan Spies: Genetic aspects of Clivia breeding



To put Clivia breeding on a scientific basis where the outcome of different crosses can be predicted, more knowledge of basic genetics is needed. Through the years many people explained certain phenomena in Clivia and oversimplified these genetics concepts. This oversimplification resulted in wrong assumptions in some cases. The aim of this paper is to bring some of these deviations from normal Mendelian inheritance to the attention of Clivia breeders. In this process the effects of epistasis, polygenetic and cytoplasmic inheritance, genomic imprinting, lethal genes, mutations and genetic variation, as well as the differences between structural and regulatory genes will be discussed. Throughout emphasis will be on the practical application of these phenomena on an active breeding program.

VOLUME 15 NUMBER 3 ▼ JULY - SEPTEMBER 2006

Born in Harrismith on 24/1/52. Matriculate from Harrismith Secondary School and obtain B.Sc. degree (majors: Genetics and Zoology) from UOFS in 1973. Worked in Tygerberg Hospital and obtained a B.Med.Sc.Hons. in human cytogenetics from the US in 1975. Worked as sorghum breeder for SENSAKO in Lichtenburg and obtain M.Sc. (Genetics) from the UOFS. Worked at the Botanical Research Institute (Pretoria) since 1981 and obtain a Ph.D. (Genetics) from the UOFS. Employed by the UFS since 1989 and progress to Professor in 1996. Published 76 papers in accredited journals, 10 popular scientific papers and was involved in more than 100 presentations at congresses. Member of various national and international societies; president of the South African Genetics Society. Involved with Clivia since 2001 and doing research on various aspects of the genus.

### John van der Linde: Some clivias and the men who found them



John will give an illustrated talk on the pioneering discoverers of Clivias. These include an ex-school teacher, a paid plant explorer and an army officer. He will discuss their personalities and lifestyles and where they found their clivias, against a background of fierce competition in the field, between botanists, plant publications and plant collectors back in Europe.

John retired at 58 in 1995 from a career in the life insurance industry. Since then he has become interested in clivia history, genetics and breeding. Besides enjoying

writing on clivias, John is currently one of the Editors of the Clivia Yearbook, a committee member of the Cape Clivia Club, and vice-Chairman of the Clivia Society. He is also active in the Indigenous Bulb Association of South Africa and in Rotary. He and his wife Beth have 4 children and 10 grandchildren.



### Aart van Voorst: Ploidy research in Clivia - an update with new results



fter treating seeds of Clivia in vitro and in vivo with colchicine cytochimerical and tetraploid plants were obtained. Offsets of these plants were tested for ploidy level. Triploid miniata hybrids were grown to maturity and flowered. Triploid and a tetraploid interspecific hybrid were bred using embryo culture.

Born in 1955, he grew up in the forest of Bennekom in the Netherlands, and a keen interest in nature was developed at an early age. After studying Biology at the Wageningen Agricultural University he started his professional life at a Bulbflower company. He set up a breeding laboratory for this company where

many Alstroemeria cut-flower hybrids were developed. Ploidy manipulation is one of his interests and likes to use his knowledge in Clivia and Haemanthus as a hobby. Another hobby is running in the beautiful dunes of Holland. His work as deacon of the Protestant Church at his residence takes up the rest of his spare time. Aart is happily married with Anke and has two teenage daughters.

### A Rashid Qureshi: Plant Genetics



This talk deals with basic plant genetics in order that delegates may be familiar with basic concepts. I am a cardiologist by profession, in practice for the past 30 years in Saint Louis, Missouri, USA. I grow clivias in a small green house as a hobby. I am a member and serve on the Board of Directors of the North American Clivia Society. I am also a member of the South African Clivia Society.

### Song Xueguan: Clivia in China



This talk will introduce the development of Chang Chun Clivia, covering the scale, quantity, quality and position of Chang Chun Clivia, as well as the future prospects of Chang Chun Clivia in the coming 5 years. It will then look at the enhancement of international exchange in Clivia, with a brief introduction to the projects of Chang Chun Clivia industrial center and the projects of Chang Chun He Xin Clivia industrial base.

Song Xueguan, born in 1947, educated at the Ji Lin Agricultural University, is presently Deputy Head of Chang Chun Economical Committee, Deputy Head of Chang Chun S&ME Development Bureau and President of Chang Chun Private Management Enterprises Society. As a Clivia enthusiast he is Chief of Chang Chun Clivia Industrial Office, Adviser of Chang Chun Clivia Society and President of Chang Chun Clivia Academic Committee. ▼





#### VOLUME 15 NUMBER 3 ▼ JULY - SEPTEMBER 2006 CLIVIA NEWS

### **GROWERS AND BREEDERS NOTES**

### Q's & A's

Questions by Baker O'Brien bakerlukas@salukibow.com and answers by Lena van der Merwe - cliviasoc@mweb.co.za

**Q** - I have a collection of clivia I have had for some 30 years and love dearly. The past couple of years I have been experiencing some sort of fungus on the leaves. Can you tell me what type of fungicide I should use to cure this problem?



I am attaching a couple of pictures. Also, I would like to purchase the booklet "Cultivation of Clivias" published last year by the Clivia Society. Can you send



me the necessary information to do that?

A - Photo 1: This may be Coletotrichum. This fungus usually indicates that something is wrong with the roots. Take the plants out of the potting soil and inspect the roots. A broad spectrum fungicide such as Bravo may help. Photo 2: There are three things:

- 1. The tip of the leaf browned and is missing.
- 2. Brown pustules on the leaves and
- 3. the "sheath" of the leaf is coloured brown indicating that the thin papery film in the leaf sheath is infected.

How long ago were the plants re-potted? How frequently do you fertilise?

How do you water your plants?

What is the quality of the water you use?

If you do not leach your plants from time to time The cost for *Cultivation of Clivias* is \$ 15-00.

you may find a build up of salts in the potting soil. The leaves become thicker to accommodate the excess salts such as chloride and sodium. Then you may also find pustules forming with an excess of salts such as potassium. Leaf tips brown and die. The roots get compromised and the plants grow poorly resulting in fungus problems. Treatment with a fungicide and re-potting the plants should prevent further deterioration of the plants. The pustules will not vanish, but will not increase. I will also discuss your problem with other members tomorrow at our Club meeting.

Q - Thank you so very much for your quick reply, as well as your willingness to assist me in helping cure my wonderful plants! I am in Ohio, in the USA, so please let me know how you would like payment for the booklet.

My clivia are currently potted in orchid mix, so the roots do not get waterlogged. I can re-pot them. Shall I use the same medium?

Am I to use the fungicide directly on the roots before re potting?

I was told to fertilize more heavily in the summer, then withhold fertilizer in the fall, as well as water less frequently, for bloom building. I am watering about every 2 weeks, from the top, not letting them sit in water.

Is 'leaching' letting much more water than they need run through the roots and medium?

And what exactly do "pustules" look like?

I will check to see if "Bravo" is available here in the States. If not, I will get the generic name(s) of what is available here.

A - Orchid mix, if it is for cymbidiums, is fine as a potting mix. Over time the potting mix may get too compact if it decomposes to fines and so needs to be replaced.

Leaching means the adding of water and having about 10% drain out at the drain holes to get rid of some of the salts.

Pustules are lesions that stand up like warts.

The table on page 24 gives the active ingredient of Bravo and Switch (registered here for botritis on grapes but will also help solving the problem).



Active ingredient	Trade name	Manufacturer	Pests/Diseases		
Chlorothalonil #	Bravo	Efekto	Rusts, leaf die back Macrophoma agapanthii Pytium, Phytophthera Rhizoctonia (preventative)		
Cyprodinil/ Fludioxonil*	Switch	Novartis	Botrytis rot, most of the aggressive fungi		

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The growth of clivias is mostly during the spring and autumn. In winter (December and January in northern hemisphere or June and July in southern hemisphere) we usually do not water until the plants push their flowers. ▼

 $\mathbf{Q}$  - Over the weekend I re potted all of the 'children'. They had not been re-potted in probably 7 years and yes, the one time course medium had disintegrated into fine soil. The healthy roots were intertwined with lots of dried and dead ones, so I pulled all of those out and pulled the fine soil out of the center. I had a big pile of dead stuff by the time I did all of them! I re-potted them in a very coarse orchid mix, it was difficult to get them to stand up on their own - they wanted to fall over. But I managed to get most of them to remain upright, gave them all a bath and they look happier already! I'm hoping the airy mix will allow the roots to stabilize the tops.

Now my question is about fertilizer - shall I do it now?

And what strength shall I use?

I am still going to search out the chemicals you mentioned here. I want these wonderful plants to be as healthy as possible and I greatly appreciate your advice.

**A** - Prof. Hannes Robbertse advised at one of our Northern Clivia Club meeting as follows:

A clivia plant produces about 100g of dry matter per annum of which about 3.3g comprises the



inorganic elements nitrogen (N), phosphorous (P) and potassium (K) at a ratio of 7:1:5 per year.

To supplement these elements the N can be divided into three because N leaches out easily and too high an application of N will burn the roots. Fertilize with 3g (0.5 teaspoon) of a mixture of 3:1:5::N:P:K per plant (crown) and twice a year supplemented with 3g N (ammonium sulphate). Phosphate does not leach out easily, but because these are pot plants that are watered regularly, the potassium may leach out, and so may also be fertilized with one gram potassium per plant twice a year.

Water also contains inorganic elements in the form of salts. Depending on the water quality a build up of these salts may occur. To prevent this, give the plants a bath at least once a month - enough water so that some of it drains out at the drainage hole.

The following is some information from a paper I gave at one of our Club meetings:

#### Management

The salinity of potting mixes must be kept



CLIVIA NEWS	•	VOLUME	15	NUMBER 3	•	JULY -	SEPTEMBER 2006
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lower than the limits given in the following table 21.12 from Handreck and Black (2002) Growing media page 318.

Higher salinities mean that pots must be leached. But how much extra water should be used? Soluble nutrients will be lost in leaching water. The aim is to leach as little as is necessary to reduce EC. The best guide is to leach according to EC measurements. Otherwise, a fair average is to allow between 10% and 20% of applied water to flow out of the bottom of the pots.

The greater the water-holding ability of a mix, the greater the protection it offers plants

against damage through the rise in salinity as the plants use water.

Maximize the water holding capacity of the potting media. (This is a topic on its own).

Salinity problems are likely to be most serious in hot, dry weather. Evapo-transpiration rates are higher then, so the concentration of salts in the water remaining in the medium rises quickly.

Earthenware pots need to be leached before re-use as continued evaporation of water from their outer surfaces gives them very high salt contents.

I hope this will help you on a path to healthier plants.

Table 21.12. Guidelines for using the EC of a plants of moderate toler $\neg$ ance to salinity"		of a potting mix to decide when to fertilize woody	
EC (SATURATION EXTRACT) (Ds/m)	EC (1 :1.5 VOLUME EXTRACT) (dS/m)	ACTION	
<0.75	<0.35	Fertilizer needed. except when controlled-release fertilizers are still releasing nutrients	
0.75-2.0	0.35-1.0	Acceptable when feeding is by controlled-release fertilizers; suitable for salt-sensitive plants; otherwise apply nutrients	
2.0-3.5	1.0-1.7	Acceptable for most established plants except some very salt-sensitive plants	
3.5-5.0	1.7-2.3	Higher than desirable for all except high-nutrient- requiring plants; do not fertilize; do not allow the mix to become dry	
5.0-6.0	2.3-3.0	Too high; reduced plant growth; wilting and leaf burning; leach immediately	

# **RED RUBY GLITTER**

[As a point to ponder in relationship to aspects of colour and its inheritance as well as the phenomenon of the sparkling dusting of certain named Clivia flowers, this extract from Flora Capensis (Thistelton-Dyer [Ed], 1896-7: Vol VI:II) - Ed.]

Diagrammatic representation of an epidermis cell of *Nerine sarniensis*, showing the paths of several rays of light. The portion of each of these rays, which is reflected on the outer surface of the cell, is omitted, and the angles of refraction are merely approximate. [The spot of absorbed light is seen as a bright point of glitter - Ed.]

In order fully to appreciate the unsurpassable beauty of this [*Nerine sarniensis*] flower one must see it in its natural surroundings on the grassy mountain ledges, the blue sky above and the rays of the early-morning sun scintillating in red and scarlet on its petals.

This exquisite optical effect is produced by a very simple device. Each petal (perianthsegment) consists of the upper and lower epidermis, with a few layers of cells between them, the cells of the epidermis being filled with a red or scarlet sap, while the intermediate tissue is colourless.



Red sap

Colourless san

1

Air

The outer end of each epidermal cell is convex, and its base is narrowed into a short rounded foot, the whole cell being somewhat pear-shaped. The narrow inner end of the cell touches the adjoining cell of the colourless tissue only at a small spot, while the greater portion of the foot of the cell is surrounded by an air-space. It is this special feature which produces the glittering effect.

The outer, dome-shaped end acts like a convex lens and conducts the rays of light falling upon it into the lower part of the cell.\* Here a small portion (the central

bundle of rays) will pass out into the adjoining colourless tissue and either reach the lower side of the petal or, after various reflections, reappear on the upper side (rays 3 and 4). The bulk of the rays, however, will experience total reflection\* within the cell (rays 1 and 2) and reappear on its outer side in a colour of great purity, for, having traversed the sap of the cell several times, it has become deprived of all rays of other shades of colour.

As no rays can leave the cell near its edge, the centre of the apex of each cell becomes a luminous spot, and the surface of the petal glitters as if dusted over with tiny rubies. In fact each cell is like a microscopic ruby set in the usual way, the base of the cell with its surrounding air-space corresponding to the foliated silver often placed by jewellers underneath the stones in order to increase their fire. It is obvious that the merely

reflecting surface of a picture in a book can just as little approach the beauty of the living flower as the painting of a ruby can rival the real gem. \*A ray of light cannot pass from water into air unless the incident angle be larger than 45 degrees. •

### CLIVIANA

# Cinderellas – Stamps with Clivia Tabs

 here is a story behind the stamps depicted.

■ Very soon after publication of the two stamp articles in the January - March Newsletter of 2006, I received a note from David Bearlin of Burwood Clivia Nursery in Pambula, New South Wales. He did enjoy the discussion of stamps and told me that "Australian Post "will produce personalized stamps for customers.

According to David he has used this facility for some years to send Clivia stamps (by the sheet) to Yoshikazu Nakamura "to remunerate some of his kindnesses".

David placed two of these Aussie 50c stamps on the envelope to me, each with a lovely Clivia tab of the "Clivia Breeding Plantation, Japan" attached. Further inscriptions on the tabs of the two used stamps read:

"Species cross and C. miniata Red – Yoshikazu Nakamura". "C. miniata x C. gardenii – Yoshikazu Nakamura".

The mint stamp I received from David depicts three lovely yellow umbels plus two interspecifics with the words: "Yoshikazu Nakamura and Clivia Breeding Plantation, Japan".

Ken Smith confirmed that he knows about these clivia tabs and that he has, in fact, received mail with these beauties stuck on them.

I find it very strange and interesting that "Australian Post" is prepared to print the name of another on the tab that is attached to their





postal stamp. This may indicate that the whole world population of six billion people are potential "customers/ clients" of Australian Post.

It stands to reason that Mr. Yoshi Nakamura cannot use these Aussie stamps commercially in Japan, but for a few yen these beauties exceed their monetary value! Many questions arise, and perhaps Ken, Pen or any other Aussie friend can enter the fray and throw some light on the following:

- a What is the smallest order (money wise) that Australian Post will accept?
- b What is the smallest denomination in Aussie currency that a tab may be added to?
- c Does the client/ customer obtain the whole consignment of a particular issue printed or are these stamps with tabs also available to other citizens from postal counters?
- d May the customer request that the tab be added to a specific future issue of stamps (i.e. clivia) or does Australia Post decide themselves where and when they want to add the tab?
- e Will Australia Post consider printing only the tab of clivia which we can then use as a "Cinderella"?
- f It seems as if the tab is produced from photographs, but what is the cost to add the tab to the stamp?
- g Does the offer still stand from Australian Post?
- h It will be interesting to know the meaning of the markings of the franking machine of SWLF ML and CANCELLED SCM?

How about utilizing these in future to give our beauties some wings?

Should we not abandon all IT-based media – e-mail & SMSs [text-messages] and go back to the good practice of writing letters to one another, then we can stick these beautiful "Cinderellas" with the stamps on the envelope?

The value of the stamps will, however, be wasted in a foreign country, as they can only be used as postal tax within Australia.  $\blacksquare$ 

Sakkie Nel - corgas@absamail.co.za

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Helen Sanders



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Yearbook 1	out of stock		
Cultivation of Clivias	15		
Volumes 1(1992) to 11 (2002) of newsletters	10 per volume		
Set of volumes 1 to 10	available on request		
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REPRESENTATIVES OF CLIVIA ENTHUSIASTS				
New Zealand	Tony Barnes, Ngamamaku, 1521 Sur f Highway 45, R.D.4 New Plymouth, 4061, New Zealand. Tel: 64-6-752 7873; e-mail: tony.john@x tra.co.nz			
▼ Australia	Ken Smith 593 Hawkesbury Rd., Winmalee, NSW 2777, Australia Tel: +61 2 47543287; e-mail: cliviasmith@hotmail.com			
Netherlands:	Aart van Voorst, Frederick Hendriklaan 49, Hillegom, TE 2181, Netherlands. Tel: +31 252529679; email: a.v.voorst@freeler.nl			
▼ United Kingdom:	James Black, 10606 North 166th East Ave., Owasso, OK 74055 USA Tel: 918 272-4623; e-mail: jbf16falcon@yahoo.com			
▼ England:	Dr Hamish Sloan, 40 Wendan Road, Newbury, Berkshire RG14 7AF, England, UK. Tel: 044 1635 47417; e-mail: Hamish.sloan@virgin.net			
OTHER OVERSEAS CC	NTACT PERSONS FOR MEMBERSHIP APPLICATION			
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▼ Garden Route Clivia Club	Gerrie Brits (Chairperson). Tel: +27 44 8746233 a/h Fax: +27 44 8707550 Cell: 082 921 7963; e-mail: Gerrie.Brits@za.sabmiller.com			
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