# Clivia

# Club

PO Box 6240 Westgate 1734 RSA

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#### **Volume 2 Number Five October 1993**

## **AMARYLLIDACEAE**

# Clivia nobilis Lindl.

The genus was named in the honour of the Duchess of Northumberland whose family name was Clive, and whose garden at Syon House just across the river from Kew was famous at that time.

When the botanist J.Lindley described *Clivia* in Botanical Register, table 1182 in 1828, he based the species on *Clivia nobilis* which makes this the "type species" of the genus. In other words, the original description of the genus would have been identical to the description for the species. As more species were discovered, the generic description expanded to accommodate them so the description of *Clivia nobilis* remains the first and most essential concept of the genus.

J.G. Baker in Handbook of the Amaryllidaceae (1888) has followed the original description closely:-

**Leaves**: bright green, lorate (strap-shaped), 1-11/2ft long, 11/4-1 inch broad, about a dozen in a

**Leaf-tip**: very obtuse. **Leaf-edges**: scabrous.

Inflorescence: an umbel of 40-60 flowers.

Peduncle: about 1 ft long

Spathe valves: several, unequal, greenish

Perianth: curved, reddish yellow;

Perianth-tube: narrowy funnel-shaped. 1/4 to 1/3 inch long.

Perianth-segments (i.e. limb): oblanceolate, tipped with green, about one inch long.

Stamens: inserted at the throat of the tube, as long as the segments.

Style: a little longer than the stamens, exserted

The curved, narrowly funnel-shaped flowers are used here (and later by Baker in Flora Capensis vol. 6 of 1896) as a key distinction from other species and, in this latter publication, Baker also uses the obtuse leaf apex to distinguish *C. nobilis* from a later species, *c. gardenii*.

Clivia nobilis has been in cultivation for 165 years since Bowie first planted it in 1828 and many horticultural forms, sports and varieties have been produced. These remain just that. i.e. horticultural forms of interest to the gardener but not botanically significant in a taxonomic sense.

While true *C. nobilis* is also no doubt cultivated, its status as a species is based on the fact that it still occurs naturally in wild habitats.

Estelle Brink Selmar Schonland Herbarium

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Dear Nick,

Spring is fast approaching, and I have harvested the Clivia seed. I must send you some of the strains... Midget and Mammoth..also some jottings for publication, and a cutting from the local paper about a club member. (Ron May.)

Midget, Mammoth and Twins can sometimes be similar, though I do have a very tiny Midgetabout six leaves, each about 15cm long- this is flowering size as it is in flower at present (August). Not the usual umbel, but only two to three flowers out at any one time. I have yet to count the total number of florets produced. I am also sending a hundred seeds from my hybrids for distribution where you think fit.

It has been a dreadful year for clivia. The worst summer drought on record. No rain from December 92 until May 93. Remember this is summer rainfall area, so perhaps a good year for belladonnas and brunsvigias. So mealy-bug went rampant, causing a lot of damage to new leaves emerging from the plant centres. I am unsure of the cause of stem-rot, but it was rampant in the dry too! It occurred in potted plants and in plants in the ground. There seemed to be no pattern. Some clivia in the ground were watered manually each week, but others were left to rely on the rain which never came. It had become impossible to water all the garden by hand or with sprinklers.

Friends with an arboretum underplanted with camelias, clivia and begonias, lost over a hundred camelias in the dry, plus lines of conifer wind-breaks. Luckily they had no clivia stem-rot. I visited Bill Morris in March, and it was sad and shocking to see the extent of stem-rot on his clivia. Big, lush plants laid low on the ground. Clivia are tough plants and must store lots of energy in the leaves, as I left rotted-off plants for weeks and weeks to dry the stems, and they sprouted roots readily when replanted. This was in the heat of summer. Going by the illustrations in the garden magazines that Mr. Nakamura has sent, stem-rot is a problem in Japan too.

I'll be sowing a small quantity of my own seed this Spring. I just squeeze the seed out of the berry, and allow to dry for a few days on paper. The dried material is then peeled off. I used to sow in sphagnum moss over mattress fibre. For years I did not know what the mattress fibre was, but eventually found that it was coconut fibre. This gives instant drainage, filling at least half of the pot with it, and very good aeration which promotes root growth. The quality of sphagnum has gone off in recent times, so I do not use it for seed- raising clivia any more. I find that I get just as good a result using a mix of equal parts of commercial potting mix and coarse sand.

Mr. Nakamura said "Too close!" when he saw my seedling pots. I would plant thirty or so seeds in a six inch pot. They grew O.K. always, but I think now that the crowding does not allow a full complement of roots to develop from the base plate, and so a less sturdy seedling is produced which may take longer to recover from transplant shock. I now sow in boxes, placing the seeds one inch apart. Naturally this takes up more space, but I'm sure I'll have stronger seedlings which will be able to be left in the boxes for years if necessary.

Earlier this year I read "Secrets of the Soil", by Zomphens and Bird. Among other things I learned of how to increase the soil fertility with rock dust. This magic ingredient supplies minerals. I have been using the local basalt in the form of crusher dust. This is the finest grade of what is called locally "blue metal". My new pot mix is two parts fine grade bark, two parts coarse sand, and one part crusher dust. Clivia seem to love it. It promotes root growth, and the leaves appear much healthier. For plants with finer roots I use commercial potting-mix in place of the bark.

Another material I am experimenting with is decomposed granite, commonly called "deco" .It seems to be as good as crusher dust. I have yet to try pulverised sandstone, which is readily available from the local sandstone quarries which produce the noted "Wagner Stone", as it has become to be known in countries where it is exported to.

#### Letter 2

It seems we passed in the post almost. I posted a package off to you yesterday, and your letter was here when I got home last night.

I was a bit tardy writing to you, but it was such a depressing time clivia-wise, with all the stem-rot and mealy-bug, AND the drought. And I was not sure where to continue on from last time. Anyway, I am sure you will have something to go on with, from what I sent yesterday.

To answer your questions:- the German Orange that I have were grown from seed imported from Germany. The two firms involved were Schenhel and Blossfeld. It has been a long association with Schenhel. Seed has always been fresh, and one can buy a hundred seeds. There was no minimum of two hundred, as with Blossfeld. I no longer deal with Blossfeld. One lot of seed was well past it on arrival, but I did get twenty out of two hundred to grow. A very expensive batch this, but these were "RED"

Mr. Nakamura called them red when he was here. To me they are a very dark orange, really not orange and not what one would call red either. Perhaps a blend of the two. The final blow with Blossfeld was when I sent a draft for seed (early flowering minis) which never arrived. They did not answer any further letters, and it cost me more money just to verify that the draft had been banked over there.

I have not been successful in obtaining seed from Sahin in Holland, of the pastel colour range, although I have bought plants of these here. These are yet to flower. A friend's have grown more quickly than mine. Hers are in bud now.

"Twins" is the strain developed by Sahin. My seed came from Jerd a few years ago. I have also bought plants. "Twins" is by no means a rarity here. The Larsens (Clivia Club) specialise in this strain, and "Mammoth", at their tropical/sub-tropical bulb nursery. "Midget" is not as common. I had to have mine sent up from Victoria. I am not sure that I like these strains. I have been told that "Twins" seed will be coming in at A\$1.80 each, from Holland later this year.

When did I first see short wide leaves on a clivia? I can't say for sure. Of course I have been seeing long, wide leaves for decades. I suppose the first time for the latter was that very first hybrid I planted in 1964 from seed. As for short wide leaves I imagine it would have to be my first "Twins", a few years ago now. I don't date tags put on bought plants, only on seedlings I raise. Perhaps I should start. I don't buy many plants, I am usually given more than I buy.

As far as seeds go, John Roper has been buying in a lot from all over, USA, New Zealand, Japan. Some local seed was a fizzer-.. 99% dead, I think he has also had some in from

Schenhel. He sends me some from each batch. I think I am going to concentrate on growing yellows from seeds now as I don't have room to expand the orange ones, and of course the pastels, when and if they become available here. Then there are the Japanese types too. Mr. Nakamura has sent quite a lot of seed to Clivia Club members here. One batch produced 100% albinos which, of course, died off. Others with variegated leaves show promise. Variegation here so far is a yellow one -not a desirable white or near-white. And the variegation does not have a consistent pattern to it, each leaf being different.

Are you thinking of coming to Oz? This would be an interesting trip if you came in Clivia season. Depending on which way you look at it. Its either a disadvantage or advantage or both to have Clivia Club members so spread out over the country .But then there are other things in Oz apart from Clivia.

I am enclosing a copy of a Clivia article from PACIFIC HORTICULTURE which you might be able to use in the Newsletter.

Best wishes Kevin

P.S. almost forgot the Belladonnas. Mine were just idling along when I was contacted by (Mrs) Marjut Rantanen-Burman who found a strange bulb at a tip. Marjut lives at Pinnaroo in South Australia, directly east of Adelaide. It is not on any of the main highways out of Adelaide, e.g. the one to Melbourne. Marjut's bulb produces a stem four feet high, the stem being a few inches thick. Atop of this is an umbel nineteen inches across, with up to sixty scented white, yellow-throated florets, some being double. Marjut collects Belladonnas and Brunsvigias, and in her climate grows them quite easily. She has sent me a flowering size Brunsvigia, also some Belladonnas. So I have a renewed interest in Belladonnas. I am looking after them rather than letting them look after themselves. Les Hannibal thinks the mystery amaryllid is a Cybistetes-Brunsvigia cross. So I am also interested in x Amacrinum, x amarine, and x Crinodonna (the last impossible to find. x Crinodonna that are available are x Amacrinum). I saw an amarine in flower at Bill Morris'. Made me realize my bulbs are far from flowering size.

K. Walters

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#### CHANGING IMAGE ON KUNSHI-RAN

Almost every garden lover has at least one pot of Kunshi-ran as the essential flower in winter.

This flower, generally called Kunshi-ran in Japan, is botanically speaking, Clivia miniata. This Clivia miniata is originally from RSA and was cultivated in Europe, It has been known as Kunshi-ran in Japan.

However, in this Clivia family(genus), besides miniata, there are other species such as gardenii, nobilis, and caulescens, each of which has specific genetical characteristics. Presently, these species have been hybridised word-wide. For instance, yellow Kunshi-ran is a result of these trials.

Besides yellow Kunshi-ran, there are so many possibilities in respect of the colour of the flowers, flowering season, variation of leaves, etc. Therefore it is not realistic to call them with the single

name of Kunshi-ran. As a matter of fact, there are so many varieties being developed in this family.

Now I would like to introduce our readers to the results of some of these developments. Yellow Kunshi-ran is easy to raise. This yellow kunshi-ran, botanically Clivia miniata var. citrina or aurea in some countries, achieved wide popularity in this country shortly after its introduction.

Since its discovery in RSA, clivia lovers all over the world have been vying to produce the citrina variation. However, it is still far from perfect, which may be partly due to the fact that hybridising between two yellows does not always produce all yellows.

The ones presently on the market are mainly the result of offsets, which makes things expensive. On the other hand, some of the yellows have been imported directly from RSA, but the probability of them flowering is as low as thirty to forty percent, which is not very satisfactory.

After sowing this species, if the base of the new leaflets is green, without any red colour, then it will most likely have a yellow flower. However, if the base is red do not be discouraged, there are many possibilities of creating new types of flowers from yellow hybridising.

To-day's highly-valued Smither's yellow (Vico Yellow), which was bred by Sir Peter Smithers, was produced by hybridising between yellow and orange. Thus it may be possible to create your own species of 90% flowering, by interbreeding between species with a lower percentage of flowering. After a few generations, this could be improved to 100%

Before breeding, it is better to know the history of the plants, are they raised from offsets, or grown from seed? What are the flowering percentages of each plant. There are many unknown genetic characteristics with clivia, one must plant some seeds and find out.

## Unlimited possibilities -breeding with original species.

Of the original species, gardenii has some particularly good characteristics. Gardenii has green-tipped flowers, and its leaves are long and slender. The fruits are cherry pink when ripe, it flowers early in November, and it is reliable.

When gardenii is crossed with miniata, we get a plant that flowers in early December . Now you can enjoy flowers from Autumn. Gardenii is compatible with all the other species. You can take advantage of this by crossing gardenii with variegated clivias to produce a plant with highly regarded leaves, and a better fertility and growth rate.

Clivias' slender shape lets you raise twenty plants in one tray. Last year, precisely on the 20th of November, they all started their flower stems. I repeat, gardenii has many genetic characteristics which are not fully explored, and differ markedly from miniata.

After gardenii, we can also consider nobilis, caulescens, and var. Citrina for different breeding possibilities.

### New breeding prospects for Clivia.

Before starting any breeding program it is necessary to collect as wide a band of genetic diversity as possible. It is important to communicate with the botanical societies of other countries. Double dotted species of Japanese origin are also promising.

It is better to obtain original species, and seed from a known source, as there are many poor plants in the market place. Some of the better plants are very expensive, but are worthwhile. The best way for you to start is to try your own ideas out. You may come up with an unexpected beauty.

Speaking of my own experience with crossing the original yellow and miniata, the usual result was a middle of the road plant, half-way between the two parents. However, one percent of the progeny had pastel pink flowers, and only one plant of all the crossings had giant flowers with very narrow leaves.

Of course, if I proceed to mate am sure I could produce another has thousands of rice-grain must have specific genetical combination it must be possible takes four to five years for each but if you continue on each year, new to look forward to.

It is said that the Japanese preparing a registry for the Why not join us!

Yoshikazu Nakamura



this plant again with a yellow, I wonderful hybrid. Each clivia shaped pollen. Some of these properties. With the right to produce beautiful flowers. It seed to produce its flowers, there is always something

Ministry of Agriculture is now different varieties of Clivia.

Les Trois Mousquetaires L.to R. Yoshikazu Nakamura, Bill Morris, Ken Smith

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Dear Mr. Primich

At long last a reply to your letter of 25.06.93. I have been away for some weeks, hence the delay. As you see, herewith is enclosed a description of Clivia nobilis as per Estelle Brink of the Schonland Herbarium. As I am very much the amateur, your question was referred to her. I hope this will be of some use.

The article published from Australia was very much on these lines, and makes description rather confusing.

The answer to your second question is no, I do not know of this large colony of Clivia nobilis in the Grahamstown region. If I did know of it I would be careful of disclosing such information. One only has to visit under the Southern Bypass in Johannesburg, where the herbalists operate to become concerned as to what is actually happening to our indigenous plants.

I do enjoy the newsletters, and find the discussion becoming more interesting with each issue.

Mary Lynn Lubke.

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# To My Overseas Correspondents

Please forgive my lack of reply, as well as this Xeroxed letter. I apologise for both, and am aware I have neglected writing and replying. I have moved to a house I have purchased this month, and I offer that by way of excuse/explanation etc. I promise to be more faithful from this point, as I have now begun to settle in. My new address is:

David Casebier 45 Priest Street Hudson MA 01749 USA My phone # is (508) 562-4530

Again my apologies for the form letter, and I will write proper replies as soon as possible.

{Dear Nick, could you please relay this to the Clivia Club bulletin? Also in that move I lost my only seedlings of C. caulescens, and C. x cyrtanthiflora. Could someone please help me out with them. Thank you, Dave}

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### Dear Nick,

I am so pleased that the Clivia flowering season is happening again in earnest. Looks like a good year for me this season, as a lot of seedlings from the start of my studies will be flowering though I have fruit still to be picked off some plants. I am aleady pollinating the new batch of flowers.. Will have quite a few yellow flowerheads this season.

I am chasing up a yellow flowered TWINS, which makes me wonder how many more yellows are about to appear as 1000's were sold on the Australian market. I am scrutinizing my TWINS for any sign of pale flowers.

Whilst buying a Clivia via a backyard sale the other day, I chanced upon a beautifully formed 10 petal flower. There was a 7 petal on the same head. Pollen has been stored away in readiness for crossing onto another like flower. I have already segregated several plants with ridged petal flowers, and will be continuing the search for unusual petal shapes and formations.

Had the chance to discuss my Clivia work with one of my lecturers from University recently. He wants me to do my Masters/PhD on Colour Breeding Clivia. This can be done by research work and it appears that the University has acquired some much needed equipment, including an electron microscope. He has me thinking hard about it, so who knows what 1994 will have in store?

With any luck a trip to Japan or South Africa could be worked in as part of the University study. As you know Nick, the learning just keeps on going. I am always finding out something new about Clivia. By the way, I have finished my Clivia only bushhouse! Starting to fill it with the choice plants first. I am sure I will run out of room. Your collection must be expanding nicely. Do you expect "Relly Williams" to flower this year. Cross it to yellow first chance you get. I am interested to learn how your Kew seedlings turn out. The green seedlings. Wonder if they will have smaller flowers than the hybrid yellow?

Hope to have an article on "Clivia as House Plants" and a brief rundown on the "Cowlishaw Hybrids" for the end of year newsletter. How is it going for other submissions.

Good luck with the coming season. Regards Ken

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## Dear Nick

I am particularly concerned. The India 'China Berry' (melia azedarach) and the Neem Tree (Azadirachta indica) are very much alike in characteristics and spelling of the names, but the China Berry should be avoided as it is toxic to man and animals. Both trees belong to the mahogany family, but Melia does not have the some of the potent insecticidal properties of the Neem, and it certainly isn't suggested for internal use or forage for stock. We enclose xeroxes showing the China Berry and Neem foliage, the latter on the reverse of this page, and is quite a double compound leaf in comparison to the Neem.

The China Berry is fairly cold hardy; Neem is tropical and frost sensitive. Neem seed does not remain viable for more than two or three months. The best way to grow Neem is to carefully remove the kernel from the outer husk, place the kernel in a humidifier at 300c for several days and then plant it in a sand-pearlite-peat moss mix with bottom heat using deep slender planting pots as the Neem has a long tap root. The seed and small plants need ample moisture. Good seed will sprout in 10 days to two weeks.

The neem oil is extracted from crushed seeds using an alcohol-water mix. Soak for 24 hours or more. Then separate out the solution and allow the alcohol to evaporate. The neem compounds deteriorate in light. The seed pulp can be retreated for a second extraction.

Neem solutions can be used as a spray, a drench or even for saturating potted plants to eliminate soil fungi and root pests. Neem tea from the leaves is commonly used as and internal medicine in India as well as externally for skin parasites and fungi.

## Les Hannibal

P.S.: Could you furnish me with Bruce Knights address. His report was excellent, but we have recently found that the Bidwell Amaryllis x 'Multiflora' hybrids are not Brunsvigia crosses but Amaryllis belladonna x Cybistetes longifolia. I have been raising the plants for 50 years along with A. x parkerii which is a sibling cross. I specialize in the white recessive forms and within the next four weeks will have seed available for distribution to several of the Clivia Club members. Bruce Knight would undoubtedly be interested in my findings. Just at present I have about 800 hybrid bulbs in flower, as well as numerous forms of A. belladonna which seems quite diversified.

Sincerely, Les Hannibal.

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## Dear Nick

Because of family commitments, and the distance between home and the nursery, I have found it impracticable to conduct the business in the manner which it warrants, or to anywhere near its potential. As a result I have sold to Mr.R.J. & Mrs.P. Henry of 120 Caporo Street, Wanneroo W.A. 6065. They will trade as Clivia Gardens, plant & seed specialists. It will take them a year to get

organised, and harvest their first crop of seed, but when they do, they should have a good selection including a yellow x yellow 100% yellow seedlings.

Their nursery will be the only specialist clivia nursery in Western Australia. I wish them well with the venture, as I am sure all other club members will do likewise. Naturally, I will remain a club member as an enthusiast, and will continue to correspond with the other enthusiast friends I have made over the years. Trust this finds you well.

Kind regards Cliff Grove

#### \*\*\*\*\* A VISIT TO PRETORIA

Mr. & Mrs. Mey, Celia van Vuuren, and yours truly journeyed to Pretoria where we met at the garden of Mrs. Allison. There we were joined by Mr. & Mrs. Abel. Mrs. Allison is fortunate in having a son who is a horticulturist with the Pretoria Parks department. This was evident in her garden, where amid a plethora of other plants he has begun to establish a good mixture of available hybrids. My only criticism was that the plants were not perhaps ten years on, so we could see them in their glory .I'm not so certain that I will be around then.

We all then embarked on a further journey to the home of Mrs. Laila van Heerden. Here, Celia immediately began a count of the clivias to see if there were indeed a thousand, or was it two thousand plants. The rest of us were content to accept.

Mrs. van Heerden's estimate, and stood back to admire the view. It was indeed edifying to look at the natural increase from two original plants. The range was indeed limited, but here one could collect seed with a fair predictability of outcome.

Gathering numbers like a rolling snowball, we then proceeded to the Abel's home. Here we could see just about every type of clivia. Mrs. Abel even has this "sport" which was just then coming into flower. I shall try to get an illustration of it that I can print at a later stage. Mr. Abel had an imposing collection of epiphytic orchids as a sideshow. I noticed that there was a goodly amount of trading going on, and this is what it is all about. Do get out and meet your fellow cliviers (sorry). You will be able to get your hands on all sorts of wonders that the nurseries do not carry. Mrs. van Vuuren kindly handed me a lot of yellow seeds for distribution to members.

Nick Primich.

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## Dear Sir

I am keen to belong to the Clivia Club. I am a senior citizen due for retirement very soon now, and have an interest in Clivia miniata. My father, who died in 1964, had clivias in cut-off oil drums under a loquat tree for many years. On rare occasions, these "Natal Lilies" as he called them, flowered. On his death I moved the plants to my home, always in Bloemfontein, and have had more success with the flowers.

I have succeeded in producing numerous plants from seed, and the first ones flowered last year, and now the new flowers are starting to appear .

I always thought that the plants were not attacked by any pests, but last year the plants suffered a setback when some were destroyed by Amaryllis (?) beetle. They get black where the leaves sprout from the stem and die. As far as I can tell the original plants must still be alive, as no large plants have ever died.

Due to a lack of drums, I have planted some of the plants under the shade of Cedrus deodara trees. In winter they are covered with a plastic, Uvidek, which does prevent frost damage. I have one plant of Clivia caulescens, which is flowering now (Aug.), and one Clivia nobilis which I bought from a nursery in Cape Town lingered for many years before it died.

After seeing the white\yellow Clivia miniata of Mr. Holmes of Stellenbosch at the Flora 87 exhibition, I eventually bought one which is doing well and flowering. It has a few seeds from last year which I am waiting for to ripen, when I hope to plant them.

Trusting to hear from you, I am especially interested in being a successful grower of flowering clivia in Bloemfontein.

Yours sincerely S. V. Potgieter

Mr. Potgieter subsequently sent me a leaf which showed heavy infection of Stagonospora curtisii (Red Fire). In general, I would think this disease can be considered endemic for RSA. Benlate will reduce the internal infection, and copper will abate the outside infection for a while, but it is usually better to reduce the ambient moisture level in the area, or to move the plants to a drier area. The Amaryllis caterpillar (Brithys pancratti) causes physical damage to the plant by eating out large parts. It is easily seen and identified by its yellow and black stripes. (ed)

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## ON THE COMPOST HEAP



I always thought I could do it. The idiot editor forgot to so I will. I will write the editorial. Besides, who will miss it when I can bring you inside information. Brythis pancrattii indeed. I feel like telling you the name I call him! Even Hannibal has him up a tree. Might be worth a visit there. Wonder what the Californian hybrids taste like? Did you note the use of the "Royal" We!

Mr. Gibello, who is our agent provocateur in the Cape, has asked if any members can let him have any of the following: Clivia gardenii, Clivia caulescens, Veltheimia bracteata var. Lemon Flame and Agapanthus inapertus ssp. inapertus white.

He offers in exchange, cash or a wide selection of Cape bulbs. Some of his requirements do not taste so good, but then. ..to each his own.

We would like to start a seed pool, so anyone with excess seed can send it to us with a short description of what it is. I promise not to eat them.

Also anyone who is looking for something else is welcome to enquire what we have available.

How about that!

## **Lily Borer**

## St Vincent's blooms for 1993 Carnival

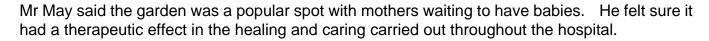
St Vincent's Hospital will enter its gardens in this years Carnival of Flowers.

Winner of the 1988 Hospitals and Institutions Section of the carnival Gardens competition. St. Vincents garden have not been entered for five years. St. Vincents horticulturist Mr. Ron May (pictured) has revitalised the gardens and aims to restore them to their former glory.

Mr May is one of the first graduating group in the Certificate in Horticultural Practices course offered by TAFE. His resent studies have inspired him for this years competition. He has planted between 2500 and 3000 annuals and the maternity traffic island will be the main feature.

This year he has included alyssum, violas and valerian. He would not give away too many trade secrets, though he said planting had gone well and

.with the help of Lucerne mulch he had been able to maintain moisture content during the dry spell.



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