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Otchids IN NEW ZEALAND

incorporating 'The New Zealand Orchid Review'

OFFICIAL PUBLICATION OF

ORCHID COUNCIL OF NEW ZEALAND NEW ZEALAND ORCHID SOCIETY

VOL. 12, No. 1

JANUARY/FEBRUARY 1986

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FRONT COVER

Odontoglossum odoratum is a fragrant, delicate-flowered species from Columbia and Venezuela. It needs cool growing conditions, as it occurs naturally at higher altitudes.

Editorial

For years the New Zealand Orchid Society has published "The New Zealand Orchid Review". For many years this was New Zealand's only orchid publication, and won much respect, at home and overseas, for the down-to-earth nature of its contents.

With the proliferation of orchid societies throughout the country, and the advent of the Orchid Council of New Zealand, the role of "The New Zealand Orchid Review" has changed. Recently, in a mood of national co-ordination, discussions have occurred which have led the New Zealand Orchid Society to decide that it would be best to cease publishing the "Review" as an independant journal and, if possible, to amalgamate it with "Orchids in New Zealand". This must have been a very difficult decision to reach, and the Editors sympathise with those who made it.

Beginning with this issue, "Orchids in New Zealand" will incorporate "The New Zealand Orchid Review", and we extend a sincere welcome to our new readers. We hope that you will derive much enjoyment and interest from your new magazine, and we hope that many of you will help us with notes, letters or articles.

To the New Zealand Orchid Society . . . WELCOME

The Editors apologise for the lateness of this issue of "Orchids in New Zealand". House alterations are to blame! May they be finished quickly.

from the New Zealand Orchid Society President . . .

This issue is the first of "Orchids in New Zealand" to incorporate the "New Zealand Orchid Review". The Review, in August 1957, replaced a cyclostyled bulletin, published by the New Zealand Orchid Society since its formation.

The Review provided cultural notes and articles on various topics of interest to orchid growers at a time when the hobby of orchid growing in New Zealand was in it's infancy. There is little doubt that this encouraged the spread of orchid growing and ultimately the formation of other societies.

The incorporation means we will now have a single national magazine, with a wider distribution both in New Zealand and overseas.

As President of the New Zealand Orchid Society, I would like to thank the Editors and those who supplied material for publication, for their contributions to the "Review", and assure the Editors of "Orchids in New Zealand" of the Society's support in the future.

All Day President

from the Conzed President . . .

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With the commencement of another new year, and the beginning of Volume 12, we see further changes in, and developments of our national publication - "Orchids in New Zealand".

It is with great pleasure that we welcome the New Zealand Orchid Society in their incorporation of their publication "The New Zealand Orchid Review" with "Orchids in New Zealand". "The New Zealand Orchid Review" is the oldest orchid publication in New Zealand and with its incorporation we will see further strengths in future issues. The links and strengths the New Zealand Orchid Society has with many overseas members and associates will be of great benefit to all New Zealanders and I have every confidence in their liaison appointment, Mr Tony Ballard, being able to assist our editors in many ways.

The circulation of "Orchids in New Zealand" is over 3,000 from the commencement of Volume 12 and this now makes us one of the largest bi-monthly orchid publications in the world.

Support to our Editors Nick and Liz Miller, and "Orchids in New Zealand" has been extremely gratifying, both to them and to the Executive. Exciting and authoritative articles, donations to our Colour Fund and your comments and letters of support are constantly received.

In response to requests from readers we are striving for a publication of high quality but achieving this requires continuing support for the magazine and Colour Fund. We are sure support from individuals and societies for the further advancement and development of our magazine will be forthcoming now that we are reaching our objectives. We see that in reaching to readers both in New Zealand and overseas, as a wide based national publication, societies and their individual members will all benefit.

Our efforts were rewarded by comments from many overseas guests and visitors in Wellington during October 1985 and we are assured of a number of articles and information from these talented people in following publications.

On behalf of all those who give their time and efforts to this publication, I seek your continued support and interest, as it is these incentives that encourage greater efforts towards a better "Orchids in New Zealand".

> D. K. Bell President

COLOUR FUND DONATIONS

Since the Conzed A.G.M. last June, when the spontaneous auction reactivated our Colour Fund, we have been very pleased indeed to receive over \$1,000 in donations, mainly from societies, including some of the smaller ones, but also from individual supporters.

The Executive and Editors gratefully acknowledge recent donations to the Colour Fund from the following:

Dorothy Cooper, Wellington Mrs V. R. Baylis, Auckland Nelson Orchid Society Tauranga Orchid Society Warkworth & District Orchid Society

We are also particularly grateful to Mr Danny Nel, of Quadra Scan (Wellington) Ltd., for the generous offer to supply colour separations (part of the process for producing colour illustrations) for the magazine. The saving has already been considerable, for this issue alone.

HISTORY OF THE N.Z.O.S. PUBLICATIONS

The first newsletter material distributed was a 'Report' after the first official meeting on 12th May 1948. After the following month's meeting, 'Bulletin' No. 1 was issued - a report on the meeting and cultural notes. The 'Bulletin' continued until 1957, when the monthly 'Review' took its place. Reports of meetings, plants on display, and cultural notes were included, with articles on orchid growing written by members. Mr A. K. Corban took a leading part in arranging the new format. Mr J. B. Douglas undertook the job of Editor for over a year, until he was obliged to give it up.

At this stage, shortage of articles, editors and funds prompted a review of the 'Review', and the result was production of a monthly newsletter, and a quarterly 'Review', as has occurred until the present.

The usual accompaniments of magazines - shortages of articles and editors - have occurred. As early as 1949 in the February 'Bulletin', there appeared: "Members, Don't forget the resolution. 'I will write two articles for the Bulletin this year' ". Several people helped out for short spells with the job of editing the "Bulletin' and "Review" where would the magazine have been without these people to provide continuity - but special credit is due to three people who gave long-term service. The late Mr Geoff Laird, the first president of the N.Z.O.S., began the 'Bulletin' in 1948 and carried on until 1952. In 1961, after a few difficult years, when occasionally the committee edited the 'Review', Mrs Alice Blackmore was persuaded by her husband Albert, who was Society Secretary at the time, to become Editor. She continued in this work until December 1970, having edited 37 quarterly 'Review's'. In 1973 Mrs Mavis Reidy took on the position, and has stoically kept on in the job for 13 years, until the end of 1985, the longest serving Editor in the Society's history. What a record.

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LIST OF EDITORS

Monthly Bulletin

Mr G. C. Laird 1948-49-50-51-52 Mr W. Branderberg 1953-54 Mr A. K. Corban 1955, part Miss Jagger 1955, part Mr Rosevear 1956

Review

Mr J. B. Douglas 1957-58 Mrs L. B. Cleland 1959, part Mr W. Jamieson 1960, part Mrs G. Symes 1960, part Mrs A. H. Blackmore 1961-62-63-64-65-66-67-68-69-70 Mr P. Reaves 1971-72 Mrs M. Reidy 1973-74-75-76-77-78-79-80-81-82-83-84-85

Most of the above information was collected together in the N.Z.O.S. 1973 Jubilee Booklet by A. H. Blackmore.

Thank you, Mr Powell

George Fuller

It is indeed a pleasure to be asked to write about someone one has known and admired all one's life. For that reason it should be easy but in compiling a biography of Fred Powell I am somewhat tempted to drift into an autobiography trend and keeping the correct balance may not be so easy. The reason for that is that he has had such a profound influence on my life for as long as I can remember that it is almost impossible to write without recording personal involvement and emotion.

Much of the following must rely on my not too reliable memory, time not allowing for much research. The task is not made any easier by the fact that 'Fred' as so many know him is by nature a very quiet and unassuming person, and though he is a giant in the background of much progress with orchid growing in this country and especially in support of the establishment and early activities of the New Zealand Orchid Society, little has been recorded about him as he has never sought high office or notoriety.

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Mr Powell's first knowledge of me came shortly after the day of my birth and one can't go much further back than that. As a Henderson neighbour, my father, who had already sired four sons went over rather despondently to report "It's another one"! On the other hand my first knowledge of him could be said to be not so memorable, for his presence grew on us over the years as a successful nurseryman neighbour always commanding an aura of respect and awe, for my father was not a very successful orchardist and as I grew up I suppose the comparisons became more obvious. The feeling of respect and awe has remained until this day and I note that it is not unique to me for many share it. no doubt because not only was he a competent nurseryman but he was so successful as an orchid grower that he shone as a beacon at a time when most were just dabbling. At the same time he was ever willing to teach, though by nature he has always seemed to distance himself a little and perhaps that is where the 'awe' comes in. No

doubt this is intensified by the fact that he does not suffer fools lightly, as the saying goes.

As I recall, Fred Powell came out from England as a young man to serve as propagator for Tom Horton who established a nursery of mammoth proportions in Hawkes Bay before the 1914-18 war. If anyone is of the opinion that recent horticultural development in New Zealand is unparalleled they would do well to read "Pioneer Nurserymen of New Zealand". In 1912 Tom Horton took samples of his apples to Australia and won not only every award but big orders too and with them no doubt the contempt of his rivals. Later he even chartered a ship to take fruit trees to South America but that is another story. Suffice to say that it is not surprising that when Mr Powell later started his own nurserv in Te Atatu Road he ran it very successfully.

That nursery was my first contact with horticulture and thinking back it was years ahead of its time, for practically everything was container grown and this was in the 1930's. Α wide range of trees, shrubs and palms were grown into specimens for a plant hire service which provided decoration at the major picture theatres and many other special venues in Auckland. Added to this was a cut flower supply for floristry and of special significance, a warm house in which giant crotons flourished in central beds and orchids adorned the surrounding benches, both in demand for weddings, etc., which were so well catered for by daughter

Rene. The luxuriance of everything was unforgettable. I have never seen such large crotons and the pots of slipper orchids were simply spectacular in size. Similarly the gigantic tubs of cymbidiums. No wonder visitors were over-awed.

By the age of 15 I was set on being a nurseryman and the only one of my five brothers (yes, there was 'yet another one'!) who took a detailed interest in what was going on over the fence. There is no doubt that the inspiration I got was a very strong influence on my decision making but that was not all. I recall plucking up courage to go over and speak to this still rather aweinspiring man about my future, for I was in the last agricultural course at Seddom Memorial Technical College and we were to be terminated. He set my sights high and lifted my thinking out of my immediate surroundings, inspiring me to seek the very best practical training wherever it could be found.

In the interim, I worked whatever hours were available in his nursery and very soon found out what lies behind perfection growing - concentration and attention to detail. His perception and insight were uncanny and one knew that there was no point in trying to put a smart one across, which made him a hard task master but his results were of such a high standard that this was acceptable - a bit like the situation that seems to exist in ballet training, perhaps.

When I look back my parents must have had great faith in Fred Powell's faith in me for before I was 16 my yearning for' nursery training had resulted in them allowing me to take up work in New Plymouth and before I was 17, orchids were my special interest.

In 1946 there was exceptionally little offering in terms of organised orchid activity in New Zealand. No societies and I think what is now Blacks of Levin would have been the only commercial nursery, though there were numerous quite capable enthusiasts. We tend to

the difficulties of forget also, There was not the importation. complication of guarantine but there was an equally vicious restriction -I cannot recall whether finance. nurserymen had special provision but I certainly remember that the only way an enthusiast could get overseas currency was to queue up at the Post Office for one five shilling postal note per day until the required sum was accumulated. Later, when permits to import came in, one had to justify the need for importation and verify that each plant was not already obtainable from a source within New Zealand.

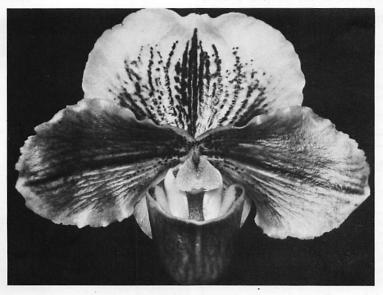
With no training prospects for me in New Zealand, stage two of the Powell Plan came into play - seek a position in England. Outwardly, this sounded absolutely crazy to most; after all, England was still under rationing, men were returning to work from the forces and thousands were wanting to emigrate to get away from the austerity. It proved to be some of the soundest advice I have been given and Mr Powell's backing even convinced my parents who were willing to let me join as a crew member on a tramp steamer to get there, once I had received written confirmation of a job.

As a trainee I had accumulated verv little cash and this is where Mr Powell played the fairy godmother, touched perhaps with a modicum of astuteness. for he advanced me a sum of money with the suggestion that when I got settled down in England and could manage it, the loan could be refunded by sending out a collection of orchids which I considered could be of special value in New Zealand. The main reason for recording this personal arrangement is because it will disclose the origin of several orchids for the growing of which Mr Powell and later his daughter Rene have carried a great reputation. Several of the clones have, over the intervening 35 years since importation, been distributed over the length and breadth of the country.

Probably the most vigorous slipper was Paphiopedilum King Arthur 'Burgoyne', a prolific reddish variety which Mr Powell guite guickly had propagated up into hundreds for cut flower production. Those who saw his collection in the 1960's and 1970's wouldn't forget the sight. He wanted particularly to have whites and I was able to get P. Rosy Dawn, and I believe he soon had specimens producing something like 20 blooms per pot. Another red slipper was P. St. Albans, rather tricky to flower, then there was one which I have always liked because of its fascinating colour range and texture and that was P. Alfred Dimmock. In June just this year I found superb unlabelled plants of it in Alan Beck's collection and recognised them immediately, much to his satisfaction. I sent Mr Powell several plants of cymbidiums also and though I have forgotten most, one of tremendous vigour was C. Bruces Gem which we still have in the park collection.

Oh! yes, then there were two plants with rather special names. As a tribute to Mr Powell's support, I was able to convince dear old F. K. Sander who was then still personally compiling the hybrid - lists and naming Sanders seedlings, that a slipper should be named after this great New Zealand enthusiast so we have on record a *Paph*. Fred Powell which was quite a striking hybrid but I don't think even his prowess was able to keep it going for many years.

As a matter of interest, Sanders were still raising paph. seedlings on the surface around mature plants in those days and so it is likely that there was only one plant ever raised. I certainly knew of no more. Not so with Brassocattleya George Fuller which the same august gentleman named after the young upstart from New Zealand. This cross was made between two very fine parents that were displayed at the famous Ghent Floralies in Belgium just before the last war. Incredibly the seedlings survived the war in Sander's Belgian nursery, were transferred to their St Albans headquarters after the war and old Mr F. K. and David Sander were both studying the first to bloom when I entered the glasshouse to water. The old gentleman remarked in his slow



Paphiopedilum Fred Powell

ponderous way (he spoke 12 languages) 'we should name an orchid after this young man" and so it came to be. That plant was actually sent up to the R.H.S. for consideration for awarding but just missed, so needless to say it carried a weighty price tag beyond my reach but I was able to purchase one of lesser quality which Mr Powell nurtured until I returned to New Zealand, whereupon he gave me a plant (as indeed he did with most of the others) which subsequently donated to the park collection. Again, there were very few seedlings so apart from the inferior clone at the park that hybrid has probably gone into oblivion too.

By 1948 the growing interest in orchids resulted in a of group enthusiasts gathering in Auckland and this led to the foundation of the New Zealand Orchid Society. I was overseas at the time so my knowledge of that era is second hand, but not surprisingly Mr Powell joined as a foundation member and was elected to the first committee. Over the following years he was a great supporter of show activities and though I have few records I believe that this is where he gave his greatest support, being appointed Show Marshal in early

A WARNING!

If any readers have not had their Goldair heaters adjusted, keep a good eye on them.

One grower nearly lost her shadehouse when the safety device failed.

- from Bay of Plenty O.S. Newsletter

BEWARE OF LEAF BEETLE!

There have been details in society newsletters of the leaf beetle grubs brought into New Zealand on flowers for display at the Wellington Conference Show. Although it is now some little time ago, we must be sure that they do not spread and establish. Remember to check plants for the grubs and report any suspicious grubs or insects to the nearest M.A.F. Office. days. No doubt his giant specimen plants and knowledge of display were important contributions. The shows were held in conjunction with the Auckland Horticultural Council until 1956 when independent shows were initiated, the first four being held in Milne & Choyce's store.

In 1957 Mr Powell succeeded Sir Frank Mappin as Patron of the New Zealand Orchid Society, a station he holds to this day, not merely as a figurehead but as a thoroughly respected and skilled orchid grower whose achievements few have equalled. At 98 years of age he assuredly fulfills with destinction the role of Patron (father figure) being still lucid and clear thinking.

In 1946 I set as my goal the ability to some day grow orchids as well as Fred Powell could. In 1986 I will still be striving to attain that same elusive goal. What more can I say other than "Thank you Mr Powell for the inspiration and support you have given to myself and many others in our quests for orchid knowledge".

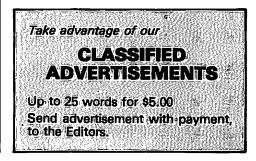
> Pukekura Park New Plymouth

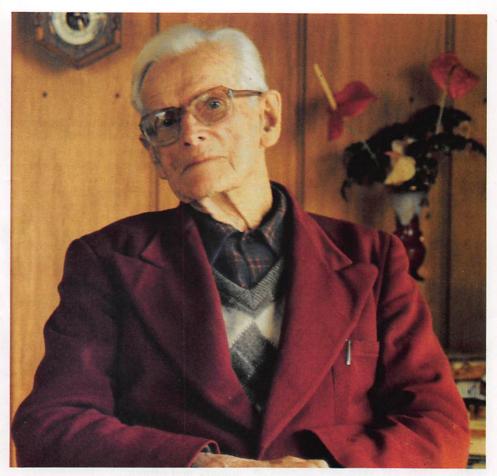
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A recent photo of Fred Powell, Patron, N.Z.O.S. (Inc.)

FRED POWELL Patron of the N.Z.O.S.(Inc.)

Tony Ballard

Founder Member of the N.Z.O.S., Patron, Life Member and Judge, Fred was amongst the thirty people who attended, on 12th May 1948, the first meeting of our Society. He was elected to the Committee and for many years proved a formidable competitor with his favourite "spotted paphs.". His growing expertise has been passed on to his daughter, Mrs Julian, who in her turn, is noted for her entries at our July Winter Shows - prize winners too! The writer spent a most enjoyable afternoon recently, talking to Fred about his early career, and his life long interest in horticulture, including orchids, and although almost house-bound now, his recall of past events is really remarkable - considering he is now in his 99th year!

Q. How did you start - get interested in Orchids?

Fred. "In England, in 1902, I started work in a nursery and for the next six

years moved to various nurseries to get experience growing all kinds of plants, including orchids. When I was 21 years old I came to New Zealand (ship 'lonic') and in 1912 started a nursery in Hastings. We stayed there until 1927 when we came to Henderson to start a nursery again. We had two glasshouses and a large bush-house and started growing choice flowers, including orchids for our floral work". Fred grew mainly palms in those days, and many of the larger and older trees around Auckland came from his stock.

Q. What genera did you grow?

Fred. "Čattleyas, cymbidiums, cypripediums, odontiodas, odontoglossums, miltonias and others".

Q. Do you remember the names of some of the early plants in your collection?

Fred. "In the cymbidiums we grew *tracyanum,* Finetta, Bodmin Moor, *lowianum,* Swallow, Princess Elizabeth and Erica Sander".

Paphs. "I remember *insigne*, King Arthur, Rosy Dawn, Sanderianum, Mildred Hunter and Sir Redvers Buller. This last plant was first flowered during the Boer War and was named after that famous General. *C. lowianum* was my first cymbidium, given to me by the late Geoff Laird".

Q. Why did you concentrate on Paphs?

Fred. "We found the public liked them. They get very little disease or pests and are an excellent cut flower. At first we followed the English pattern of growing, but we later found that here in New Zealand not so much heat is needed. In the early days we imported orchids for retail sales, and when the nursery was established we kept the best for cut flowers".

Q. Where did you import your early stock from?

Fred. ''From England - from Charlesworth, Stewart Lowe, Sanders, McBeans; and from India, *C. insigne* and some of its variations. When the only transport was by ship, New Zealand was at a great disadvantage - most consignments took from seven weeks to three months to arrive and quite often there were great losses. My first air

consignment from Sanders was a disaster. The plane had to touch down in Iceland overnight so my plants arrived frozen black!

Orchids were sent in their pots and there were practically no restrictions or quarantine".

Q. Do you still grow any of the same plants, or have you upgraded?

Fred. "We have upgraded with some newer plants, but have always held on to the good cut varieties. We have a whole house full of King Arthur, sent to us in 1950 from England by George Fuller. This flowers February to May which is good for Easter and Mother's Day. Rosy Dawn is excellent for weddings and popular with the florists. We still have a few other Paphs. which we grew 50 years ago".

Q. Did you ever grow your own seed? *Fred.* "The only method we used for sowing seed, was to blow the seed around the top of the pot, from the palm of your hand. This method needs lots of heat, and our success rate was about 1%, the mixture we used was Todea and moss".

Q. And what of species Paphs?

Fred. "We grew *charlesworthii, fairrieanum, niveum, venustum, villosum* and Harrisianum "Balls" variety and others".

Q. One final question, How does the orchid scene appear to you now?

Fred. "Orchids are more wonderful than ever! Cymbidiums especially have made the biggest impact in New Zealand with their spike habit and quality of flowers - so easy to grow both outdoors or in the glasshouse. But to keep up with the export trade we must grow nothing but the best discarding all others!".

Thank you Fred for a very happy outing and for sharing some of your recollections with us, and who could be happier with your old favourites growing 'over the road' and living in Miltonia Avenue?

21 Boyd Avenue Mangere Bridge

Cymbidiums at the 2nd New Zealand Orchid Conference

Andy Easton

Although it was very late in the season for Cymbidiums and late in a very early season for good measure, most flowers in the Show were surprisingly fresh and the variety of hybrids exceeded the most optimistic expectations. Imagine for a moment that Keith Andrew had not sprung his *C. devonianum* hybrids on the orchid world though. From my quick estimation nearly 40% of the Cymbidiums on display were bred from this species and it was especially fitting that Keith Andrew was at the Conference Show to see just how far his efforts have evolved.

Rae James "Cameo" was judged the Champion Standard Cymbidium for Jim James of Hamilton. It was a clean white displayed on a better spike than I previously remembered it. During the show the C.S.A. also awarded it a Bronze Medal. Other standard whites were fairly ordinary though Hope Ranch "Coldsprings" was flowered well. A nostalgic touch was provided by the bowl of cut sprays of Jungfrau "Snow Queen" FCC/RHS in the Manawatu display. I wonder how many realised the parent plant was over fifty years old?

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Pink standard cymbidiums were scarce. One that stood out was Khyber Pass "Strawberry Pink" in Norm Porter's Gold Medal display. This is one of the most beautiful diploid pinks and such a free bloomer. I liked the Phyllis Friedlander "Maidstone Charm" bred from a tetraploid Musita "Pinkie" 4N -certainly it was the best Vieux Rose hybrid of the show even if one sees so few good Vieux Rose hybrids anymore.

Variety was the keynote for green Citation "Pastel Queen" standards. HCC/NZOS B/CSA stood out among the exhibition types and Jubilation "Lane" struck a second blow for the Aussies. Hinemoa "Wi-Parata" was a classic shape and the plant of Miretta "A.A.McBean" 4N exhibited by Reid and Gray was as fine a form as anyone could recall seeing. There were nostalgic greens too, two lovely sprays of Blue Smoke "Green Meadows" and a superb specimen of Indian Tea "Pacific Gem" with 18 spikes in a two gallon pot.

Yellows are difficult late in the season but I was very impressed with several seedlings of the new cross Hallmark. Oakbank "Buttercup" is a pleasant concolor from Adelaide Orchids, similarly May Hopcraft "Conquistador" caught the eye. Levis Duke "Butterball" was bright and fresh - it has the right combination of exhibition and commercial qualities.

While there were no award quality standard reds in the show, the freshness of colour in several exhibits was noteworthy. Sensation "Royal Beenak" 4N was a good wine red, Sensation "Chianti" 4N, also on display, suffered by comparison. Margaret Le Seur had a very colourful Mem. Win Gibbs in the North Shore display and Ross Tucker a fine Panama Red in the N.Z.O.S. group. For exciting potential, the tall spiked shapely red diploid Sensational Vintage "Top Shelf" stood out in the Geyserland Orchids display.

Polychromes and unusuals were typically well-represented. It was exciting to see a good Kiri Te Kanawa so late in the season and the tetraploid form of Tamatea "Tahi" was a much darker brown than any Chocolada seen to date. Many favourable comments were made about Levin Raiah "Kathy" the most shapely of the Claudona "Raiah" 4N seedlings on display. Tijuana Purity "Hot Lips" and "Hooter" were bold and brassy as their names suggested. Interest was created by a young peloric Firevieux seedling from Hadfield Orchids. Not all peloric forms are as attractive - a mutated Mirahill "Tapestry" was peloric but undistinguished. If you fancied spots, South Pacific gave you Robin "Little



Cymbidium Rae James 'Cameo', Champion Cymbidium Grower: I. D. James, Hamilton Photography: A. Patterson-Kane

CYMBIDIUMS AT THE 2nd NEW ZEALAND INTERNATIONAL ORCHID SHOW - WELLINGTON 1985

Cymbidium Firevieux 'Hatfield Triply' a peloric (three-lipped) mutant

Grower: N. C. Wood Photogra

Photography: N. C. Miller

Cymbidium Touchstone 'Mahogany', CC, CSA Grower: E. & V. Jones Photography: A. Patterson-Kane





John" in diploid and tetraploid forms. Rumour has it that Ross was seeing tetraploid spots the morning after the banquet too! More subtly unusual but very eyecatching were the pastel polychromes from the cross Araluen x Sussex Dawn.

Intermediate Cymbidiums were fairly thinly scattered although the quality was high. Only one white stood out, Bruenor "Purity". This superb Swallow hybrid from Keith Andrew was a strong reminder that quality is not confined only to the newest or most heavily advertised crossings!

A cut spike that some may have missed (Minette x Chief Joseph) "Ruth" from Mt. Beenak in Victoria was quite luminous in the oyster pink shades. Alison Shaw "Perfection" although obviously open for weeks was head and shoulders above any other pink intermediates.

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What a consistent cross the Jack Hudlows have been! It is hard to believe they are first generation *devonianum* offspring for they are quite shapely and rather larger in flower size than most other primaries. There were several good one's in the Waikato display and Jack Hudlow "Bobby Sam" was a beautiful rich green displayed by Lorna Ferretti.

Little progress has been made in the yellow intermediates. Sylvia Miller "Yaeko Yamamoto" with 39 flowers on one stem had no peers. For sheer luminosity of the yellow colouring one couldn't pass by the (Tidbit x Mighty Mouse) displayed as a cut spike in the New South Wales exhibit, it is influenced by *C. tigrinum*.

Red intermediates were scarce. Eliot Haberlitz "Dale's Choice", a Touchstone hybrid was judged best decorative intermediate. Its sibling "Fiesta" was also richly-coloured. Two young seedlings from the cross (Touchstone "Mahogany" x lvy Fung "Radiance") were full of potential. One with only two flowers on a tiny plant in the Gold Coast display was far and away the best red intermediate in the building.

The polychrome Bulbarrows were out in full force. Old ones like "Will Stutely" and newer ones like "Paradise" and "Waikanae". What a superb cross this is! In the pumilum line Adelaide Orchids had an interesting group of Aruntas. Although I have never like this cross with its tendency to short spikes and inwards turning flowers, they are very popular in Australia and flower in a very rich polychrome colour range. On the negative side, several seedlings of (Touchstone x Wallara) were murky and in my opinion a backward step in devonianum breeding.

For all of us beset by space problems there was a surprisingly wide selection of true miniature cymbidiums. An enduring memory of the late Henry Rudolf was seen in the diploid and tetraploid forms of Vogelsang "Waikanae". Surely as a flower and a breeder, Vogelsang "Waikanae" 4N will impact late blooming minis well into the 21st century.

Green and yellow minis were scarce but very good. South Pacific's (Darjeeling x *devonianum*) was a mass of spikes with an atypical blotched lip. Two opposites demanded attention. Ron Maunder's Mem. Selwyn Stubbs "Marmalade" was a delightful *madidum* hybrid. Colourful, late blooming and possessed of typically long pendulous spikes. At the other extreme (Devonwood x Miss Muffet 4N) was a genuine miniature mustard yellow which Lorna Ferretti should treasure.

The devonianum polychromes covered a chronological range from Touchstone "Janis", surprisingly awarded AD/OCNZ so late in its career, to Plush Canyon "Beenak" the best recent devonianum hybrid for consistency and quality. Kalimong "Arthur Dawson" was completely surrounded with pendulous spikes - it had gained a cultural award two weeks previously at the Hawkes Bay show. Longview Orchids presented another of their superb specimens of Touchstone "Mahogany" - with 19 spikes it gained a very high cultural award from the Cymbidium Society of America. Widespread interest was directed to the cross (Fiji x devonianum) - a late bloomer of surprising variation from polychrome to apple green colourings. The clone "Conference" a first bloom seedling with eleven long pendulous spikes was a big hit with the crowds. One could not avoid commenting that the first Miss Muffet "Agate" 4N hybrids are creating a sensation. There were some superb Tuffets, true miniatures, and a single growth first bloomer (Oriental Legend x Miss Muffet) "Bubbles" displayed by Mt. Beenak Orchids is best described as little more than a bonsai'd single growth from which a spike of seven tiny blooms was displayed.

Another unusual group ranged from the black-red *aloifolium* hybrid Gordon Gibbs "Tropic Night" to the particularly long spiked Pee Wee from New South Wales and a scented Peppermint "Aromatic" in the Adelaide corner. Who said cymbidiums were boring?

The species were particularly wellrepresented by *C. lowianum* with colour forms like "Concolor" and breeding types like "Compte d'Hemptinne". It was a pity a large specimen of the primary hybrid Lowio-grandiflorum was mislabelled in the Nelson Orchid Society exhibit. Seems some of the judges goofed too!!

A special tribute to George Fuller and the Taranaki Orchid Society for a most educational and diverse display of the Cymbidium species and key primary hybrids. I counted twelve species and old primaries wonderful like Coningsbyanum, Lowio-grandiflorum and Eburneo-lowianum to round things I doubt that a dozen distinct out. cymbidium species have ever been displayed at an orchid show in New Zealand previously and the occasion was not lost on cymbidium enthusiasts. Will they be able to improve on this in 1990 - will we all be able to improve on Wellington five years hence? Let's learn from our mistakes, improve in our strengths and make the 13th World Orchid Conference the orchid event of the century. Our two Conference shows . to date have surely provided us with a wonderful foundation on which to build for 1990.

Geyserland Orchids P.O.Box 162 Rotorua

OBITUARY

Lt. Cdr. F. E. J. (John) Mason, M.B.E.

The sudden death in November last year of John Mason, of Auckland, was sad news to his North Shore Orchid Society and Orchid Council friends.

On the inception of the Orchid Council of New Zealand in July 1975, John was appointed North Shore Orchid Society delegate, Vice President of the O.C.N.Z. and Deputy Registrar General of the Judging Panel, later to become Registrar General, a responsible position which he held for many years, retiring from it only in 1985.

John, together with his wife Marge, was a tireless worker for the North Shore Orchid Society, and was its President from 1975-77. He was very interested in and knowledgeable about our own N.Z. native orchids, and he also grew and flowered most successfully many New Guinea native orchids which he enjoyed showing at monthly meetings.

The Editors are among those who are fortunate to have known him. John will be sadly missed, and to his wife Marge, his family, and his friends we extend sincere sympathy. *E.M.M.* 2nd New Zealand International Orchid Conference Wellington 1985

A RAMBLE THROUGH THE SPECIES

The Magazine Committee of this journal was very enterprising in contacting several enthusiasts in the various fields of orchid cultivation prior to the Second International Orchid Conference, with a request that an article be written about the three specimens on display which most attracted their attention. Provision would be made at the show for photographing, if prior warning could be given.

This was all very well, but in my case, due to peculiarities in the postal service, a letter posted on the 2nd October somehow didn't get delivered until the 10th, when I was very much in Wellington, so I read it when I arrived home. The subject chosen for me to write on was 'species', without reference to genus and upon reflection this is very appropriate for, in my estimation, this could be remembered as the conference of the species.

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We could begin with the lectures: in the case of subjects such as N.Z. native orchids. Disa in N.Z. etc., one would expect to hear reference to species but it was particularly noticable that in the talks concerned with the latest the breeding developments in of cattleya, cymbidium, dendrobium, odontoglossum and phalaenopsis, each of the six speakers dwelt at length on a description of the species involved as a background to hybrid development. Incredible! Some would say that this was a coincidence or an accident but the more astute would realise that if one is into breeding and wants to be in the front running, a thorough knowledge of species and their 'specific' influence is invaluable.

In the display hall, this was manifest in no uncertain terms. Cymbidiums are of course the most popular group and we saw the regiments of resplendent soldiers in whites, pinks, reds, golds, apricots, etc., etc., as ever: but infiltrating between them, with devastating results, were the pendulous guerillas bred from *C. devonianum*. They stole the show as far as the public were concerned and even took premier awards. They ranged from standards to

miniatures, through all shades, invariably with richly coloured lips and their popularity is assured.

I was involved with setting up a display on the subject of cymbidium breeding which incorporated numerous species in bloom and this provided a physical measure of the potential of C. devonianum as a breeder. We had a plant in bloom, located well forward for scrutiny and it was very noticeable in the latter days of the show that a gap in the flower sequence on one raceme was rapidly growing as blooms vanished and I don't think girlfriends would be the recipients. I admire the taste of the hijackers, if not the technique, and I only hope that when it comes to the naming of the progeny of their ill-gotten genes they have the good grace to remember the province that provided at least half of the raw material.

The subject of species and their recognition cropped up in another rather regrettable way when judging took place for selecting the most notable cymbidium species. Having fallen heavily myself into the trap set by a wrongly labelled plant of C. Lowio grandiflorum some years ago, I would not criticise too strongly the judges for their failure to question the labelling of a magnificent specimen of this primary hybrid as C. lowianum and awarding it first prize. At first glance it is certainly a look-alike and I have in preparation an article which attempts to clarify the mixup which is extensive here and even occurs in Australia, for which reason Jim Rentoul says he included a coloured illustration in his book on cymbidiums. More about this in a later issue, so suffice to say here that the error was corrected and a plant of *C. lowianum* v concolor in a 300mm (12") square tub ultimately won the class.

With all the emphasis on species in the talks on breeding, coupled with the concern that this incident caused at judging level, it became very evident that more education of the characteristics of species and their respective roles in breeding in all genera is something that should be looked into very seriously.

To return to the request made of me to select notable species, it should be pointed out that overseas visitors were greatly impressed with the wide range of plants on display. Add to this the fact that specialists are selecting species within certain genera and it will be seen that I have a precarious task in choosing a few species which particularly attracted me and which haven't been covered by others.

My first choice is a fairly safe one though, for it was probably the most physically abused, least observed yet delicately spidery orchid in the show. I refer to a few cut flower heads of Caladenia dilatata sent over from Australia by Mr Nesbit. These featured in a ground-level display with several other Australian natives. All segments were drawn into fine green reddishmaroon striped filaments but the striking part was the strangely reflexed lip which featured a patch of maroon bristles in the centre then flared out to delicately serrated apple-green wings. The whole effect was one of delicacy and fragility, yet arranged as it was at shin-level. every coat whose wearer swooned at the array of colour above most assuredly brushed against it and it took a real battering. Despite this, at the end of the show it was just as resplendent, whilst around it protected pets were collapsing. It was great to see in New. Zealand a terrestrial orchid which seems to be found almost throughout the coastal belt from south-western Australia eastward to southern It was so unobtrusive Queensland. against a bark background that photographing it required an 8-second exposure.

The next specimen would surely have gained more recognition had it been fully open on the first day but that is not to say that many would have seen this attractive miniature either. It has the impressive name of Mexicoa ahiesbrechtiana and I was told all about it by the Ohio Commuters, Jim and Eloise Harper, who collected it in Mexico but regrettably I took no notes. I recall that it is rare and it reminded me of a very compact and attractive miltonia or oncidium but someone suggested that it was related to epidendrum. Now I am more frustrated than ever and I even failed to photograph it myself so you will just have to sit down and write out that fascinating story that you related to me, Jim and have it printed in 'Orchids in New Zealand'. You can pinch the space for Pukekura Corner. If it is indeed related to epidendrum and therefore hybridises with cattleyas we will have to tranguilise those miniature cattleya breeders who were rampant at the conference.

There were numerous masdevallias that attracted me, strange and exciting paph. species and who could fail to admire that dainty Cymbidium insigne var. album but I suppose all those aroups will be reported on by the specialists. Oh, yes, and then there was that superb specimen of C. insigne var, Bieri tucked away so effectively on the Gevserland exhibit that everyone. including the experts and others such as myself, just assumed that it was a hybrid. If that plant is correctly named (and I have no reason to doubt it) then I can at last well understand where all our well-formed pastel hybrids with erect stems come from. It would have made a very valuable addition to our exhibit concerned with the history of cymbidium breeding. And what about the native species that didn't get to the Conference? At our last Taranaki Orchid Society meeting before the big event. Rob Ward, one of our members brought along three wooden containers - one with a strong colony of Pterostylis banksii, - another with Chiloalottis cornuta - and a breathtaking third which was literally bristling with the blooms of

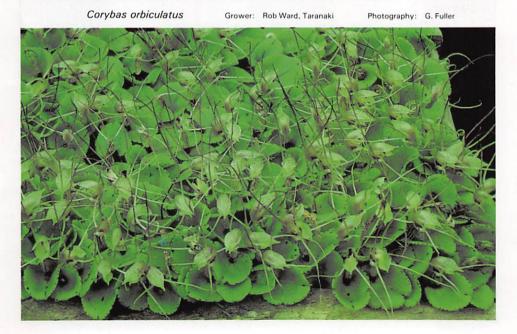
Corybas orbiculatus. Each container is 300mm x 200mm (12" x 8") and the number of flowers in the latter was in the region of 100. I was so impressed and keen that they get to Wellington that I asked permission to look after them personally and in the interim took photographs, then placed them in the shade house at the park. Can you imagine my dismay, dear reader, at having to report to Rob that the next time I saw them was several days after the Conference when returning pleiones to the shadehouse! They were still looking as splendid as ever. Breaking the news was one of the least pleasant things I have had to do for a long time, especially as any of the three, but particularly the corybas, would almost certainly have been in contention for prizes. They are not one-day wonders, either, for they have been in cultivation for several years and have increased in numbers dramatically.

Sorry about my oversight, Rob. How were you to know that my wife wouldn't even trust me to take our children for a walk in the park for fear that I would lose them. You will just have to grow them



Caladenia dilatata Grower: Mr Nesbit, Australia

in a wheelbarrow for display in Auckland in 1990, (the corybas not my children) and I won't blame you if you expect me to push them all the way up there as a penance.



Finally, the story of the plight of the pleiones. In August, I placed them with loving care, all the correct way up, in boxes which I then set in the 'fridge. About three weeks before the Conference, out they came to be set in trays of sawdust in a warm house (they seemed to be tardy this year). When we packed they were in perfect condition and travelled separate to the main load for extra care. We had decided to pot them into pans at Wellington to minimise damage and upheaval, and I even remembered mix and all the other requirements. They went on display in good condition and survived the week well so deserved the same separate transport home, reaching my office in sound condition. From here it was 50m

to their quarters and I delegated the responsibility of transferring the two trays of pans plus one lose pan to a young staff member, suggesting the use of a barrow . . . You've guessed it - I found later that, to save space, the spare pan had been simply plonked on top of the others and in five minutes those poor plants which had been treated like royalty for weeks were virtually decimated. For me, Wellington seemed to hold a series of frustrating endings. I even ricked my back in the last quarter of an hour of packing for home and that certainly took some explaining.

> George Fuller N.D.H. (N.Z.) Pukekura Park New Plymouth

N.Z. NATIVE ORCHIDS AT THE SHOW

Gordon Sylvester

The Second New Zealand International Orchid Conference held in Wellington in October was billed as the best ever and "Orchids were for Everyone". In both respects the event lived up to its name, not the least was an ambitious native orchid display mounted by the N.Z. Native Orchid Group.

One of the more pleasing aspects of the Conference was the use of native orchids within individual society displays. The range of genera displayed was fairly narrow considering the material available in the country. Those societies were; Gold Coast, Wellington, Hutt Valley Orchid Circle, Wanganui, Nelson, Hawkes Bay, Taranaki, Bay of Plenty, Manawatu, Tauranga, Wairarapa, Poverty Bay, Native Orchid Group. Species displayed were; *Acianthus fornicatus,Thelymitra carnea, T. pauciflora* and other unidentified species; *Pterostylis banksii, P. graminea, P. barbata,* and some unidentified; *Microtis unifolia, Dendrobium cunninghamii, Earina mucronata, E. autumnalis, Bulbophyllum pygmaeum, B. tuberculatum, Drymoanthus adversus, Chiloglottis cornuta, C. gunni, Calochilus paludosus, Corybas orbiculatus.*

In addition there was a large display of supporting material featuring herbarium sheets and water colour drawings. The drawings were kindly loaned by Bruce Irwin. Photographs and other material were principally supplied by George Fuller and Dot Cooper.

The best native orchid displayed was awarded to a *Pterostylis banksii* exhibited by V. Conaghan of the Whangarei Orchid Society.

22 Pencarrow Crescent Wainuiomata

2nd New Zealand International Orchid Conference Wellington 1985

Masdevallias at the Show

Phil Mayhead

When I was given the brief to comment on the Masdevallias at the Conference, both the plants and any lectures pertaining to them, I thought I had it easy, as there would be few plants and there were no listed Speakers.

At the Cocktail Party on the Wednesday night, however, as we wandered around, I was pleasantly surprised at just how many Masdevallias there were. The Judges had evidently thought so as well, as they had created an unscheduled certificateclass out of the 'Any Other Genera' especially for them.

Let us start with the Coccineae section, as these are the colourful fellows that most orchid growers relate M. coccinea itself was seen on to. several stands, represented by one clone in a 'shocking-violet' shade; this is evidently a particularly vigorous variety. A more reddish form was on the Whangarei O.S. stand. Another variable species is M. militaris and good forms were seen, with wide sepals and It is now fairly well strong colours. distributed around New Zealand. Α smaller species was M. amabilis in an iridescent pink shade, but the premier species of this Section, maybe of all Masdevallia, is M. veitchiana, and we saw it represented by the variety 'Prince de Galle' AM/AOS, exhibited by Paradise Orchid Nurseries and L. & R.Orchids, on whose stand it won first prize for D. G. Hope.

The correct identification of the species is difficult, and very confused, probably more so in Masdevallia than in any other genera, so it was no surprise to see two or three doubtfully named plants. Whatever the true identity of the 'M. chontalensis' on the Wellington O.S. stand, I thought it the prettiest of the small species shown, with wide open white flowers and orange tails. One problem may have been solved though: also on the Wellington stand, was M. gutierrezii, and one that several of us grow, known only by the locality 'Bolivia'. Although the owner said there were differences, I borrowed the

magnifying glass from Eloise and Jim Harper's stand and got down on my hands and knees, and in that undignified and impractical position thought they were only clonal variations.

Some nice clumps of Μ. schroederiana were seen, mostly of even quality, but the variety 'Los Osos' was clearly superior. M. saltatrix, with its inflated sepaline tube looking like a jelly-bean, was first identified at the 1980 Conference by the late Don Richardson, and was noteworthy because since then, apart from three months in 1981, it has never, ever, been without at least one flower open, often several at a time. There would be few other plants at the Show that could equal that. All the Polystictae Section are attractive with their multi-flowering habit, and several M. pachyura were noted, and the M. caloptera seen on the South Auckland O.S. display looks as though it will be very showy when flowered on a larger plant.

Hybrids now, and if you went to the Show to see the latest in Masd. hybridising you would have been disappointed. The best was L. & R.'s *M. coccinea x ayabacana*, heavy, dark purple on a long stem, with a second bud coming on the same stem, a desirable trait. They also showed *M. veitchiana x peristeria*, and the Whangarei O.S. had *M. maculata x coccinea*, all interesting lines of breeding. Old hybrids such as *M.* Falcata, Measuresiana, and the pretty Doris were displayed, and the very perky *M*. Kimballiana (*veitchiana* x *caudata*) was seen on the Rotorua O.S. display.

I have left the Leontoglossae section until last. You either love masdevallia or you hate them, and this section with its fleshy flowers perhaps gives you all the emotions of descriptions such as weird, bizzare, strange, ugly or maybe even beautiful, depending on your outlook. Firstly, we saw M. stenorynchos, unusual shape even for a masdevallia, with its quivering lip, and then there was M. deorsa of the Taranaki O.S., fully pendulous and so far the only known masdevallia with this habit; it has very fleshy leaves. Μ. macrura had in Wellington a verified measurement of 422mm (161/2 inches)

Masdevallia elephanticeps

Grower: L. & R. Orchids, Tuakau Photography: G. Fuller

from tip to tip, the largest flower in the Show probably. Beside it was a very small unidentified species from Ecuador, which was amongst the smallest exotic displayed, such is the diversity of masdevallias!! However, the one to impress and you were either fascinated or repelled, was *M. elephanticeps*, named for the likeness to an Elephant's head. This, to me, was one of the stars of the Show, and epitomises all that is fascinating in this genus.

To sum up, the great majority of masdevallias on display were small divisions; we would need to consolidate these into more substantial clumps if they are to make any impact in 1990.

> 360 Carrington Street New Plymouth

Masdevallia deorsa Grower: Pukekura Park Collection Photography: N. C. Miller







Miltonia warscewiczii var. alba Grower: L. & R. Orchids, Tuakau Photography: N. C. Miller Lycaste Leura 'Nebula' x Macama Grower: J. Spence, Australia Photography: N. C. Miller

2nd NEW ZEALAND INTERNATIONAL ORCHID SHOW - WELLINGTON 1985



Left: Masdevallia macrura Grower: P. & A. Mayhead, New Plymouth Photography: N. C. Miller

Denrobium miyakii Grower: M. C. Levien, Auckland Photography: N. C. Miller



The Art and Science of the Orchid Illustrator

Ian M. St. George

There was a lust for orchids in wealthy Victorian society that would make our modern enthusiasts seem like bored onlookers; but the orchid was symbolic of a romantic preoccupation with flowers that somehow characterises the nineteenth century ethos. There were among orchid collectors both scientists and romantics; they would have claimed different motives, but they shared a similar obsession. This was the golden age of plant illustration and later of enormous orchid books.

The subject of botanical illustration is a microcosm of the meeting of art and science, of romantic and analytic thought, of immediate appearance and underlying form. For art has to do with inspiration, creativity and feeling, and is essentially feminine, whereas science demands logic, rules, explanation and is essentially masculine. (Indeed, flower paintings have been made by bold explorers in the cause of science, and by timid spinsters to the glory of God).

In a different context, Robert Pirsig writes of romantic and analytic thought, "What you've got here, really, are *two* realities, one of immediate artistic appearance and one of underlying scientific explanation, and they don't match and they don't fit and they don't really have much of anything to do with one another. That's quite a situation. You might say there's a little problem here". 2

To the scientist art is shallow and frivolous. To the artist, scientific analysis destroys the essence, the wholeness (almost the holiness) of the subject. Robert Pirsig again:

"Mark Twain's experience comes to mind, in which, after he had mastered the analytic knowledge needed to pilot the Mississippi River, he discovered the river had lost its beauty. Something is always killed. But what is less noticed in the arts, something is always created too. And instead of just dwelling on what is killed it's important also to see what's created . . ."

The botanical illustrator's art, as Wilfred Blunt says, is like the art of opera, not a pure one: he has to reconcile two conflicting ideals and contrive to effect a compromise. He is a pragmatist who, at his best, marries art and science to produce a work that is both beautiful and explanatory, is both good art and good science.

Goethe had said in 1831, "A great flower painter is not now to be expected: we have attained too high a degree of scientific truth; and the botanist counts the stamens after the painter and has no eye for picturesque grouping and lighting". Yet in the same year Francis Bauer, perhaps the greatest botanical artist ever, was nearing the end of his career in England. Goethe was wrong.

Art that begins as explanation eventually becomes decoration. The nineteenth century preoccupation with naturalistic art ended with Aubrey Beardsley's fruity lines and the sensual curves of art nouveau. To an extent, and for a while, the new invention of photography took over. It has replaced drawing for the Sunday painter, but for the botanist and the serious artist photography is more an assistant than a competitor.

Peter Whitehead eloquently addresses the dilemma of botanical art: "As scientists, we cannot say information received' and move on; aesthetically, the picture has organised our feelings toward that information. As lovers of art, on the other hand, we cannot merely say 'that was a nice and moving experience'; scientifically, it has left us with a piece of information that must be slotted into our knowledge of the world".

"The artist-scientist . . . is not just an illustrator. He elaborates at the interface between us and the world around us, between what we know things are and what we feel things are, and in doing so touches exactly at the point where understanding begins. We feel the truth as much as we know it". 3

By no means all of the illustrators of New Zealand's orchids make us do that. But they do move us. Our orchids are subtle things: they have a quiet beauty that has attracted the interest of botanical illustrators from the time of Cook's voyages. A few were drawn by the great botanical artists, and many more have been subjects for talented New Zealanders. The artists

represented in the series beginning in this issue are chosen because they have produced good art or good science; and sometimes, I hope you will agree, a happy mix of both.

The drawings are scattered about in museums, art galleries, rare books and journals, and in private collections. Some have never been published. My purpose is to make this work accessible to a wider public, and thus to foster a growing and necessary interest in these delightful plants.

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This is the first of a new series on Botanical Artists of New Zealand Orchids.

1. SYDNEY PARKINSON

(c. 1745-1771)

lan M. St. George

Sydney Parkinson was the son of an Edinburgh brewer, and was himself trained as a woollen-draper. His brother wrote in the preface to his journal, "taking a particular delight in drawing flowers, fruits and other objects of natural history, he became soon so great a proficient in that style of painting, as to attract the notice of the most celebrated botanists and connoisseurs in that study. In consequence of this, he was, some time after his arrival in London, recommended to Joseph Banks, Esq. . . . ".

This was in 1767. Parkinson so pleased Banks with his ability, that when Cook set out the following year in the Endeavour - ostensibly to observe the transit of Venus on 3rd June 1769, but really under secret instructions from the Admiralty to find the great Southern Continent - Parkinson was among Banks's party of nine.

Parkinson was a great worker, and Banks wrote in his diary, "In 14 days just one draughtsman has made 94 sketch drawings, so quick a hand has he acquired by use". When they reached land, the naturalists would fetch specimens back to the ship, and "we sat till dark by the great table with our draughtsman opposite and showed him in what way to make his drawings, and ourselves made rapid descriptions of all the details of natural history while our specimens were still fresh". Parkinson



would make a sketch, sometimes washing in some colours or making colour notes.

He finished a number of drawings early in the voyage, but from New Zealand on he was so overwhelmed with new specimens that he could no longer keep up. His sketches of New Zealand plants show a few details only, with notes on the back.

The Endeavour reached Batavia (Jakarta) in October 1770: she was in a bad way after storms and damage on the Great Barrier Reef, and needed major repairs. Though they could boast that there had been no case of scurvy on board, Batavia's malaria and dysentery now killed more than half of the crew. Among those to die was Sydney Parkinson, still in his mid-twenties, buried at sea in January 1771.

Parkinson's unfinished drawings and notes were accurate enough for others to complete them - Banks employed five artists to complete the drawings, and later eighteen copper engravers took thirteen years to transpose the artist's drawings onto 743 plates. It cost Banks seven thousand pounds.

Banks never published prints from the plates, but on his death in 1820, left them to the British Museum. James Britten had lithographs made from some in 1905, and it was at this time that sets of the New Zealand flora were sent to the Department of Education - the set used by Kirk is now in the National Museum collection, and that of Cheeseman in the Auckland Institute and Museum. Only now is the complete set published in full colour as *Banks's Florilegium*.

Among Parkinson's 952 botanical watercolour drawings and sketches in

the British Museum (Natural History) are seven unfinished drawings of New Zealand orchids. Six have been completed, three by Frederick Polydore Nodder, though the signature has been cut off the other three. (Nodder contributed to various botanical works and in 1788 he is referred to as "botanical painter to Her Majesty".

The finished drawings are of Earina mucronata, Bulbophyllum pygmaeum, Dendrobium cunninghamii (shown here), Thelymitra longifolia, Microtis unifolia and Orthoceras strictum; the unfinished drawing is of Drymoanthus adversus.

Sydney Parkinson was the first botanical artist in New Zealand, and as such is of inestimable importance and interest; but how good was he?

"He proved to be a superb botanical artists and his studies, which are remarkable for their veracity, liveliness and grace, delight both botanical scientists and art collectors", says Gil Docking.2

"The engravings", writes Wilfrid Blunt, "are disagreeably mechanical, but many of the drawings, both in their rough and in their finished states, are of considerable beauty and interest". He was "a very competent and conscientious craftsman" - but he does not rank with the geniuses of botanical illustration.1

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45 Cargill Street Dunedin



Left:

Plate. Dendrobium cunninghammi. Watercolour drawing by Frederick Polydore Nodder from an incomplete drawing by Sydney Parkinson, c. 1769. Reproduced courtesy of the British Museum (Natural History).

PHALAENOPSIS ON THE GRAND SCALE

N. C. Miller

A few kilometres north of Taupo, on a fifty acre site in a pleasant sheltered valley, lies Geotherm Orchids. This family company, with some assistance from the Development Finance Corporation, has established the fifth-largest cut-flower phalaenopsis operation in the world. One acre of greenhouses hold approximately 60,000 plants, of which some 40,000 are in production. (Photo 1). Alistair McLachlan, the owner, has applied science and technology to the art of orchid growing with impressive results.

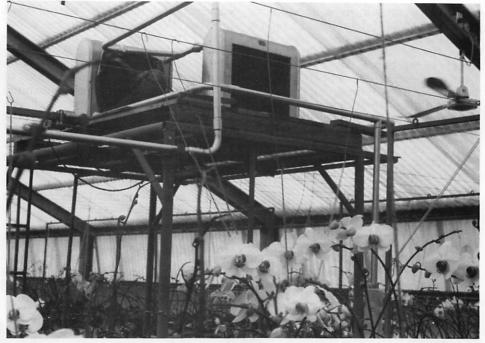


A sea of flower spikes in one large greenhouse

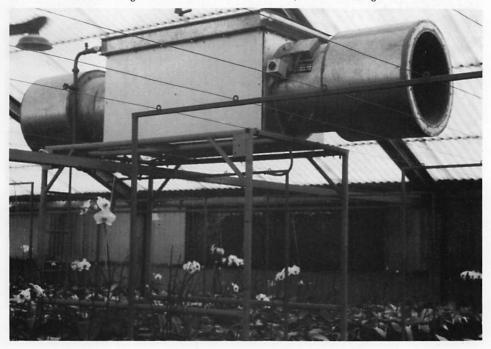
The heart of the operation would surely be the three thermal bores. One, 230 metres deep, produces dry steam at 230 °C and has a capacity of 5 Megawatts! This bore alone could heat 50 acres of buildings. This heat is extracted using low cost radiators. (Photo 2). The second bore, 300 metres deep, produces hot water at 98 °C. This is used in rather more expensive heat exchange equipment to heat a second greenhouse. (Photo 3). The third bore produces high quality irrigation water, naturally prewarmed to 22 °C, at the rate of 25,000 gallons per day.

The entire complex is monitored and controlled by a computer, housed in a most impressive control room.

Despite the large scale of the operation, there are a number of lessons to be learned from it which are of interest to the hobby grower. The



Radiators which extract heat from the dry steam bore, for one large greenhouse Heat exchanger used from the hot water bore, in the second greenhouse

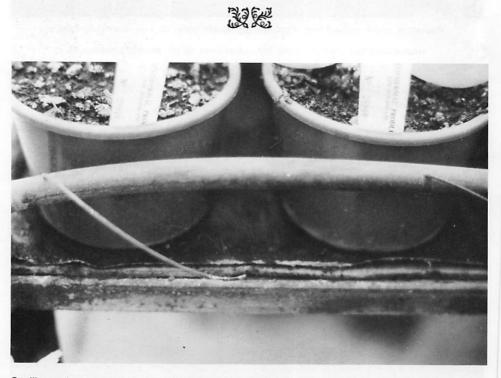


plants are grown in a mixture of Taupo scoria (cheap and readily available) and processed pine bark from the Kinleith Mill. The future supply of this bark is now in doubt, and trials are being carried out with peat as a substitute. Both of these ingredients are used in a rather small grade, resulting in a mix that is much finer than most hobby growers would dream of using.

In addition, dolomite, Osmocote (long and short term) and Fritted Trace Elements are added to the mix. Liquid feeding is not used.

Watering is carried out by the capillary method, as devised at Massey University. Each bench has a solid top (fibrolite) that slopes a very small, but precise, amount from one side to the other. The bench is covered with a layer of felt-like capillary matting, topped with weed control fabric (to control algal growth). Water is applied to the 'uphill' side of the bench via narrow capillary tubes of the type used in trickle irrigation The capillary mat is kept (Photo 4). constantly moist. This method of watering, coupled with the fine-textured mix, results in much wetter conditions than the amateur grower would generally supply to the root system of phalaenopsis. Alistair considers that most hobbyist-grown phalaenopsis are really in a constant state of water-stress. The plants are heavily watered by hand once a week to leach out any salts that might otherwise accumulate in the potting mix and be brought to the surface by the capillary flow of water from below.

The plants are grown at a base temperature of 26°C (this is varied for



Capillary tubes constantly apply water to the bench, where a felt-like mat is topped with weed control fabric

the purposes of floral initiation) in greenhouses sheathed with two layers of horticultural fibreglass (Durolite). On sunny days the light intensity reaching the plants is about 900 footcandles. The inner skin of Durolite reduces problems with condensation dripping from the roof, in addition to reducing temperature fluctuation.

The plants are treated once every week with pesticides, applied by a pulse fogger. Captan, Maneb and Basudin are used, in the wettable powder form, together with a suitable carrier. This technique avoids the spotting of the flowers that can be caused by chemical deposits. Mesurol is added to the irrigation water to control slugs.

This regime results in the rapid growth and flowering of the plants, which generally flower in 18 months from flask. The plants often increase in leaf-span by five millimeters per day, with the flower spikes lengthening by 15 millimeters per

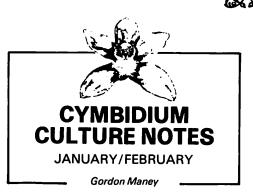


Mr McLachlan knocked a plant out of its pot to show the healthy root system

day. Despite the heavy mix, a healthy root system results (Photo 5).

The great majority of the resulting flowers are exported, largely to Japan. Whites are particularly favoured. Two major crops are taken each year. The cut flowers last up to nine weeks, given the right treatment. The cut stems should be promptly re-cut at a 45° angle, under water. This prevents air from being drawn into the stem. The water in the vase should be changed every four days, and the stems shortened by 25 millimeters (1 inch), again, under water. The flowers should not be kept in the same room as other flowers or fruit that might release ethylene gas. Chrysanthemums are particularly bad in this respect.

As with most export crops, uniformity is important, and the genetic variability of seed-raised phalaenopsis can cause problems. An instructive lesson was provided by three benches of plants, all from the same seed pod, which ranged through whites, various shades of pink, semi-alba and candy-striped. In future, it is hoped that most new stock will be raised by tissue culture, to give a uniform stock. Many of the variations from the export stock will shortly be sold as flowering plants.



I'm sure by now every grower, big and small, has been flat out repotting and cutting up plants that have got too large, etc. I try to look at every plant, one by one because this is the only way to aim for well grown plants and hopefully an abundance of flower spikes. Unfortunately, like most orchid growers, I have far too many plants and instead of each plant having a pot distance between it, they are all jammed together.

Each year I stress that you must never pot on a plant, always repot; that is, discard the old mix no matter how small the plant, it will certainly repay you.

Feeding is very important with growth in full swing, and of course the buds are being set during January, February and March. The early varieties will in some cases be showing their spikes by early February. You should be putting two parts dried blood, six parts super and two parts potash at the rate of approximately 15ml or a tablespoon to a It should be remembered that these cultural methods are used in an ideal environment, and hobbyists should be cautious about applying some aspects of this programme in sub-optimal conditions. None the less they are based on observation of phalaenopsis growing in the wild, in the Phillipines, and are well worthy of study.

Photography: E. M. Miller

25cm pot each month. A little mag-amp as a slow release fertilizer is also a help at this time.

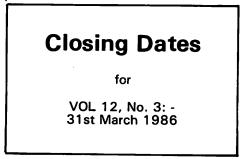
Use also Phostragen as a liquid fertilizer, 5ml to 10 litres. Because with heavy feeding you can get a build up of salts, its most important that you water heavily three to five days later. If using a hose, water thoroughly till the water runs out of the bottom of the pot.

Small plants out of flask, and up to 12 months old, should be shaded a minimum of 50% shadecloth - larger plants 32%.

Thorough examination of plants for scale is important and any showing signs, spray with 10ml of all seasons oil to 5 litres mixed with wettable Malathion powder. Do not spray on a hot sunny day or you'll burn the plants. Spray regularly once a month for red spider and don't let your plants dry out or your houses get hot an stuffy.

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The Handling of Disa Seedlings

George Fuller, N.D.H. (N.Z.)

Growth rate after germination can vary very considerably with individual plants in a batch. Even with good response, sizes after a year can range from 10mm to 100mm in leaf length. There may be special reasons for pricking out earlier, such as undesirable competing growth from slime, moss, liverwort, or weeds, over density, etc., but if all factors are reasonable the seedlings can remain undisturbed for about a year. It is at this stage that one of the virtues of granular, bark-type mixes is realised, especially if germination is dense.

The Mix

The choice may depend on the locality and materials available. Many of the commercially available orchid mixes appear to be satisfactory provided they are not too coarse, remembering that these plants are terrestial (ground dwellers) and must not be allowed to dry out. Cymbidium mixes with the coarser material (over 10mm (3/8")) screened out have proven satisfactory.

If mixing ones own, a guide could be equal parts of bark, pumice, peat, sand, charcoal and sphagnum moss passed through a 10mm screen.

Containers

Seedlings that are large enough can be potted directly into individual containers, something up to approximately 50mm (2") usually being suitable.

Smaller plants can be pricked out into containers of the type used for seed germination but as most will have developed roots it is not necessary to go to such extremes for capillary watering unless the plants are to be left in the care of the inexperienced or attended infrequently and a risk of drying out exists.

Procedure

The tools required can be made by

taking pieces of cane 150mm (6") long and less than the thickness of a pencil and sharpening one end. In more traditional Kiwi fashion, one can take similar lengths of No. 8 wire, sharpen one end and hammer the other into a very useful spatula.

Separation of densely established seedlings with inter-twined roots can be a problem but this is largely overcome by working in a shallow pan of water.

Once in the water in clumps, most of the mix will easily disperse from the roots without damaging them and by carefully holding the leaf of a single plant, still in the water. other seedlings or competing growth can be prised away using the point of the dibber. Tender seedlings densely packed and struggling with each other for light can be safely handled with surprising ease if water is close at hand. A note of warning - don't work in sunlight or strong draught and ensure that the seedlings are not left exposed to drving conditions after separation.

Density of growth and fear of loss through handling have encouraged many to prick out in clumps but this can result in a very frustrating outcome and should be avoided. Each plant of seedling origin has unique characteristics, some of which could be outstanding and therefore make a given plant desirable for selection and propagation individually. In the case of disa, the plants are likely to send out several underground shoots before flowering, consequently those established in 'communities' become a hopeless tangle making identifiable selection of division most difficult and time consuming. Far better to ensure separation at the pricking-out stage.

The mix into which the seedlings are to be pricked out should be at least damp but not saturated for ease of working and depending on size, the spacing should be about 20-25mm ($\frac{34}{''-1''}$). Unless roots are excessively long, (in which case the seedling should perhaps be going into a pot) it is relatively easy to scratch a hole large enough to accommodate without damage.

Watering of the seedlings to achieve maximum saturation of the mix should be carried out at the first opportunity and attention paid to accurate labeling and dating.

Location

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If the seedlings have been struggling for light they will be more vulnerable after pricking out and efforts must be made to reduce risks of burning or drying out. Extra shading and spraying overhead may be necessary temporarily.

Growing conditions for disa, a native of the Cape Town area of South Africa require that the plant should never want for water but that the water be preferably moving, i.e. not stagnant. Temperatures down to freezing can be tolerated at the lower end but better responses come from protection which avoids this. If conditions are too warm, however, any advantage of faster growth-rate may be very suddenly lost by total collapse of plant and tuber, the latter possibly going first.

Provided that humidity is not driven too low, the plants respond well to fairly high light factors, only light shade being required in winter. As a guide, the plants should grow as a fairly tight rosette. Over-exposure to light and low

humidity will result in red coloration of leaves and stems and stunting of development whereas the opposite shows as elongation of soft floppy leaves to almost grass-like appearance, proliferation of sideshoots and failure to build up to flowering strength.

As a guide, a situation behind vigorously growing cymbidiums or perhaps in the shadow of their leaves is a good starting point but care must be exercised to ensure that they are adequately watered and not too shaded.

Many suggest that only rainwater should be used and whereas this is probably preferable, it does not seem to be always the case. Perhaps quantity is more important than quality.

Feeding, preferably with a range of soluble types, always used very weak seems to be acceptable but controls may be advisable until experience is gained.

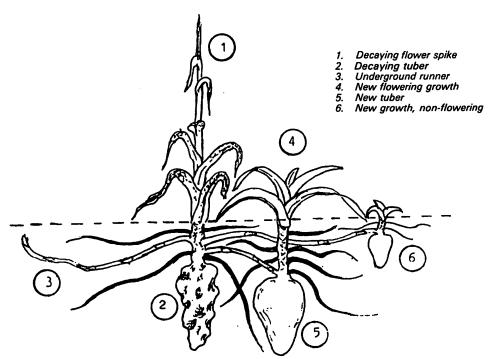
If pesticides and fungicides are to be tried, a trial must be carried out as many materials harmless to other orchids have proven fatal with disa.

Maturity

Growth patterns of seedlings grown under different conditions seem to vary. Those grown cool will start to form a small tuber after about a year but this does not always seem to be the case and may be attributable partly to inherited characteristics. Some will, at this stage, start to send out underground shoots. When grown warm, there seems to be less tendency to form a tuber and none to form underground runners, consequently the plant remains with the original crown which simply goes on increasing in size until it flowers. Again this may, however, be an inherited characteristic resulting from repeated inbreeding within the species and not only climatic. Seedlings should flower from two to three years from sowing in the best growing conditions.

The growth cycle for a mature plant is for all old foliage to die back after flowering which occurs from November to February. At this stage, development

GROWTH CONDITION OF DISA IN LATE SUMMER



of the tuber to sustain the plant through the autumn, winter and spring is already complete and new shoots will be emerging around the base of the old stem and hopefully, throughout the pot.

A new root system will also commence to form near the new tubers and this is the time, February to May, for repotting. Division can also take place and this is simple, since all old mix should be easily dispersed if the rootball is immersed in water and lightly agitated. The sideshoots with accompanying tuber can be easily removed and potted separately. Care must be taken, for the roots are extremely brittle.

Growth flourishes through autumn and winter. By June one can almost predict by size, those shoots strong enough to flower. Because of continued growth, watering must be copious even in winter, if only to maintain movement of water. Unlike most conventional orchids, they don't drown readily though roots must be above a continuous saturation level. Manv failures with disa are probably attributable to a reluctance to keep watering wet plants - the price to be paid for indocrination into growing conventional orchids and a trap into which very clever growers fall. Being an orchid growing expert can be an impediment with disa cultivation. Perhaps it is desirable to forget that they are orchids and treat them like lettuces.

If all has gone well, there will be an impressive elongation of the stem in late spring and flower buds will emerge. With the fast growth, the stem is susceptible to twisting if the pot is moved. A stake may help but shouldn't be necessary and remember, there is a tuber down under.

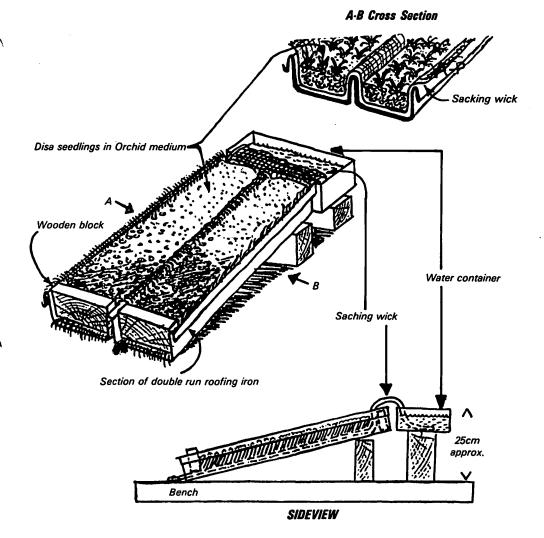
The colourful flowers are produced during summer and last well. Once a plant begins to multiply, a most impressive specimen rapidly builds up.

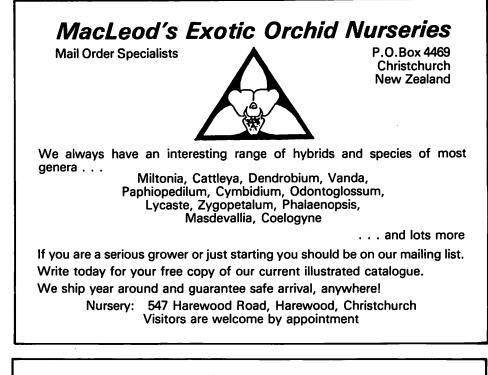
The genus disa is one containing years the average person can have sown numerous species, many of which seed themselves and produced such inhabit dry summer regions and are very difficult terrestials to cultivate. The of its own, ensuring continued interest, above observations relate to the but the secret may be to forget all that cultivation of D. uniflora and its hybrids one has ever been told about growing which, if the methods are understood, are surprisingly easy with minimal facilities. To realise that within three

magnificent orchids, puts disa in a class orchids.

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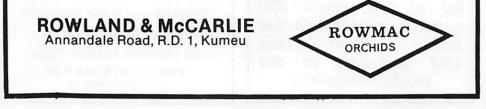


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Prasophyllum colensoi Photography: Bob Goodger

Prasophyllum patens Photography: Bob Goodger



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