



*Central Vancouver Island  
Orchid Society Newsletter  
June 2011*

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*Paphiopedilum* Booth's Stone-Lady 'Prospect  
Lake' AM/AOS 80pts  
(*Paph.* Lady Isabel x *Paph. stonei*) Exhibitor:  
Poul Hansen Photo by Judith Higham

Meetings are held September through June on the Saturday before the 4th Wednesday of each month at the Harewood Activity Centre, 195 Fourth Street, Nanaimo, in the hall on the second floor, doors open at 11:30, with the business meeting starting at 12:00

**Coming Meeting Dates:**

June 18, Picnic July 24<sup>th</sup>, Sept 24, Oct 22, Nov 19, Dec 10

**Program for June 18<sup>th</sup>**

**A New Age – Growing Under Lights**  
By Geoffrey Haywood

**Coming Events:**

CVIOS Summer Picnic July 24<sup>th</sup> at Shirley and Ernie McClare's home in Yellow Point

**Editorial:**

Well this is the election meeting and we didn't do our warm-up in May this year. Not sure who's job that is, but I get stuck with lots so I guess it was mine. Sorry then. I have asked all of the members now holding positions if they want to run again and some have said yes. Others have declined or moved into different positions like Past President. The list of positions I have below along with if there is anyone willing to fill it. I have not named the person just said there is some one. If you would like to have a real election all of the positions are open and any member in good standing may put their name forward. Please think positively about helping out. You will notice the minutes of the last Annual Meeting are printed here again. We need to vote to accept them so here they.

Our speaker Geoff Haywood will talk about looking at growing orchids under the new compact fluorescent lights, how to use them, and how to understand and optimize the light output from them - with particular emphasis on growing orchids in apartments or confined spaces. There will also be some considerations given to the conditions that often go along with growing orchids in apartments or on windowsills.

When the sun does come out now it is very warm and strong so be careful of plants on windowsills where they will burn quickly. Everyone with greenhouses should have shading on by now or you will have a lot of crispy critters dwelling inside. All the new plants from Floralia and H&R should have less light than normal for them until the roots start anchoring them firmly in their media.

Cheers Mike

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**CVIOS Elections 2011-2012**

- President - One candidate
- Vice President –
- Secretary – One candidate
- Treasurer – One candidate
- AOS Show Chair – One candidate
- Past President – One candidate

- 1. Director for Membership – One candidate
- 2. Director for Plant Sales – One candidate
- 3. Director for Library – One candidate
- 4. Director for Newsletter – One candidate
- 5. Director for Programs – One candidate
- 6. Director for Shows -
- 7. Director for Refreshments – One candidate
- 8. Director for Publicity – One candidate
- 9. Director for At Large – One candidate
- 10. Director for At Large –

- AOS & COC Rep -
- Webmaster – One candidate

Nominations will be taken from the floor at the June meeting as usual.

Central Vancouver Island Annual General Meeting  
June 19, 2010

President Bryan Emery called the meeting to order at 12:25 pm.

1. Shirley McClare made a motion to accept the minutes of June 20, 2009 annual general meeting as published. Bev Morrison seconded and motion was carried.

2. Election of Officers for 2010/2011. Mike Miller (acting Vice President) proceeded with the nomination and election of officers process.

The Executive slate for the coming year is:

- President - Bryan Emery
- Vice President - Angie Beltane
- Treasurer - Shelley Rattink
- Secretary - Laurie Forbes
- Past President - Vivian Heinsalu Burt
- AOS Chair - Sue Christison
- Directors: Program Chair - Nancy Miklic
- Newsletter - Mike Miller
- Refreshments - Sandra Lathrope
- Library - Mary Palmer
- Membership - Bev Morrison
- Plant Sales - Donna Mc Donnell
- Publicity - Shirley McClare
- Website - Ralph Kirby ( Don Miklic, assistant)
- Directors at Large: Maureen Hawthorn
- Directors at Large: Rainer Hartmann

Responsibility for organizing shows will be assumed by the Directors.

Hilding Franson moved the meeting be adjourned, Bev Morrison seconded and the meeting was adjourned at 12:40 pm.

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**Does anyone have a large coffee urn that Shirley  
could borrow for the picnic?  
Call her please (250-722-7048**

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Central Vancouver Island Orchid Society  
General Meeting - May 21, 2011

The meeting was called to order at 12:00 noon with 26 members present and Harry from H&R, our guest speaker.

- Shirley McClare moved that the minutes of our April 23 be accepted as printed, Vickie Gay 2nd and motion carried.

- Treasurer Shelley Rattink presented her statement of income and expenses for the month ending April 30. She moved acceptance of her report, Mike 2nd and motion carried.

- There were lots of plants for sale including orchids brought by Harry from H&R, and a great variety of garden plants.

- It was noted that the June meeting and our AGM will take place on June 18, not June 11 as noted in the newsletter.

- There was some confusion regarding our expenditures and a communication problem with Floralia that will cause a delay getting any refunds due from our plant order with them. Mike will continue to work on this.

- Mike Miller asked if everyone had an opportunity to review the changes to our constitution that were sent to the general membership. Hearing that no further discussion regarding these changes was necessary, Sue Christison moved acceptance of the changes as presented, Nancy Miklic 2nd and the motion carried. The new constitution was signed and will be forwarded by the treasurer along with the filing fee.

- Maureen Hawthorn reported on Dora's recovery from her recent surgery and Bryan Emery thanked Maureen, Laurie and Gary for helping care for her orchids during trying times.

- Bryan asked members to review the Phalanopsis Journal that Jerry had brought to a previous meeting to determine if we should subscribe to it for placement in our library.

- The meeting adjourned at 12:15pm. Bryan and Harry talked about the plants on our show table, followed by refreshments and Harry's interesting presentation on The Breeding and Culture of C walkeriana and other plants created at H&R Nurseries.

- The following people agreed to bring refreshments to the June meeting:

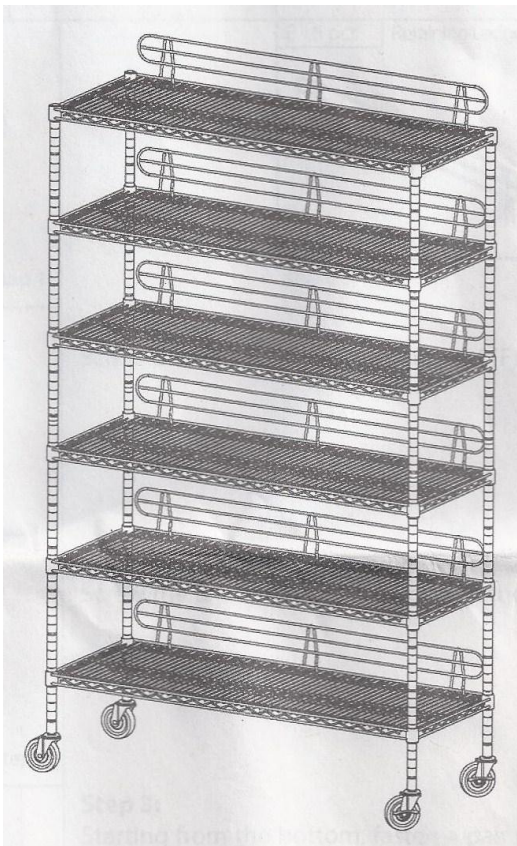
**MARY PALMER, CONNIE GORDON-WEBSTER, VICKIE GAY, MIKE MILLER**

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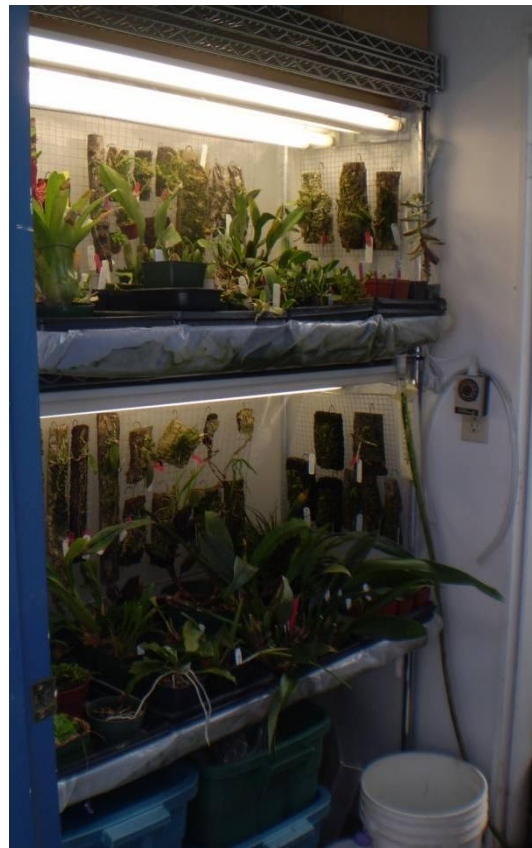
# Making a grow-light setup

Mike Miller

At Cosco there is a shelving unit called: Six-Shelf Commercial Chrome Shelving #18506 [See below]. It costs \$99.00. Step one is to make this purchase and assemble it using only four of the shelves. This would be the bottom shelf for storing tubs of media, pots and other supplies. The next shelf is for the lower shelf of trays to hold plants. Then I used a third shelf for the top growing shelf and to hang the lights for the first plants shelf. Finally a shelf is used on the top to hold the four legs together and to hang the lights from for the top plant shelf. I just placed the two unused shelves on top of the top shelf to store them. This unit has large rubber wheels and moves easily around as required.



**Six-Shelf Commercial Chrome Shelving #18506**



**My set-up in situ showing some detail**

I lined each growing compartment with plastic sheeting so that I could spray the plants easily and not worry about wetting the walls. This was a lot of work and took longer than any other part of the assembling. I used duct tape where it would not show and some fine wires to tag it to the structure. I fitted four seed trays with no drain holes on each shelf and then lay 8 artificial wine corks in it. The plastic was brought up and tucked into the front of the trays before the net-like trays were fitted in so they were sitting on the corks. This made it so the plants could drain into the well so created. Fixing the plastic sheeting into the space was not easy and it looks ok where my unit sits. The plastic goes under the seed trays and then is tucked in the front so all water pools in the plastic. I then added through hull drains to take away the

overflow. See tube from top shelf that runs onto the gravel floor of the greenhouse proper. The bottom growing shelf drains into the white bucket in picture.



**This is the top shelf and shows the slab racks on the back and one end. The potted plants sit in seed trays with drain holes to let the excess water drain to the catchment below. Some of the slabs I have had to place lower down as the T8 lights seem to be too bright for them and leaves were turning a little red. On the bottom level I undid the back tube so the light on the slabs was reduced and that seems to work OK.**

The lights I bought are the thinner T8 ones and I bought four sets of two bulb and hung them in place using stiff wire hooks. The Shoplight model is under \$30 for the two tube fixture. I gathered the wires together and plugged them into a four outlet jack that normally then would plug into a wall outlet, but I plugged it into a timer pressed into the wall outlet.

I also created wire mess rack across the back of each growing level and hung them using wire hooks. I have since realized that these lights give off more light than the older bulbs and your plants should be watched for signs of too much light, ie. red colouring in the leaves and drying new roots.

All the plant I had under the lights before are happy to be in the new set-up and are growing well. I think better than before. Give me a call and come see it for yourself.

June 2011

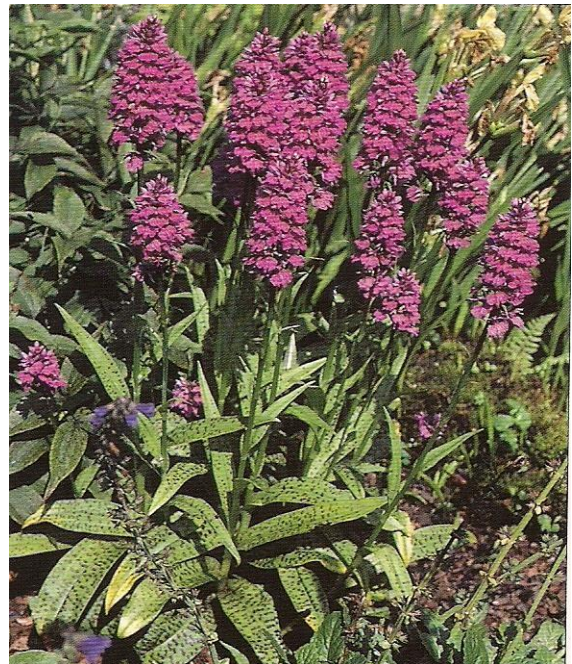
# CULTIVATING HARDY ORCHIDS

Dr Tom Norman describes the cultivation of European hardy orchids, often considered to be among the trickiest 'bulbs' that we grow

This article focuses on the European orchids with paired tubers, in particular the popular genera *Ophrys*, *Orchis*, *Aceras*, *Neotinea*, *Habenaria*, *Serapias* and their allies. *Dactylorhiza* is a partial exception: dactylorhizas, loosely covered by the species *DD. incarnata*, *majalis*, *maculata* and *foliosa*, are often acid 'and moisture' loving plants which have a biology and requirements that differ from their relations. It is equally important to remember the differing temperaments of the growers themselves, who offer widely differing conditions such as the amount of sun or shade, methods of watering, availability of soils and general standards of care. I must also say at the start that it is very easy to be dogmatic, as well as making wide generalizations which are not entirely true. There are exceptions to every rule and there is nothing like an orchid for living up to this maxim!

## The Orchid Year

I will take my starting point for the orchid year as early summer when the previous season's growth has died down. At this stage all that remains is a single tuber (belying the Greek derivation of the name *Orchis*) in a state of dormancy. Root and shoot growth start again in early autumn from a single bud at the top of the tuber and by November the winter rosette of leaves is well established. The single tuber is now nothing more than a food reservoir and is incapable of producing further new shoots. By December it is possible to see the incipient 'new' tuber developing among the roots from the underground part of the stem, the rate of development varying from genus to genus: *Ophrys* tubers are fully developed when the plant is at its flowering peak, but with some *Orchis* and *Dactylorhiza* species the new tuber does not reach maximum size until the flowers are well over. In late spring or early summer the whole plant shrivels and dies, excepting only the new tuber which will carry life forward into the next season.



**Dactylorhizas make exceptionally good garden plants. Photo: Mary Norman**

## Dormancy

As an example of a generalization, growers in this country mainly think of *Ophrys* as being a Mediterranean genus, forgetting our own four native species. There is even one in Scandinavia, having a toe-hold in Sweden. However, as a generalization, it is true to say that we in Britain tend to grow tuberous orchids with a Mediterranean provenance where the summers are usually hot and dry. In undisturbed soil in the wild the growing new tuber pushes aside the

surrounding soil which often forms a firm case around the tuber, probably preventing too much moisture loss. In cultivation too hard a summer baking may produce a shriveled tuber which breaks dormancy late. The ideal situation is an airy site protected from overhead water but where there is still a *trace* of moisture in the soil: this can best be achieved using a covered plunge frame.

## Winter Growth

In the wild this is triggered by falling temperatures and autumn rain which soaks the ground from above downwards, keeping the soil around the tuber moist enough for root penetration and growth. Once upon a time I used to stand all my pots outside in early September to catch whatever rain might fall. They were then, brought back into the greenhouse in October/November, with moist soil throughout the pot and good, even, root growth. The only snag was invasion by worms, which led to soil compaction. This chore has now become too time-consuming, so I simply start overhead watering in the greenhouse in September, causing myself a new problem: difficulty at this vital stage in getting the top layer of soil continuously wet enough for satisfactory root growth. I feel quite sure that this could be achieved by the use of a plunge, or alternatively using a top layer of grit. Why don't I actually do what I preach? For me, plunging would be awkward. Trying to grow too many unrelated plants with differing needs in limited accommodation leads to much moving of pots from place to place, whilst top-dressing with grit exacerbates the other extreme of the problem, keeping the top layer too moist. These may all sound finicky points but it is on such small details that success depends.

## Spring and Summer Growth

The next hazard is sun scorch. In the best of all possible worlds you will have automatic shading which can be used during sunny days from mid-February. Failing this, I whitewash the greenhouse in March, meanwhile endeavoring to give the orchids as much protection as possible from those unpredictable bursts of hot sunshine in late February and March. If the season's whitewash is applied too early it is ruination for the rest of my collection (mainly *Narcissus* and South African Irids) as well as causing gross etiolation of the orchids. Sun scorch both spoils the look of the plant and leads to early dying down before the new tuber has reached full maturity, thus weakening the stock. As with so much else in life it is a matter of choosing the 'middle way'. Finally, watering must be gradually reduced as the plant dies down for summer dormancy.

## Potting and Soil Requirements

Re-potting should be carried out annually, during dormancy. Many of the tuberous orchids grow naturally in alkaline soils, but whether it be an *Ophrys* from a chalky hillside or a *Serapias* from acid scrub, they are not fussy about the potting mixture. This is usually a matter of personal preference derived from much experimentation. I use half to two thirds John Innes No.3, the rest being leaf-mould. To this I add as much grit as I feel is necessary to keep the mix open and free-draining, although 'grainy' leaf-mould is a considerable help in this respect. Clay pots should be used because it is so easy for soil in plastic pots to become soggy and then so difficult to right the situation. Since orchids do not mind being dug up and replanted at any stage in their lives, in extreme cases it may be advisable to replant in a fresh mix if the use of a plastic pot has led to trouble. The main exceptions to these general rules are those dactylorhizas which occur naturally in acid (and often quite wet) conditions. They are much happier in an ericaceous

potting compost, and make superb and freely increasing garden plants where the conditions are right.

## Hardiness

Mediterranean tuberous orchids are surprisingly frost hardy (a generalization again!) but are used to a drier and perhaps less variable climate than our winter produces. Some growers, particularly in the south and south-west of England, have been able to grow *Ophrys et al.* in the open garden with a fair degree of success, particularly in the protection of short turf rather than in an exposed flower bed. As noted above, some dactylorhizas can make good garden subjects. Hardy orchids are good plants for an alpine house. They need free ventilation and ideally should have some protection from hard frosts, not because the plants are likely to be killed but because leaves and flower buds are vulnerable to severe damage from hard frost after living in 'soft' conditions and probably being ahead of the weather outside. This can happen in their own countries where I have often seen flower spikes devastated by late frosts.

## Propagation

It is difficult for the present generation to appreciate the recent surge of interest in hardy orchids and the consequent rapid extension of our knowledge. In 1959 the then Director of Kew gave me details for *in vitro* seed propagation, in strict confidence because it was then virtually a commercial secret! In the 1960s it was still considered an achievement to keep *Ophrys* in continuing cultivation, and there was no certain method for any form of propagation. It was not until the early 1970s that a grower in Germany and another in England published methods for vegetative propagation within six months of each other. There is still far to go before the growers of European terrestrials catch up with their counterparts in the field of tropical epiphytes. As far as I am aware meristem propagation. Until this can be done we have no way for rapid and plentiful reproduction of, for instance, the magnificent x *Orchiaceras* wild hybrids.



**X Orchiaceras; excellent hybrids for pot cultivation**

**Photo: Mary Norman**

## Vegetative Propagation

The new tuber is produced from that part of the underground stem which carries the roots. There are numerous tuber 'buds' but usually only one grows on to form a tuber, although there are well known exceptions: *Ophrys bombyliflora* and *Serapias lingua* both produce up to half a dozen tubers per plant, and other species of *Serapias* often produce two new tubers. However, we now know that plants can be stimulated to produce extra tubers. This can be done by two methods.

First, the summer method, which is very simple and easy. Dig up your plant when in full flower (or for *Orchis* and *Dactylorhiza* when the flowers are over). Cut off the extant new tuber and treat it as for dormancy. Replant the parent plant and keep it growing in a cool place for as long as possible. I do not find it necessary to cut off the seed head. When the plant eventually dies down there should be at least one and perhaps more small new tubers which can be treated for dormancy and grown on in the usual way: for these a too severe summer baking should especially be avoided. The only proviso for this method is that the parent plant should be reasonably vigorous at the time of surgery.

Second, the winter method, which is useful for plants which are likely to be weak at flowering time, but is technically more difficult. Dig up the plant when the rosette is in full growth but before the flower stalk begins to grow: late December is the right time for most *Ophrys*. With a small sharp knife such as an eye scalpel (and this is the difficult part because space is so limited) cut through the base of the underground stalk, detaching the tuber from the growing plant. I find that the best place for the cut is at a point which will leave the tuber attached to sufficient stem to carry one or not more than two roots, so you should find yourself holding the tuber with a minute portion of stalk carrying one or two roots, and the leaf rosette with the main part of the underground stalk and main crop of roots plus, sometimes, a rudimentary new tuber. Both products of the operation should be potted up and grown on in the usual way for as long as possible, keeping them cool as the sun begins to strengthen. The leafy plant should produce a new tuber and may even flower. The detached tuber will not produce top growth, but should give rise to a new tuber. Both sets of new tubers will be quite small and will not flower for a year or two.

## Seed Propagation

From the above it can be seen that the normal expectation for vegetative propagation is just two plants for one in a good season; not exactly a generous rate of increase. Until meristem propagation has been achieved the only way to obtain large scale increase is by the use of seeds. The orchid seed is totally designed for widespread wind distribution, so much so that unlike the seed of any other plant there are no food reserves whatever. It is dust-like and consists simply of a number of cells surrounded by a thin membrane. Given that there are so many seeds to a fruit pod (many thousands) and that there may be several pods to a plant, Nature's expectation for successful reproduction must be even lower than usual. The fact that seed structure has been designed with only widespread distribution in mind ought to tell us much about the evolution and natural habits of orchids but such ruminations are outside the scope of this article.

For the start of growth the seed must have immediate access to nutrients. In the wild state these are provided by mycorrhizal fungi which occur naturally in the soil as well as on orchid tubers. The fungal hyphae penetrate the seed, bringing in the nutrients necessary for cell division

and growth. Very quickly a segmented longitudinal structure called a mycorrhizome develops. This is an intimate mixture of fungal and orchid cells which eventually produces a green leaf and then grows to become the familiar orchid plant.



***Ophrys* make fascinating orchids for pot culture: *O. cilicica* (left) *O. spruneri* (right)  
Photo: Mary Norman**

#### **In vivo.**

For once, there have been no changes in recent years. I prefer to sprinkle fresh seed, at the start of dormancy, on the surface of parent or other orchid pots, and then lightly scratch the soil surface. The pots are then treated as for the adult tubers they contain. I have found that sowing seed on or near the dormant tuber gives NIL germination: possibly the fungal mycelae are too numerous and 'eat' the seed before symbiosis can become established. With watering starting in early September the first green leaf may be expected in December. Life then begins to follow a normal pattern. The mycorrhizome is the equivalent of the 'old' tuber in an adult plant and produces a tiny tuber for the following season. Flowering can take place in as short a time as two years from the first watering of the seed, though dactylorhizas can even flower in the first year. It should be noted that mycorrhizomes can persist in the soil, with no green leaf, for one or more years, and that an adult plant can return to the mycorrhizome stage, thus giving a resting stage for a year or more. These are personal experiences. At one stage I was obtaining germination in about 10% of sowings, sometimes with several dozen mycorrhizomes in a single pot. Unfortunately, there is still no *certain* method of obtaining germination on the greenhouse bench but I feel sure that this is where the next major breakthrough must surely come.

#### **In vitro.**

In the absence of a fungus, nutrients can be provided artificially to stimulate cell division and growth, and this is where such huge progress has been made in the last few years, very largely thanks to the Sainsbury Orchid Project at the Royal Botanic Gardens, Kew. The stage has now been reached where instead of sowing many seeds on chemically enriched agar jelly, with all the follow-on difficulties of introducing the seedlings to soil culture, a very few seeds are now sown on agar already containing the appropriate fungus. This is a highly specialized subject requiring laboratory proficiency as well as greenhouse expertise. For further information

I suggest membership of the Hardy Orchid Society, a young and active society whose publications cover the subject very thoroughly.

## Pollination

With a pair of fine forceps, pick up a pollinium by its stalk and place it head first in the sticky stigmatic hollow. At last, something that is simplicity itself! It is always said that germination is better from pods that are still green and have not started to dehisce, but I have usually used dry seed from ripe pods, sown immediately.

## Diseases

I used to think that hardy orchids were a disease-free group. Now I know better! To begin with, as in a hospital ward, they can pick up infections from their neighbours, so if grown with a general collection the health of their benchmates is just as important as their own. *Virus infection* can easily be transmitted and at the first sign, whether on an orchid or another plant, and however heartbreaking this may be, the victim must be put on the bonfire. As soon as I notice the chief vector, aphids, I spray with a systemic insecticide. This season I have discovered mealy aphids in a stock of *Serapias* I have had since 1973. The pot has now been placed outside and I hope that a soak in Malathion solution during re-potting will be effective. (Mealy aphids are very quick to pick up immunity to systemic insecticides.)

The commonest affliction for pot culture is Collar Rot. This starts not in the centre of the rosette but in the prophylls and bases of the outer leaves. It therefore seems to me that the trouble is equally likely to occur using any form of overhead watering, whether by a rose or by carefully running the water in from the edge of the pot, so we are back to plunging again. I feel sure that if pots are plunged and always watered from below, then collar rot should not infest plants. I have never seen collar rot in a wild orchid. Why? If symptoms are seen early enough the plant can be saved. It was my late and much missed friend Graham Lovell who taught me that if disease (a slight wilting and perhaps discoloration of the outer leaves) is noticed in time it is possible to effect a cure. All diseased tissue is carefully removed and the leaf bases powdered on the outside with whatever fungicide is currently available. Captan is effective if you can find a supply.

Far worse is *Dactylorhiza* Rot, which seems to be specific to the acid soil and moisture-loving group. I have consulted Kath Dryden, who has done much research on this lethal affliction. It appears to be soil borne and is the plant equivalent of anthrax. The first signs are black marks on the dormant tuber. The season's growth is normal until flowering time when the plant collapses in a black mush at the base. There is no treatment. The plant remains must be burnt and the pot and potting mixture sterilized. When the disease occurs in open ground the area must not be replanted with dactylorhizas for an indefinite number of years: as yet we do not know how long the infection remains in the soil but it certainly does persist for some years. Since cure is impossible it follows that prevention is essential. All *Dactylorhiza* introductions belonging to the susceptible group must be kept in quarantine until the tubers have been thoroughly examined. Doubtful tubers must either be burnt or kept in strict quarantine for a year.

Another rot, this time a dry one, is Black Disease of Tubers. At dormancy tubers may show suspicious black streaks and furrows. During the growing seasons the plant usually appears to be fairly normal, though dying down may be a little premature. This near normality camouflages what has been happening below ground, where it will be found either that the new tubers are dead, in the form of dry black knobs, or else that they are alive but heavily marked

with black streaks and even patches. The disease can be kept under fair control by a heavy dusting with Captan during dormancy. Unfortunately, this may have to continue for a period of several years, sometimes causing serious weakening of the orchid plants, especially *Ophrys* species, presumably due to inhibition or death of the associated mycorrhizal fungus. I have been unable completely to eliminate the disease from my collection. In early days I made the bad mistake of using 50% of old soil when repotting, with the idea of perpetuating the mycorrhizal fungus. This was unnecessary because the fungus is carried in the tubers and the routine merely served to perpetuate the pathogen. I suspect that I brought the trouble from Spain in 1972: I have since noticed wild tubers from the same region with an apparently similar infection but with no obvious damage to top growth. Over the years I have given very many tubers to other growers. Since some of these must surely have been infected and I have received no reports of disease from the recipients, there must be a fault in my management.



**A potful of *Orchis longicornu*  
Photo: Mary Norman**

### Nomenclature and Books

When I first became seriously interested there was only one book available (and not a very satisfactory one at that) on European and Mediterranean orchids. Now a new book is almost an annual event, and names switch backwards and forwards as the botanists change their minds about name publication priorities. I still like Sundermann's 'Europäische und Mediterrane Orchideen' (probably out of print) and Paul Davies' 'Wild Orchids of Britain and Europe' (available in paperback), but my travelling companion and desk book is K. P.

Buttler's 'Field Guide to Orchids of Britain and Europe' (currently available in the English edition from the Crowood Press). If you stick to Karl Buttler's names you will be understandable both to your friends and to high-powered botanists. Do try to learn the Latin names: they may be difficult to begin with but the effort is very worthwhile to avoid using the meaningless English names applied arbitrarily to foreign plants. For other aspects and views on Hardy Orchid culture, and covering the whole range of genera, 'Hardy Orchids' by Phillip Cribb and Christopher Bailes is essential. These are what I would call working books: for the connoisseur there are very many more.

Quarterly bulletin of the Alpine Garden Society, vol.66 No.3, September 1998

# CLEISOCENTRON MERRILLIANUM (AMES) CHRISTENSON

Harry Zelenko Photos by: H. Zelenko & A. Hirtz



*Harry Zelenko moved to Cumbaya, Quito, Ecuador from New York City three years ago after many trips to Quito over the past decade. He lives there much of the year and raises about 6 - 7,000 orchids (mostly species), including seedlings propagated in a small laboratory in his home. He is the international contact for the Quito Orchid Conference & Show planned for February of 2004.*

Every person interested in orchids finds blue orchids fascinating, as much for their rarity as for their beautiful color. However most "blue" orchid flowers are considered to be shades of lavender and purple "trying to be blue." A recently discovered *Maxillaria* from Peru has blue and white flowers, its hue being somewhere between ultramarine and Prussian blue. I have seen flowers of *Dendrobium victoria-reginae* ranging from sky blue to deep blue with a slight purple cast. Other blue-flowered orchids were featured in a recent *Orchid Digest* article. I know of only one orchid in the world, *Cleisocentron merrillianum*, whose diminutive flowers are a delicate aqua blue.

*Cleisocentron merrillianum* is a member of a group of five or six *Cleisocentron* species found in Burma, Vietnam, and Sabah in northern Borneo. It was formerly known as *Sarcanthus merrillianus*, and more recently as *Robiquetia merrilliana*. On Mount Kinabalu in Sabah, it is usually found growing in montane forest, often on moss-covered trees at elevations ranging from 1100 to 3000 meters. In cultivation, the plant seems to do well with warm to intermediate temperatures, ranging into the low 90s°F during the day down to about 60°F at night.

The flowers of *Cleisocentron merrillianum* can vary in color from pale grayish-pink to aqua blue. The plant that I am cultivating, shown in the photographs, has blooms that are aqua blue with a touch of lavender at the base of each flower.

A flower cluster, one inch in diameter, appears on the terete leaves every five or six months, emerging about two inches apart running up the main stem. Although each flower is by itself rather small, a round cluster of 36 to 40 flowers on an inflorescence is a beautiful sight to behold. I'm not usually into making hybrids, but I've often wondered whether the aqua color would be dominant in the progeny if *Cleisocentron merrillianum* were crossed with a white phalaenopsis.

**Orchid Digest, Jan.-Feb.-Mar., 2003**