



The Hardy Orchid Society Newsletter,

No. 6 October 1997

CONTENTS

- p. 1 Committee news and information on next meeting
- p. 3 HOS Photographic Competition
- p. 4 HOS Show report
- p. 4 HOS Fieldtrip report
- p. 7 Forthcoming trips
- p. 7 Flasking forum
- p. 8 Cultivation of *Cypripediums* - part 1
- p.16 Favourite Orchids
- p.18 Letters and other news
- p.19 Advertisements

extra sheets - Seed and Fungus bank
Show rules update
Tear off form for next meeting

COMMITTEE NEWS

Richard Manuel

Members may be interested to know that Richard Bateman's (together with 4 co-authors) first paper - he says the least interesting - on his current research into DNA sequencing of orchids, the subject of his fascinating talk at the May meeting, has now been published in *Lindleyana* 12 (2): 89-109. The daunting title is "Phylogenetics of subtribe Orchidinae (Orchidoideae, Orchidaceae) based on nuclear ITS sequences. 1. Intergeneric relationships and polyphyly of *Orchis sensu lato*". Please send requests for offprints to him at Royal Botanic Gardens, 20A Inverleith Row, Edinburgh EH3 5LR.

The Autumn meeting of the HOS will take place on November 29th 1997 at Pershore & Hindlip College (formerly Pershore College of Horticulture). Most details are as usual. Attendance is free but all refreshments must be paid for: lunch plus morning and afternoon tea or coffee will cost £10.00 and must be paid for in advance (see the form at the end of the newsletter). Tea and coffee can be bought over the counter, separately, if required.

If you intend to come but wish to make other arrangements for lunch please let me know anyway.

The meeting will start with a brief EGM. The purpose of this is to consider and vote on:

A) A committee proposal that: "the Show Rules do not constitute part of the Society Rules". This is to make minor changes and fine tuning easier for the committee in future, as we will not have to submit them to an AGM or call an EGM to make any alterations.

B) If proposal A is not passed, the committee proposes that the meeting vote to approve the revised Show Rules as laid out in the enclosed sheet; but we hope this will not be necessary.

AUTUMN MEETING - Saturday November 29th 1997 at Pershore & Hindlip College, Pershore.

Provisional Programme

9.00 am Arrival. Coffee/Tea available 9.15 - 10.15. Sales Tables and Photographic Competition in upstairs room. Lots of informal chat. (Brief committee meeting at 9.45)

10.30 am Extraordinary General Meeting.

10.35 am approx. An Introduction to Australian Terrestrial Orchids - Richard Laurence. *early sept - early Oct*

11.20 am Orchids of Sardinia - Simon Andrew. *early-mid April*

12.00 am Viruses in Orchids - the story so far - Colin Clay, Horticulture Research International, Wellesbourne, Warwick.

1.00 - 2.00pm LUNCH

2.10 pm Orchid oddities - Alan Blackman

2.45 pm A Photographic Forum - Paul Harcourt Davies

4.00 pm Tea/Coffee, and more informal chat

5.00 pm End of meeting.

Under the new arrangements, agreed at the last AGM, sales tables will be available to anyone who has lots of plants or whatever for sale at a flat rate of £10.00 per table.

In addition there will be a 'Society Table' on which any member can place one or more plants for sale, on the basis of 10% of proceeds to the Society. Please make sure that such plants are clearly labelled with species name, your name and price.

The Photographic Competition is open to all, please don't be shy of entering in any category. We want this to be a successful event but this relies on a good number of entries from you, the members. See Tony Hughes' notes below.

HOS 1997 PHOTOGRAPHIC COMPETITION

Tony Hughes, Show Secretary

The first HOS Photographic Competition will be held during the November meeting at Pershore. For simplicity, it will be for PRINTS only - no transparencies this time. To make it cheap and easy for everyone, three classes will be for standard 6 x 4 inch (15 x 10 cm) prints and, to make it really spectacular, three more classes will be for enlargements. The classes are as follows (print sizes are only approximate as they vary between processors):-

1. An orchidaceous landscape, print size 6x4 inch
2. A single orchid plant, print size 6x4 inch
3. A close-up of a single flower or spike, print size 6x4 inch
4. An orchidaceous landscape, print size 10x7 or 10x8 inch
5. A single orchid plant, print size 10x7 or 10x8 inch
6. A close-up of a single flower or spike, 10x7 or 10x8 inch

NOTES

- 1) All prints must be unmounted, so that we can insert them in transparent plastic pouches for protection when on display.
- 2) The sole judging criterion will be 'Is it a good orchid photograph?', though the technically minded may like to consider composition, lighting, focus, exposure etc. You will get no credit for the rarity of the plant!
- 3) Plants photographed for classes 2, 3, 5 and 6 may be wild or cultivated, though only 'hardy' plants are acceptable - no tropicals!
- 4) Each entrant may enter up to three photos in each class, though may receive only one award per class.
- 5) We hope to persuade Paul Harcourt Davies to be the judge (then he won't be allowed to enter and the rest of us may have a chance!)
- 6) Advance entry is not required, but all entries must be staged by 10.am, so that judging can be completed before the meeting starts.
- 7) I believe that Jessops (many high street stores) and Max Spielman (FREEPOST, P.O.Box 113, Liverpool, L69 4DT) will do 10 x 7 enlargements from negatives or slides for about £2.
- 8) There are no prizes - we want to keep this a friendly competition! - but winners will receive honourable mention in the newsletter.

HARDY ORCHID SOCIETY SHOW REPORT, 10th MAY 1997

Tony and Diana Hughes

Hearty thanks to all of you who brought such magnificent plants to Pershore. The show turned out to be a 'real cracker'. I think everybody (including Kath, our judge) was highly impressed by the individual entries and the fine display they made collectively. Particular congratulations go to Peter Corkhill who not only won 3 first prizes but also got 'Best in Show' for a pot of *Cypripedium* - an absolutely super plant in prime condition.

For those of you who like statistics, we had 26 entries from a total of 13 members. It would have been 29 entries from 14 members, but one person got stuck on the motorway! When we found that nearly a third of the entries were in the same class, we took Kath Dryden's advice and split Class 2 (1 pot hardy orchid) into two parts, one for the *Cypripediums*, and the other for 'the rest'. But even then we only had entries in 11 of the possible 31 classes. The plants on show broke down among the genera as follows: *Cypripedium* 11, *Serapias* and *Orchis* 7 each, *Ophrys* 2, *Dactylorhiza*, *Pterostylis*, *Pleione* and *Aceras* 1 each. Maybe this will guide the committee when devising the schedule for next year's show.

Thanks are also due to those who brought items for the 'exhibition' area. The range was quite diverse and a great deal of interest was aroused throughout the day, particularly by the photos of Cyprus. I think this is an experiment we should repeat.

The only personal black moment in an otherwise excellent day came when the Acting Show Secretary overheard the Judge dismissing his only entry with the comment "very poor"!

HOS FIELD TRIP TO NORTH DORSET, 8th JUNE 1997

Tony and Diana Hughes

A somewhat wet and windy Sunday morning greeted the 16 or so members who met at Norman Heywood's for this year's second field trip. First stop for the convoy was at a farm near Sturminster Newton to visit a privately owned water meadow. We were fortunate to be escorted by Martin Jenkinson (of 'Wild Orchid of Dorset' fame), whose knowledge and enthusiasm did much to raise our spirits in the rain! The meadow is no longer managed in the traditional manner with controlled flooding in spring and autumn, but nevertheless remains very wet (especially around knee level!), providing good conditions for many types of moisture-loving plants.

Martin explained that the only orchids present were Marsh Orchids, all of which should be regarded as sub-species or varieties of Dactylorhiza majalis, thus confirming that he has little sympathy for the 'splitters'! The majority were the Southern Marsh Orchid, D. m. praetermissa. However, among them were several examples of the Leopard Marsh Orchid, D.m. junialis (or D. m. pardalina, according to some), characterised by its heavily blotched leaves and more strongly patterned lips. The final variety, D.m. trausteneri, the Irish Marsh Orchid, was less common. In fact, although several specimens exhibited some of the requisite characteristics of the standard form (thin stems, only 3 sheathing leaves, purple bracts and upper stem, pointed three-lobed lip, etc.) no specimens were found with all the necessary characteristics. Unfortunately, the recent dry conditions had not been kind to the orchids, many of which had been unable to develop their flower spikes to their full magnificence but, nevertheless, there were plenty of fine specimens to keep us fully absorbed.

When we eventually grew tired of contemplating Marsh Orchids, there was much else to maintain our interest. The stands of the Common Meadow Rue, Thalictrum flavum, were particularly fine, looking rather like Meadow Sweet, Filipendula ulmaria, from afar, but readily distinguishable at close range. Around the stands of Meadow Rue, many solitary purple heads of the Meadow Thistle, Cirsium dissectum, were to be found, together with the large seed heads of Lesser Valerian, Valeriana dioica. Then there were the dragonflies, with large numbers of the blue damselflies (probably either Azure or Common Blue), a few Blue-Tailed Damselflies and a solitary, recently emerged 'hawker' which might have been a female Emperor Dragonfly (Anax imperator).

We then moved on towards our next destination of Fontmell Down, pausing briefly in the car park at Sturminster Newton ('to visit the bog orchids' as someone rather rudely remarked!). After a welcome picnic lunch on arrival, we strode off refreshed in the rapidly improving weather, through rich farmland at the base of the downs. Soon we reached the steep, uncultivated slopes of the rolling chalk downs, and here a wealth of orchids greeted us among the short downland grasses. Most prolific were the Common Spotted Orchids, Dactylorhiza fuchsii, including at least half a dozen 'var alba' specimens with white flowers and totally unspotted leaves. Pyramidal orchids, Anacamptis pyramidalis, and Fragrant Orchids, Gymnadenia conopsea, were also plentiful, though many were not yet fully open. These were interspersed with fine specimens of Twayblade, Listera ovata, growing as strongly in full sun as in the shade of the scrub. Several specimens of Butterfly orchid had their pollinia closely inspected, but all turned out to be the 'Greater' species, Platanthera chlorantha.

Unfortunately, not all our hopes were fulfilled. This particular site is noted as probably the only British location

for the 'var bicolor' form of the Bee Orchid, Ophrys apifera, but 1997 turned out to be the wrong year for it - not even a leaf could be found in the area it is known to favour. In fact, even the normal form of the Bee Orchid proved quite elusive, with only two flowering plants and one in bud being found, and the best of these was outside the Reserve!

We must have walked along this scarp for nearly half a mile, revelling in the vast numbers of orchids and other chalkland flowers present, when our leaders insisted that we climb much higher up the slope. This didn't seem like a very good idea, particularly as we were now sweltering in hot sunshine and the orchids thinned out rapidly as we climbed. We passed a small area surrounded by a rabbit-proof fence, intended to protect the food plants (primroses and cowslips) of the Duke of Burgundy butterfly. However the wind was too strong for them to be on the wing and none were positively identified, though some form of Tiger Moth tried very hard to fool us. Finally, having reached the required contour, we were lined up with military precision and instructed to walk slowly southward until we found Burnt Tip Orchids, Orchis ustulata, that had been seen there occasionally in recent years. We failed!

At this point some of the party decided to explore further areas of the Downs, while others preferred to sit down and rest in the sun. The 'siesta' group had little further to report on the flowers, having turned to ornithology. A family of three buzzards called and soared over the scarp, presumably checking which of the prostrate bodies could be classed as carrion. A fine pair of Yellowhammers posed on a bare hawthorn branch and a gathering of Long-tailed Tits flew noisily to and fro in the hedge - while a Green Woodpecker laughed in the woods.

For the masochists, the extended walk proved most interesting, but not for orchids. These were rather sparse in the rabbit-infested areas we passed through, so we had to make do with lesser plants. Almost immediately we came across some Common Valerian, Valeriana officinalis in full flower unlike the morning's Lesser Valerian. A woodland section then revealed several white-flowered specimens of Herb Robert, Geranium robertianum, and some very vigorous examples of Hound's Tongue Cynoglossum officinale. One open area had some magnificent groups of Viper's Bugloss Echium vulgare and another recently descrubbed area had been colonised by Common Gromwell Lithospermum officinale. Everywhere there were now butterflies. Under the trees were Speckled Woods and Brimstones, and in the more open areas we found a single Green Hairstreak and several types of Skipper. Dingy and Grizzled were definitely identified, but the commonest had to be dubbed 'Intermediate' because none of us could remember the diagnostic differences between the Small and Large Skipper! But best of all were the 'Blues', with the few Small Blues and a solitary Brown Argus looking rather sombre alongside the Common and Adonis Blues

that were so plentiful. Once again, seeing the brilliant iridescence of the Adonis Blue is unlikely to be forgotten.

Having completed a circular tour, we returned along a more shaded part of the original site, only to find that we were at least a week too late for the dozen or so White Helleborines, Cephalanthera damasonium. It didn't seem to matter, though, as we had feasted our eyes on so many other delights. And so we returned to our cars to make for our final destination, the Heywood's garden, where we were treated to a tour of the seedling production facilities and some most welcome tea and cakes in the late afternoon sun on the patio.

Everyone agreed it had been an excellent day, and many thanks are due to Martin Jenkinson, our guide, for making it all so interesting, and to Norman Heywood for making it all possible.

HOS Orchid Trips for 1998

Paul Harcourt Davies

Following the success of the trip to Cyprus in 1997, a repeat visit is on the cards for 1998, provisionally planned for 2 March - 11 March. This time it will take in two areas - the Akamas peninsula, giving us the chance to look at last years terrain, and the Pitsillia region for access to the southern Troodos chalk hills.

For those who enjoyed last years visit and, of course, any new recruits a tour is planned for Crete approximately 28 March - 7 April. We shall stay in Chania which gives us access to the western end of the island and the white mountains and then move south to Spili. As well as Cretan orchids there should be the chance of tulips and numerous other bulbs and Cretan endemics.

These are being costed at the moment by Noel Josephides of SUNVIL Holidays who will handle all the arrangements. Prices will be based on a minimum group size of 6 people and a maximum of 15. I am promised these costings by the time the bulletin appears in your mail box.

The recipe is the same as last year - great orchids in superb scenery with excellent companionship - novices be assured talk is NOT restricted to everything orchidaceous, HOS members have very wide interests.

Anyone interested - please get in touch with me directly by telephone, fax or e-mail and I will give you specific details.

Telephone or fax
e-mail

01446 774639
hiddenworld@pipex.dial.com

FLASKING FORUM

These final few paragraphs of Richard Manuels series of articles were somehow missed from the last edition of the newsletter and so are here to complete the last page of the 4th article. The error is very much regretted.

The final page should read:

The final requirements for competent sterile work is to be thorough in your preparations:

Plan what you are going to do; list and collect together all the tools and materials you will need - every little thing - before you start work.

Label your dishes and flasks in advance. Then you will know what to put where, which fungal culture to inoculate in which flask, etc.

Think about all possible sources of contamination; don't work if you have a cough or cold! (Although one advantage of the flow cabinet is that you are breathing very clean air and you never feel the need to sneeze or cough while doing it!)

Don't rush!!!

Lastly, a final word of warning: The organisms that can contaminate nutrient agar are mostly harmless to people, but it ain't necessarily so! You could find you are culturing something dangerous to your health, or even potentially lethal. There is no way to tell, so don't leave contaminated plates lying about: give each one a dose of 10% bleach to kill the micro-organisms before you dispose of them. I am not sure what are the legal requirements for disposing of such cultures in a domestic situation, but I assume it is best to get rid of the used, sterilised agar onto the compost heap or to the dustbin in a sealed plastic bag. In a laboratory it is a requirement that all such cultures are killed by autoclaving before disposal.

CULTIVATION OF CYPRIPEDIUMS - PART 1

Peter J. White

My interest in growing Orchids actually started in 1980 when I first started keeping tropical Orchids while working in Trinidad. Although I had a casual interest in them long before this, which was enhanced while working in the Shetland's where I had the opportunity to photograph many of the local species. Like many, I always assumed that it was impossible to keep terrestrials until 1988 when, while working on a site in Scotland I had the chance to rescue a single plant of

Dactylorhiza maculata which was unceremoniously dumped into a pot and taken back to my digs with the intention of finding a new home for it, needless to say this did not happen and the following year I returned to Devon with this plant in tow. Although not ideal conditions, it did thrive and even multiply in my greenhouse along with my tropical Orchids. I still have this plant but it is now growing in the garden. Although I do have an interest in growing and breeding all species of Hardy Orchids, my main interest remains with the genus *Cypripedium*. The following notes have served me well and I hope will help others to have success with this genus. Although these techniques suited me well down in sunny Devon they may not suit everyone and because of this they may require further modification for other parts of the country - Good Luck.

CONTAINERS

Almost any container can be used for potting *Cypripediums* provided it affords good drainage. At one time I always used plastic pots but I am now gradually changing over to clay pots and tubs for most hardy orchids and I consider them a definite must for *Cypripediums*. The two main reasons for this are: 1. being porous helps keep the root system cool by the process of evaporation through the sides of the pot - particularly useful and certainly important when *Cypripediums* are kept in a greenhouse, one drawback is that it obviously does entail more frequent watering, and 2. clay pots are ideally suited for burying in the garden as described later under DORMANCY and elsewhere. I find that the shallow half clay pots are the best for this purpose.

Orchids that I keep in the garden are planted complete with pots, as I find that this allows perfect control over the watering and feeding. Also the growing medium can be easily changed or adjusted to suit various different species. As we already know, some prefer more acidic conditions whereas others require extra lime. Some grow better with more humus while some can be grown with none at all and so on. Another bonus is that pots can easily be moved without disturbing the plant - this is useful for instance if a certain species is receiving too much light and the leaves are starting to brown off at the tips (not to be confused with die-back of the leaf tips often associated with overfeeding).

One important factor is to place a layer of gravel over the bottom of the pot to facilitate drainage. I also place a piece of fine mesh over the holes to keep the nasties out, especially woodlice that find conditions in the bottom of the pot to their liking and usually repay this kindness by nibbling the growing tip of the roots if they can get at them. The single hole in the bottom of the pot can be enlarged but this is not really necessary considering the porosity of the clay pot.

GROWING MEDIUM

In the past I have used all sorts of ingredients and concoctions for making up composts but in recent years I have been trying to steer away from using soil in the mix. At present I have three different mixes on the go. I have Cyp. pubescens in coarse silica sand and gravel with a very small amount of soil and peat and a good portion of beech leaf mould added. They have not been repotted for three years and have multiplied from three to fourteen in that time. The second and third mixes contain Seramis as the major ingredient. The second has a small amount of soil with leaf mould and fine bark. The soil has been omitted from the third mix which contains the following:

6 parts Seramis
2 parts fine bark *
2 parts sterilised beech leaf mould
1/2 part limestone chips #

* - fine seedling bark = bark + charcoal + perlite

- limestone chips are omitted from species requiring a more acidic background and replaced with pine duff / needles and/or oak leaf mould which would also replace the beech leaf mould.

At the moment I have Cyp. macranthum, manchuricum and segawai potted in this mix and all are growing away well with the former, at the time of writing (April 20), in flower - but it is clearly early days yet.

LIGHT

Light is a fairly simple but important factor which must be taken into account. A few hours of early morning or evening sun is most beneficial or through the day if well shaded. The plants will accept more light to their advantage if the humidity is kept high with good air movement. Cypripediums will soon tell us when they are receiving too much sun as the leaf tips will go brown or in very severe cases the whole leaf will go brown or even black. Although unsightly, this is not the end of the world as the plant will return again the following year.

Too much light:

The leaves will be a pale yellowish-green indicating that it must be moved to a shadier location, simple if grown in pots buried in the garden, if not then extra shading will have to be brought to the plant. It is likely that more growths will be produced the following year with higher levels of light but they will be shorter and will produce pale washed out flowers or they may even fail to flower at all.

Too little light:

Too little light on the other hand will produce tall stately plants with darker flowers but with fewer growths the following

season, and eventually these too may fail to produce flowers. These plants will have to be moved into an area of lighter shade. Eventually the plant may fail to reappear at all if light levels are allowed to remain continuously low.

As can be seen from the above, a compromise has to be reached between the two to find the ideal quantity and quality of light for each particular species, this can only really be done through trial and error, or the purchase of a light meter. However this will not tell if the amount of light is suitable, again some trial and error will have to be used in conjunction with the meter to determine the correct amount of light for each different species in the first instance, but never the less it is still a very useful tool.

The use of artificial lighting in the greenhouse for orchids and particularly for the growth and wellbeing of seedlings will be discussed in another article as this subject can become quite involved.

TEMPERATURES:

Another very important factor and certainly not quite so easy to control as the quality of light, heat stress can be a problem particularly in conjunction with high intensities of light. In the greenhouse this can be controlled with shading and good air movement around the plants. High humidity created with mist sprays will also assist in not only lowering the temperatures in the greenhouse but also the media in the pots and in turn the root zone, which then allows for a greater photosynthetic capacity. However with outdoor conditions we have very little control over the temperatures and so the light levels will have to be adjusted to compensate for this. This is particularly important for some of the cooler growing species which will soon show browning of the leaf tips through heat/light stress as well if conditions are not to their liking.

Probably the most important consideration concerning temperatures and Cypripediums is not so much the heat around the exposed parts of the plant but the temperatures around the root zone which must be kept cool at all times to produce happy plants, it will also produce plants with a greater tolerance to the heat of the summer. This is relatively simple outside in the garden but not so in the greenhouse where pots can very quickly become overheated. Here we can be helped in this endeavour with this good old stand-by - leafmould - with its insulating properties, a good layer placed on top of the pots will help keep the suns rays from heating the media too much. Other methods will be mentioned in a later article on "Observations on Cypripedium".

Winter temperatures are dealt with under DORMANCY.

WATER:

Clean rain water is always used for watering, feeding and when

using fungicides and insecticides etc. Never having used tap water on hardy orchids, I have no first hand knowledge of it's effects on Cypripediums or other terrestrial orchids for that matter. I have used tap water on tropicals with no immediate ill effects although I have noticed that the root system always appeared healthier when using rain water by itself and this was certainly more apparent with small seedlings. The pH is always adjusted to around 7.0 to 7.2, except for plants that require a more acidic background. These are usually watered and fed after the others have been seen to when a final adjustment can then be made to between 6.5 and 7.0 with the addition of a few drops of nitric acid or similar, if the change is only slight. Liquid Humus would also be useful.

Rainwater will often become a scarcity, particularly during hot dry summers thereby making some sort of storage a necessity where large volumes of water can be stored for long periods. It is essential that whatever types of containers are used that they are covered not only to keep out leaves and other debris but to keep contents in the dark, this is very important to eliminate the growth of algae and other contaminants.

The water in my tanks comes from the greenhouse roof and passes through a filter material to remove any debris prior to entering the tanks. I use a heavy duty Geotextile material that we use in civil engineering for this but a couple of layers of old towelling stretched lightly over one of the tanks and under the downpipe, will do the job just as well. All water enters just one of the tanks and is then distributed to the remaining tanks via a network of 1/2" or 3/4" copper pipe. It is then piped from the last water butt to a 50 gallon storage tank placed under one of the benches in the greenhouse, the level in this tank is controlled by a ball valve. From here the water is pumped into a dustbin where it is used for watering and feeding the orchids in the greenhouse and those in the raised bed along the front of the greenhouse, including the Cypripediums that share this bed.

FEEDING:

The feeding regime can be as simple or as complicated as one wishes to make it. I often wonder if I go to excess with my methods of watering and feeding but then I always manage to produce good plants with good root systems, so it obviously pays dividends in the end - good strong root system = good strong healthy plants.

Orchids are no different from other plants, although adapted to survive and certainly thrive on small amounts of nutrient, they never-the-less still require feeding, albeit in minute quantities and in response will produce good size healthy plants. It must be remembered that bulbs and rhizomes produced this year are the making of next years plants and flowers so the larger the underground parts we can produce the better

prepared will be the plant for next year. On the other hand, if feeding is too heavy we can produce lovely large plants with lush foliage but no flowers. Also over-fed plants will be softer making them more prone to any diseases that may be lurking around the corner and will also make them susceptible to any bad cultural practices, so a compromise must be made.

Although perhaps not strictly necessary, I always use organic fertilisers in the form of Fish Emulsion with additives such as Liquid Humus and Liquid Seaweed, using a conductivity meter this concoction is then adjusted to 250 (25 on the meter). Because Cypripediums are autotrophic or able to obtain food by photosynthesis and are not solely mycological means there is no reason why inorganic fertilisers cannot be used, although certainly with care and at a dilution rate of no more than 25% of that stated on the label and even less for sensitive plants.

Feeding is usually carried out at a quarter strength or less starting at the beginning of the season at monthly intervals and once the plants are growing strongly progressing to twice monthly intervals. This regime is carried out for at least a month after the top growth and/or flowering has been completed. Cypripedium roots will continue to grow for some time after the main growth has finished and will be storing food in preparation for the following season. However, if the growing period proves to be a particularly dry one where more watering is required, feeding may be done more often but at a slightly reduced rate and all feeds are preceded by flushing through with plain water first.

I have found that the secret of feeding orchids, hardy or otherwise, is to feed little and often. If growing is carried out in inorganic media then light feeding will be a requirement during every watering period and prior flushing will be the order of the day.

If inorganic fertilisers are used for feeding it is best to avoid those containing urea as the nitrogen source, as apparently this can be toxic to some types of orchid. Perhaps every bit as important, particularly with free draining mixes is the fact that urea takes a very long time to break down and so, can be washed from the compost before it can become available to the plants, thereby starving them of valuable nitrogen. Even terrestrials that are repotted on an annual basis may not benefit from this type of nitrogen source as they could be repotted before the urea can breakdown and be of any use. If leaves are prematurely turning yellow and dropping off it is possible that they are starved of nitrogen as the fertiliser in use may contain urea. Ammonium nitrate or calcium nitrates are okay in the feed, or better still a combination of the two.

Two very useful items of equipment and well worth the expenditure are the pH and Conductivity meters. They soon pay for themselves, not only in the production of healthier and

stronger plants and a more consistent feeding regime but also and equally important, there are a lot less losses, particularly among species with very sensitive root systems. Two other useful tools in the Cyp growers armoury, although perhaps more a luxury than a necessity, would be a light meter giving a direct reading in footcandles and a tensiometer or similar for measuring the moisture content of the media.

Some Cypripediums (Cyp. guttatum and Cyp. henryi in particular and perhaps Cyp. yatabeanum) can be very sensitive to fertilisers and would be subject to leaf tip burn or worst, severe burning to the roots. Organic fertilisers can be used in moderation, hoof and horn, bonemeal, fishmeal etc are useful in small quantities as there is less possibility of damage to the root system. The obvious problems with this type of feeding are: 1. if used with a very open compost it will quickly wash to the bottom of the pot before it can be effective, and 2. being slow release by nature and the fact that it needs bacterial action to break it down over a period of time to make it available to the plants, it has to be used well in advance of the growing season to be of any benefit. One way to overcome both of these problems is to mix the fertilisers with leafmould or coarse sand or a mixture of both and cover the pots with it during the early part of the winter. Dolomite lime is another useful ingredient to mix with the above, the rate I use is 20gms per litre of leafmould, this can of course be adjusted to suit particular requirements. If feeding is still a problem then it's back to nature with a good topping of leafmould and hope for the best and resort solely to foliar feeding.

Foliar feeding can be carried out at weekly intervals with a weak solution of fertiliser and is probably very beneficial. Although some say it is not, but as I have never experienced any problems with this type of feeding I shall continue with it. Fish emulsion can be used for this. Liquid seaweed and liquid humus can also be added to advantage. It is best to avoid this type of feeding in direct sunlight as any globules of water can magnify the sun's rays and cause local burning of the leaf, which would then look unsightly. I find that early morning or evening is the best time, this allows for more absorption by the plant before total evaporation takes place as would happen during the warmer parts of the day.

DORMANCY

All species of Cypripediums require a winter dormancy, with some this would need to be longer and colder than others. It is probably safe to say that those of a higher altitude or the further north they come from, the longer and colder would be the dormancy requirements. Most Cypripediums require at least three months of cool or even cold conditions throughout their dormancy. It is particularly important with many American and European species that the requirement of several months of winter temperatures of 4 C or lower are maintained.

During this period of dormancy, plants that are normally kept in the greenhouse can be plunged into a peat bed or other spare part of the garden prior to the onset of winter. If kept in the greenhouse heat would be needed to stop the pots freezing solid during long cold spells with possible fatal results. If placed in the garden it is much easier to protect them against freezing with a good insulating cover and to ensure protection from the winter rains the pots are covered with a sheet of glass, Polythene or similar. I use thrown-out secondary glazing panels which I find ideal for this purpose. No doubt coldframes would serve the same purpose admirably, although I have found that the modern frames with four small doors rather than the one large one on top can often prove to be a bit of a nuisance.

As the situation is now reversed to what it was during the growing season, when the media in the pot starts to dry out moisture is now absorbed into the pot from the outside soil and by capillary action through the hole in the bottom so shortage of moisture in the pots should never be a problem. Covering the area with glass or other similar material, as mentioned in the last paragraph, helps to assure that the pots do not become oversaturated by heavy winter rains, which could also have fatal results if followed by a hard freeze.

We must be careful not to confuse air temperatures with ground temperatures as the former has no direct reflection on the latter. Ground temperatures are much more constant and do not fluctuate as wildly as air temperatures. For instance the area where my Cyripediums are kept is shaded by the house during the winter months and thereby not affected to any degree by any winter sunshine and/or large fluctuations in the air temperature. Although air temperatures may rise and fall continually throughout the day and day-by-day, there is far less deviation in the ground temperature throughout the winter. Ground temperatures are checked by thermometer with the probe at the same depth as the rhizosphere and for the most part do not appear to deviate much between -2 C and +5 C throughout the whole winter. Normally the coldest part of the winter in Devon is usually the latter part through January and February, with frost at any time from November through to March, some years they may start a month earlier and can also continue into April or even May. Snow is certainly not a regular winter occurrence and may not happen at all in some years, except on higher ground.

As an added protection and/or insulation, a thick blanket of leafmould is used to cover the pots. Most of this, but not all, if not already rotted down, is carefully removed at the end of the winter - care has to be taken to avoid damage to any early growing plants that may have started to move.

Some species, Cyp. formosanum, for instance, are susceptible to the cold and cannot stand long bouts of freezing conditions, but they can still be kept in the garden if protected by an

extra thick layer of leafmould to guard against freezing. Straw or newspaper will achieve the same effect if leafmould is not available.

We often hear or read about the insulation properties of snow but I wonder if anyone has even considered what the same properties may be for a good thick layer of leafmould. It is more than probable that ground temperatures could be controlled by varying thicknesses of this material.

At the advent of Spring the pots can be lifted out, cleaned off and returned to the greenhouse if so desired, or they can be just left where they are. There is at least one distinct disadvantage with the former method - it is time consuming and certainly labour intensive particularly if there are a lot of plants, but in the end it is certainly well worth all the time and trouble. At the moment I am not faced with this problem as it is more convenient for mine to stay in the ground all year round as I spend most of my time overseas these days.

Editors note ; Many thanks to Peter for sharing his experiences of *Cypripedium* growing with us. There will be more detail on care of various individual species in the next few newsletters.

FAVOURITE ORCHIDS - *Orchis laxiflora*, The lax flowered orchid

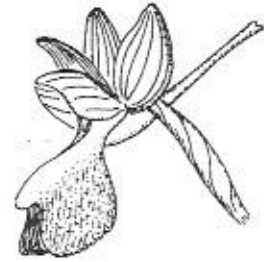
Richard Manuel

As I regard nearly all European orchids as wonderful, it is a difficult task to pick out those which are personal favourites - the list is almost as long as Delforge's book! However, I must start somewhere, so this glorious species, which is certainly in the top six, gets first billing - for now.

I first encountered *Orchis laxiflora* (or *Anacamptis laxiflora* as Richard Bateman would now have it) in one of Europe's most idyllic orchid sites: the wonderful marshland area east of Laerma, on Rhodes, now sadly disappearing through unsympathetic agricultural practices.

As all orchids should, *laxiflora* tends to grow in large colonies, and at its finest can give rise to a mind blowing purple haze amongst the marshland grasses and other flowers. The tall stems of well spaced-out flowers (hence its name) tend to stand clear of the surrounding herbage, which displays the large purplish flowers to their best effect, especially when seen against a low hazy sun when they positively glow. The plant is often, perhaps usually, encountered growing up to its ankles in water, sometimes deeper, an unusual situation for an orchid, and one which maybe adds to its aura.

The plant itself can be large, up to 80cm in height, with a strong stem bearing several narrow channelled leaves along its length - there is no basal rosette left once the flowering stem elongates. Each flower is about 1.5cm long with strongly reflexed side lobes; only the central ridge of the labellum is plain whitish (rarely spotted) whilst the remainder of the flower is a rich purple, usually darkest on the side lobes. Growth begins in very late Autumn, normally with just a green 'nose' protruding above the soil during the winter, but growing rapidly from around the new year to early spring. In the northern parts of its range, such as the Channel Islands, it flowers in late May to early June, but elsewhere in Europe, where it is widespread but patchily distributed, it may flower as early as late March in the extreme south and east, e.g. Cyprus.



For growers, Orchis laxiflora is a Godsend, flourishing in pots or bog gardens, and easy to grow from seed. Seed grown plants are now becoming reasonably easy to obtain. Hybrids with various other species have been recorded, including some of those curious forms arising from extramarital relationships with Serapias.

The lax-flowered orchid occurs in Guernsey and Jersey, where, together with its vital remaining habitats, it is now strictly protected. Efforts are also being made to re-introduce it to former sites on the islands where it has disappeared. And surely it has occurred on the British mainland in the past, perhaps in the New Forest? It can certainly survive our climate as the fine colony at Wakehurst Place, originating from seedlings raised at Kew, attests. Its main habitat, calcareous to neutral marshland with at least periodic inundation, is one of the most precarious in this country. Most of our original marshland habitats have disappeared through drainage and agriculture, together with any colonies of laxiflora that might have existed. Surely what little is left would benefit enormously from the (re?) introduction of this elegant and stately orchid.

Editor note; Do you have a favourite orchid? if you would like to contribute to this series, or indeed in any other way to the newsletter please write to the Newsletter secretary, Mrs Carol Dash, Lower Lakes, Suckley Knowle, Whitbourne, Worcestershire. WR6 5RH. Your articles or comments are always welcome. The next edition is due in January 1998 with a copy date of 1st December 1997.

LETTERS and other news

The following e-mail is reproduced with the permission of the AHO Secretary and has not been edited or altered (German-English). It is reproduced here as a warning to members to beware of such plants being offered for sale/trade. If you are aware of any other similar occurrences and would like to bring them to the members attention please write in.

Secretariat for the Conservation of European Orchids (SCEO)
Secretary and Treasurer:

Heinrich Blatt, Zur Hainerde 26, D-61169 Friedberg (Germany)

Tel.: +49 6031 14014; Fax: +49 6031 64469; e-mail:

aho.germ.bt-hch@t-online.de

Observation according commercial digging out of Dactylorhiza sphagnicola*

(SCEO Notice from AHO Nordrhein-Westfalen)

Dortmund, June 10th 1997

Location:-Wollerscheider Venn (Natural Reserve)

Region:-Eifel in the north of Moschau very close to the Belgian border (Eupen).

Species:- Dactylorhiza sphagnicola

Number of plants removed:- Between 50 and 60

Date of removal:- Between 4th and 8th of June

We expect that the plants shall be sold in Germany, Belgium or the Netherlands.

The member of our AHO, who noticed the removal knows the location very well and visited it each year. Therefore he was able to see that it was the work of specialists.

In the reserve Dactylorhiza sphagnicola was growing only in two small areas, in one of them together with Dactylorhiza maculata and hybrids between both, in the second Dactylorhiza sphagnicola alone.

In the second area all 40 plants have been dug out; in the first area around 10 plants of Dactylorhiza sphagnicola remained and it seems that no hybrids and no Dactylorhiza maculata have been removed.

With this information given by our member it is clear that the persons were very careful to dig out Dactylorhiza sphagnicola and not to take doubtful plants.

We expect that a trader with very good knowledge of Dactylorhiza has taken the plants. Because the location is very near to the Belgian border and not far from the Netherlands he may try to sell the plants in any of the three countries.

The Eifel-Group of our AHO has informed the responsible local authorities.

We ask all other groups to inform us, if they hear about trading with Dactylorhiza sphagnicola in the near future.

* Editors note: Dactylorhiza sphagnicola = D. incarnata ssp sphagnicola. This is a race of rather uncertain specific status, and is thought to be restricted to sphagnum bogs in

North Germany (Wild Orchids of Britain and Europe, Paul & Jenne Davies and Anthony Huxley).

Further note: This is another incentive to get propagating orchids from seed. If the market can be flooded with artificially propagated orchids, the cost will come down and the financial incentive for people to wild dig and sell hardy orchids will be lost. Thereby protecting our wild populations. So get sowing! The new Seed and Fungus list is included with this newsletter so get an order sent off.

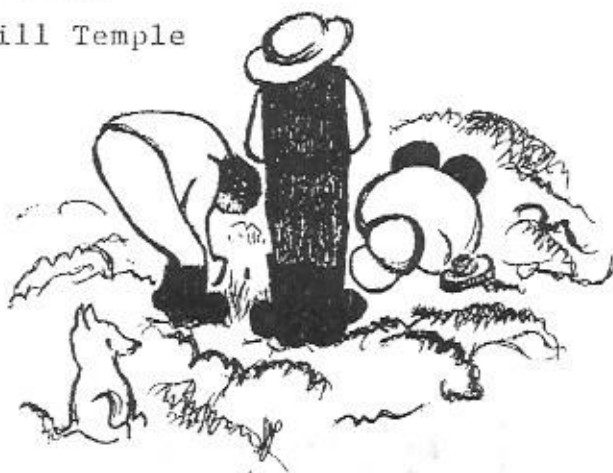
**** Please note Adrian Blundell's new address.****

.....

JULY ORCHID HUNTING TRIP

Bill Temple

This trip, with a couple of friends, was to find the Musk Orchid and Bog Orchid. The chosen destinations were a Hampshire Wildlife Trust reserve and a New Forest bog. The reserve quickly yielded some Musk Orchids which at the time did not seem over large. The bog was something else! One member of the party quickly bottled out of venturing into the smelly bog, and surreptitiously made this accompanying sketch (for those teaching small children to read it has been captioned). We eventually succeeded in our quest and concluded that the Bog Orchid is a bit like the Fen Orchid, but less flamboyant, and that you need a strong magnifying glass to look at it. Suggested equipment - wellington boots and clothes peg.



THE DOG SAT IN THE BOG

.....

ADVERTISEMENTS

Advertising charges as follows

	<u>1 issue</u>	<u>4 issues</u> (4 for the price of 3)
<u>Small Ad.</u> (3"x5" approx)	£7.50	£22.50
<u>Half page</u> (7"x5" approx)	£10.00	£30.00
<u>Full page</u> (7"x10" approx)	£12.50	£37.50

Please send a cheque (made payable to the Hardy Orchid Society) with the advert to the Newsletter secretary indicating the size and format required.



Orchis



Nursery & Laboratory

Specialist in Native European Orchids grown from seed

Richard Manuel, 45 Thorncliffe Road, Oxford OX2 7BA, 01865 559037

This Autumn I am offering seed-grown tubers of such desirable species as *Orchis laxiflora*, *O. papilionacea*, *O. morio*, *Ophrys heldreichii*, *Serapias* spp. plus a few others in limited quantities.

Please send an S.A.E. for my list.

Orchids
by Post

Orchids by Post is a joint venture made up of both amateur and professional growers. Our aim is to supply seed raised plants grown where ever possible in association with Mycorrhizal fungi. The production of high quality seed raised plants is vital for the protection of wild populations and over the coming seasons we aim to expand the range of material available.

Please send a S.A.E to receive our new seed raised **Cypripedium** list.

30 Crowmere Rd. Shrewsbury. Shropshire. SY2 5HX

HARDY ORCHIDS LTD.,
NEW GATE FARM,
SCOTCHEY LANE,
STOUR PROVOST,
GILLINGHAM,
DORSET, SP8 5LT.

OUR 1997 HARDY ORCHID CATALOGUE WAS PUBLISHED IN DECEMBER, IF YOU HAVE NOT RECEIVED YOUR COPY, A STAMPED ADDRESSED ENVELOPE WILL HAVE IT WINGING ITS WAY TO YOU.

WE LIST PLANTS, BOOKS, & COMPOSTS.

The Hardy Orchid Society - Show Rules

1. ELIGIBILITY All classes are open to all members of the Hardy Orchid Society.
2. ENTRY FEES No entry fees will be payable.
3. SHOW DETAILS Members will be informed in a Newsletter preceding the Show of the closing date for entries, the time by which exhibits must be staged, and the earliest time at which exhibits may be removed.
4. OWNERSHIP OF EXHIBITS All exhibits must have been owned by the exhibitor for at least six months.
5. NUMBER OF PLANTS PER POT Unless otherwise stated, each pan may contain more than one plant, provided all plants are of the same variety. However, when more than one flower spike is present, 'uniformity' will be one of the judging criteria.
6. LABELLING All plants should be correctly and clearly named. However, incorrect or unclear labelling will be considered only in a close competition.
7. JUDGING The judge is empowered to withhold awards where entries are not of adequate standard.
8. PROTESTS Any protest must be made to a member of the Committee within one hour of the opening of the hall after judging. The decision of the Committee will be final.
9. LIABILITY While the Hardy Orchid Society will endeavour to take good care of all exhibits, it will not be liable for compensation for any damage or loss, however caused.

SCHEDULE OF CLASSES

- 1 Three pots native British orchids, distinct varieties.
- 2 Three pots native European (non-British) orchids, distinct varieties.
- 3 Three pots non-European orchids.
- 4 One pot native British orchid.
- 5 One pot native European (non-British) orchid.
- 6 One pot non-European orchid.
- 7 One pot *Dactylorhiza*.
- 8 One pot *Orchis*.
- 9 One pot *Ophrys*.
- 10 One pot *Serapias*.
- 11 One pot *Cypripedium*.
- 12 One pot, any other genus.

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This not only helps in tracking expenses but also ensures compliance with tax regulations.

In the second section, the author provides a detailed breakdown of the monthly budget. It includes categories for housing, utilities, food, and entertainment. By comparing actual spending against the budget, one can identify areas where costs are exceeding expectations and make necessary adjustments.

The third section focuses on investment strategies. It suggests that diversification is key to minimizing risk. While stocks offer potential for high returns, they also come with volatility. Bonds, on the other hand, provide a more stable but lower return. The author recommends consulting with a financial advisor to tailor an investment plan to individual goals and risk tolerance.

Finally, the document concludes with a section on retirement planning. It highlights the power of compound interest and the importance of starting early. Regular contributions to a 401(k) or IRA can significantly grow over time, ensuring a comfortable retirement. The author also mentions the benefits of employer-matched contributions and the importance of understanding the rules of each account.

The Hardy Orchid Society Seed and Fungus list 1997

The following seed and fungi are available on a first come first serve basis. Both seed and fungi have been kindly donated by members of the society, thus we can not guarantee the viability of any of the listed material.

All prices are inclusive of P&P.

Please send limited cheques (not to exceed £-) between the crossings.

All cheques should be made payable to the HARDY ORCHID SOCIETY.

Contact: Adrian Blundell 30 Crowmere road, Shrewsbury, Shropshire SY2 5HX

Seed	1997	1996
<i>Aceras anthropophorum</i>	£ 2.00	£ 1.00
<i>Anacamptis pyramidalis</i>	£ 2.00	£ 1.00
<i>Barlia robertiana</i>	x	£ 1.00
<i>Cypripedium acaule</i>	x	£ 1.00
<i>Cypripedium parviflorum v. makasin</i>	x	£ 1.00
<i>Cypripedium pubescens</i>	x	£ 1.00
<i>Cypripedium reginae</i>	£ 2.00	x
<i>Cephalanthera damasonium</i>	£ 2.00	x
<i>Dactyloriza bressingham</i>	x	£ 1.00
<i>Dactyloriza fuchsii</i>	x	£ 1.00
<i>Dactyloriza maculata</i>	x	£ 1.00
<i>Dactyloriza praetermissa</i>	£ 2.00	£ 1.00
<i>Dactyloriza praetermissa x foliosa</i>	£ 2.00	x
<i>Dactyloriza purpurella</i>	£ 2.00	£ 1.00
<i>Dactyloriza traunsteinerioides</i>	x	£ 1.00
<i>Epipactis gigantea</i>	£ 2.00	x
<i>Gymnadenia conopsea</i>	£ 2.00	£ 1.00
<i>Himantoglossum hircinum</i>	£ 2.00	£ 1.00
<i>Ophrys apifera</i>	£ 2.00	£ 1.00
<i>Ophrys bombyliflora</i>	£ 2.00	x
<i>Ophrys episcopalis</i>	£ 2.00	x
<i>Ophrys flavomarginata</i>	x	£ 1.00
<i>Ophrys fusca</i>	£ 2.00	x
<i>Ophrys omegaifera</i>	£ 2.00	x
<i>Ophrys pallida</i>	£ 2.00	x
<i>Ophrys speculum</i>	£ 2.00	x
<i>Ophrys tenthredinifera</i>	£ 2.00	x
<i>Ophrys vermexia</i>	£ 2.00	x
<i>Orchis collina</i>	£ 2.00	x
<i>Orchis coriophora</i>	£ 2.00	x
<i>Orchis laxiflora</i>	£ 2.00	x
<i>Orchis morio</i>	£ 2.00	£ 1.00
<i>Orchis palustris</i>	£ 2.00	x
<i>Orchis papilionacea</i>	£ 2.00	x
<i>Orchis quadripunctata</i>	£ 2.00	x
<i>Orchis simia</i>	£ 2.00	x
<i>Platanthera chlorantha</i>	£ 2.00	£ 1.00
<i>Serapias orientalis</i>	£ 2.00	x
<i>Serapias lingua</i>	£ 2.00	x

The Hardy Orchid Society Seed and Fungus list 1997

Fungi	Ref	Germinates
£ 7.00	A15	Ophrys apifera
£ 7.00	A17	Orchis mascula Orchis coriophora
£ 7.00	B1	Dactylorhiza Orchis morio Gymnadenia conopsea
£ 7.00	T&M	Dactylorhiza Orchis morio Spiranthes Serapias