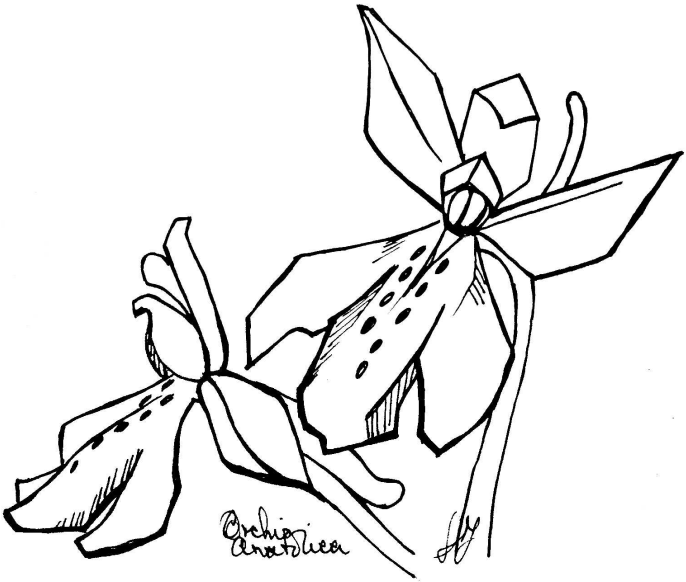
The Hardy Orchid Society Newsletter



No. 17 July 2000

The Hardy Orchid Society Committee is…

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Co-opted Member (BOC Rep.): Richard Nicol, 1364 Evesham Rd., Astwood Bank, Redditch, Worcs, B96 6BD

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Cover illustration: *Orchis anatolica* by Sylvia Temple

From the Chairman

Over the years the Hardy Orchid Society has existed a number of cases have come to light where illegal collecting of wild orchids for sale has hit the news. The Committee strongly discourages any member from partaking in such activities. The founding principles of the society, which were the reason I joined many years ago, are to understand, protect and admire these beautiful wild plants. By removing plants illegally it deprives the countryside of a vital genetic resource, but also prevents others from being able to marvel at their beauty.

Adrian Blundell

Seed and Fungus Bank

Members are reminded to set and collect seed from any hardy orchids they grow. A list of seed and fungi will be available to members later in the year.
Please send all donations of seed to Ted Weeks, 74 Over Lane, Almondsbury, Bristol BS32 4BT

From the Newsletter Editor

There has recently been an increased interest among members in the role of the Society in orchid conservation. This was evident at the May 2000 AGM and meeting and this issue of the Newsletter continues the theme.

Report of the 8th AGM of the Hardy Orchid Society

Sunday 7th May 2000 at Pershore and Hindlip College

The AGMs of the Society are always kept brief and businesslike in order to get to the speakers who are the real meat of the day as soon as possible. Trevor Marks (Vice Chair) opened proceedings on behalf of the Chairman with a round-up of the successes of the previous year. Some fine Field Trips, the Newsletter and most particularly, the Website were identified with thanks to Ian Rodgers for the free Internet hosting he provides to the Society.

The Treasurer's report produced a lively debate around the proposal to increase the Membership Subscription in order to fund occasional colour reproduction of pictures in the Newsletter. The Society currently makes no profit and so there is not the funding for improvements within the current subscription levels which, it was noted have not been increased for eight years. The meeting proposed to trial

colour in one or two issues during the coming year, with an increase in subscription in 2001.

Alan Dash (Conservation Officer) reported on Dactylorhiza planted out in the Oxford area. It was also noted that there was a very poor response to the Orchid Population Monitoring Sheets included with Issue 12 (April 1999) of the newsletter. This report and the speakers of the day have started an interesting debate about the role of the Society in the field of conservation.

Trevor Marks thanked Norman Heywood (Membership Secretary) and Christine Cook (Treasurer), both of whose three-year term of office on the Committee have come to an end. He modestly omitted to thank himself, but I am sure that all members are grateful for the contribution that all three have made. There then followed the usual closely fought contest for new committee members, the detailed results of which can be read on the inside front cover. A summary is listed below, together with post holders either re-elected part way into their three years or who have kindly agreed to continue serving the Society for a further period. "Understudies" would be particularly welcome to work alongside the Show Secretary and Conservation Officer and learn from these masters of their craft!

Chairman	Adrian Blundell *
Vice Chair	Richard Manuel
Secretary	Sarah Marks *
Treasurer	Tony Beresford
Membership Secretary	Nick Storer
Meeting Secretary	Colin Clay *
Show Secretary	Tony Hughes *
Conservation Officer	Alan Dash *
Newsletter Editor	Moira Tarrant *
Ordinary Member, Newsletter Distribution	Bill Temple *
Ordinary Member, Fungus Bank	Ted Weeks*
Ordinary Member, Publicity	Simon Tarrant
Ordinary Member, BOC Rep.	Richard Nicol *

Committee members marked * were re-elected to their posts

A discussion around dates and venues for future meetings followed, as it seems that Pershore is unlikely to be available to the Society in the future. Colin Clay (Meetings Secretary) will use Wellesbourne for the next few meetings but will continue to seek out other venues within the same price range and with equally convenient road access. Varying the date to allow a wider range of Orchids to be shown was discussed, but problems arise with needing to match the AGM to the end of the financial year. Colin took away a host of suggestions to follow up.

Among AOB discussed was another conservation issue: that of achieving a balance between protecting wild populations of orchids and keeping a flow of information to members. The meeting concluded that the society cannot be seen to be pinpointing sites and directing enquirers, but that individual members must rely on their own network of contacts to determine factors such as flowering times.

HOS Millennium Plant Show

Tony Hughes

The phrase "bigger and better" seems hardly adequate to describe the superb display of plants that filled the show space at Pershore. With nearly 80 brimming pots from 11 exhibitors, it was a highly spectacular sight. Quality was excellent, giving our judge, Norman, quite a problem and proving once again what a talented and dedicated bunch our members are.

As usual, the *Cypripediums* were breath-taking, in particular Alan Dash's *C. margaritaceum,* which thoroughly deserved the "Best in Show" accolade. To single out other exhibits for special mention is perhaps a little unfair among so much excellence, but I'm going to anyway! Firstly, the huge pot of *Dact. foliosa*, brought along by Steven Newton (possibly our youngest member?) was truly magnificent. Secondly, the car load of plants brought all the way from Brussels by Jan Moors and Pete Peeters did so much to enhance the show, and proved that the HOS can now claim to be a truly international society.

Unfortunately, there was one blot on an otherwise magnificent day. When one of our exhibitors got home, he discovered that all the pollinia had been removed from several of his rarest *Cypripediums.* This may sound trivial, until you realise that the breeding plans for the plants in question are delayed by a whole year, and one member at least will be thinking very hard about what plants he can afford to exhibit in future. Theft, for that is what it was, cannot be tolerated in any Society, so we will be forced to operate a much stricter security regime in future.

However, in spite of the sour taste at the end, it was a lovely show!

HOS Show Results, 7th May 2000

No	CLASS	FIRST	SECOND	THIRD
1	3 pots British	R. Manuel *Aceras anthrop., Orchis morio, Ophrys sphegodes*	J. Moors *Orchis purpurea etc.*	-
2	3 pots Europ.	P. Titleboam *Orchis boryi Aceras anthrop., Ophrys helenae*	R. Manuel *Orc. pap. grand. Orc. quadripunc. Serapias olbia*	J. Moors *Orc. italica Orc. patens Oph sphegodes*
3	3 pots non-Eur.	A. Dash ?	P. Corkhill ?	J. Moors ?
4	1 pot British	J. Moors *Oph. fuciflora*	C. Clay *Orc. morio*	R. Manuel *Orc. laxiflora*
5	1 pot Europ.	R. Manuel *Orc. pap. grand.*	C. Clay *Serap. lingua*	R. Manuel *Serap. neglecta*
6	1 pot non-Eur.	A. Dash *Cyp. macranthum*	P. Corkhill *Cyp. fasciolatum*	J. Moors *Bletilla* sp.
7	1 pot *Dactylo.*	Steve Newton *D. foliosa*	A. Dash *D. majalis*	P. Corkhill *D. maj* x *sambucina*
8	1 pot *Orchis*	R. Manuel *O. papilionacea*	C. Clay *O. pap. grand.*	D. Webster *O. morio*
9	1 pot *Ophrys*	N. Storer *O. fuciflora*	J. Moors *O. bertolonii*	R. Manuel *O. gottfriediana*
10	1 pot *Serapias*	T. Rymer *S. lingua*	M. Powell *S. lingua*	R. Manuel *S. lingua* x *neglecta*
11	1 pot *Cypriped.*	A. Dash *C. margaritaceum*	P. Corkhill *C. parviflorum*	J. Moors *C. macranth. album*
12	1 pot 'other'	T. Rymer *Pleione* New Forest	D. Webster *Calanthe* Hizen	-

HOS Eighth AGM
Orchids of Southern England – Ecology and Conservation
Report of a talk by Martin Jenkinson

We were given a guided tour of the orchids of England with thoughts on their habitats, evolution and thought provoking points on their conservation. The excellent slide show illustrated all of the orchids mentioned below.

Most Floras arrange the orchids in a similar order. This is the supposed evolutionary order starting with the primitive Helleborines, moving to the more recent and advanced Orchis, Ophrys and Dactylorhizas. Note that, in general, the more primitive types are woodland or forest species. This wooded environment is what covered much of Europe until about 50,000 years ago. It is only since then that man has had a hand in producing or managing many of our richest terrestrial orchid habitats.

Woodland

Red Helleborine (*Cephalanthera rubra*) is rare in Britain – just hanging on in three areas. On the assumption that it needs light to flower well, a substantial area of woodland has been cleared in its most recently discovered site in Hampshire. The resultant increase in ground scrub has caused its own management problems. Also scarce, with similar habitat and conservation issues is the Sword-Leaved Helleborine (*Cephalanthera longifolia*).

Much less uncommon in this genus is the Large White Helleborine (*Cephalanthera damasonium*). Although usually on alkaline soils with some association with trees or shrubs, it is found in a wide variety of situations, including hedgerows and roadside verges.

Amongst the Epipactis group of helleborines, the most frequent and, not surprisingly, the most habitat tolerant is the Broad-Leaved Helleborine (*Epipactis helleborine*). Less robust is the Green-Flowered Helleborine (*Epipactis phyllanthes*) which can struggle to compete with brambles or can be weakened by dense shade.

The Violet Helleborine (*Epipactis purpurata*) and Slender-Lipped Helleborine (*Epipactis leptochila*) are denizens of the densest shade. The effects of coppicing woodland on these species was discussed. Both species have survived the traditional coppicing regime in Southern England. The extra light brought in by the procedure results in these shade lovers struggling to compete with bramble scrub. What appears to be severely detrimental is **large scale** coppicing, leaving few areas of dense shade for the strong seed producing plants to survive to create the next generation.

Two other woodlanders are the saprophytic species, Birds Nest Orchid (*Neottia nidus-avis*) and the rare Ghost Orchid (*Epipogium aphyllum*). Maintenance of the shaded woodland habitat appears to be all one can do for these - except maybe pray for the heavy rain in spring and early summer that seems to help the sporadic flowering of the Ghost.

From the rare to the….not quite so rare – the Twayblade (*Listera ovata*). This is a relatively primitive species of woodland that has made a successful evolutionary transition to grassland and marshland**.** There is a point here that at both ends of the rarity scale there is often little we can do for conservation. The twayblade will survive despite what man throws at it and, apart from habitat protection, there is little that can be done for the Ghost Orchid.

Transitional species
The Butterfly Orchids, Lady Orchid, Early Purple and Fly Orchid are basically woodland edge species that have made a transition to be also at home in grassland. Coppicing or clearing small areas of woodland can have a beneficial effect, typically promoting Early Purple displays as well as bluebells.

Calcareous Grassland
The short turf of downland has arisen from the farming activity of sheep grazing. This man made environment is, never the less, probably the most orchid rich habitat of Britain. The list of species is a long one and includes Musk Orchid (*Herminium monorchis*), Frog Orchid (*Coeloglossum viride*), Fragrant (*Gymnadenia conopsea*), Bee Orchid (*Ophrys apifera*) and its variants, Early (*O. sphegodes*) and Late (*O. holoserica*) Spider Orchids, Greater Butterfly (*Platanthera chlorantha*), Pyramidal (*Anacamptis pyramidalis*), Man (*Aceras anthropophorum*), Early Purple (*Orchis mascula*), Monkey (*Orchis simia*), Military (*O. militaris*), Burnt Orchid (*O. ustulata*), Lizard (*Himantoglossum hircinum*), Twayblade (*Listera ovata*) and Common Spotted (*Dactylorhiza fuchsii*). Some of these species are relatively common and appear in other types of habitat. Others such as Monkey, Military and Early Spider Orchid seem to be at the limit of their climatic range in Britain with exacting requirements and small isolated populations.

Meadow
Man's efforts at creating grassland and then stopping its ecological succession into scrubland by cutting hay and / or grazing with domestic animals has resulted in the ancient neutral meadow. *Orchis morio* (Green-Veined Orchid) can occur in spectacular profusion with extraordinary variation in colour forms. Other orchids favouring such conditions include Common Spotted, other Dactylorhizas depending on wetness and acidity of soil, Twayblade and Autumn Ladies Tresses. These nutrient poor ancient meadows are now recognised as a declining habitat for

a number of scarce and threatened plant and animal species.

Acid Grassland
Some of the more common species of downland and meadow orchids also appear in acid grasssland conditions. Add to these some specialities such as Heath Spotted Orchid (*Dactylorhiza maculata*), a small late flowering form of Fragrant Orchid (*Gymnadenia conopsea* ssp *borealis*) and maybe even Irish Ladies Tresses (*Spiranthes romanzoffiana*) discovered (though not recently) in a wet flush on Dartmoor, and you have a rather under-rated English orchid habitat.

Acid Bog
This form of habitat is also often under threat from drainage to produce agricultural or building land. Forms of the Early Marsh Orchid, Lesser Butterfly Orchid and Heath Spotted Orchid appear in the slightly drier parts but those requiring the acid flushes and mosses to grow on include the diminutive Bog Orchid (*Hammarbya paludosa*) (recently added to the schedule 8 list of protected species of the Wildlife and Countryside Act), the Lesser Twayblade and Summer Ladies Tresses (possibly no longer occurring in Britain).

Neutral and Calcareous Marshland and Fen
One member of the Helleborine group to have made it out from the woods is the Marsh Helleborine (*Epipactis palustris*). Where it occurs in the sand dune slacks or alkaline flushes further inland it can occur in large numbers of flowering spikes due to rapid asexual reproduction by the aid of branching rhizomes.
The marsh form of Fragrant Orchid (*Gymnadenia conopsea* ssp. densiflora) is a locally occuring orchid that is robust and slightly later flowering than the usual downland form.
The Marsh Orchid group (Dactylorhizas) are a taxonomic challenge that have been a particular study of Martin's and we were shown photos illustrating the main species and variants for southern England including *Datylorhiza incarnata* and its forms, *majalis* (tetraploid group) and its subspecies *praetermissa*, *junialis*, *purpurella* and *traunsteineri*. They were different in his photos (honest) – but then there are the hybrids as well!!

Discussion
Throughout the slide show and at the end Martin gave us much to think about on the conservation of orchids.

Many HOS members will be asked from time to time about preserving or increasing populations of orchids. How is one to respond? Care should be the watchword. There can often be a conflict of interest between different species. Take an example of coppicing a hazel wood to create and preserve habitat for the Pearl Bordered Fritillary that requires light for the violets that form the larval food

plants. Where this was carried out extensively it led to severe pressure on the dormouse population which needed a tree canopy. In this situation concentrating on the requirements of the butterfly was to the detriment of the dormouse.
In nearly all circumstances of conservation a thorough survey of the habitat for all flora and fauna should be carried out for at least a full year. With a full survey using all the possible experts and expertise, only then can a suitable action plan be drawn up – with appropriate review periods.

What role can the HOS, either collectively or as individuals, play in conservation?

It was suggested that the Society could organise a network of people willing to take enquiries on when and where orchids are in flower. This kind of information can be useful to interested persons and help to promote populations of orchids. The society, however, also sees the dangers of disseminating detailed information on rarities and indeed has recently removed any remotely detailed information on specific sites from its website.

There can be an over anxiety for the state of the population of some of our more frequent orchids. They have survived (maybe even evolved because of) man created habitats. Roadsides and industrial spoil heaps often produce spectacular displays. Species such as the Common Spotted, Twayblade and Early Purple will to a large extent look after themselves. The rarities are often right on the edge of their climatic tolerance in Britain. The plants and their habitats are rightly protected but we are not likely to do a great deal to encourage large populations. It is perhaps the orchids in the middle ground of scarcity that can best benefit from conservation action and projects. The members of the HOS can and should use their significant knowledge and skills to promote the botanical family. The society represents a significant expert body of photographers, 'twitchers', seed sowers or just simply interested people that can make a difference.

Martin Jenkinson's talk was reported by Alan Dash

HOS Eighth AGM
The Species Recovery Programme from Seed to Plants in the Wild
Report of a talk by Margaret Ramsay

Margaret Ramsay is Head of the Micropropagation Unit at RBG, Kew which includes the Sainsbury Orchid Conservation Project. She opened her talk with an update on the aspect of the project which has had the highest profile – that of *Cypripedium calceolus*, the Lady's Slipper Orchid. This species is included in the UK Biodiversity Action Plan and the Species Recovery Programme of English

Nature.
In order to determine to what extent the care over maintaining discrete populations is valid and to inform best pollination strategies DNA techniques have been used to "fingerprint" *Cypripedium* plants to identify their origin. Very little genetic variation was found in the wild and cultivated populations found across Europe, perhaps because the technique was originally developed for crop plants with far smaller genomes. More recently, a micro-satellite technique has been used to look for sequences within the DNA. Although this technique is "quick and dirty", it gives interesting results as it shows similarities in plants across Northern Europe except those from populations in Sweden and Gotland. Although only preliminary, the data also identifies that specific plants of questionable origin do not share the same genetic make-up of plants tested from UK or Continental Europe. Further sampling is required.
Usually, the British population has been hand-pollinated but researchers were pleased that last year, two or three flowers were pollinated naturally. Seed is collected from as many plants as possible to get diversity at 55-60 days after pollination. Attempts to isolate a mycorrhizal fungus have not been successful so seed is raised asymbiotically in an artificial medium. This uses amino acids as a nitrogen source and pineapple juice. At 3 to 4 months the protocorms are transferred to jars to give plenty of root formation space, being kept dark throughout this stage of development. In October or November after almost a year in the jar, young plants are removed and washed clean of agar to be kept in a fridge in sealed polythene bags over the winter. They are then potted up in the spring to be grown on for 3 – 5 years before planting out. There has been a lot of experimentation to find which composts give optimum root development.

One of the earliest planting trials was at the wild site in 1989/90 with 12 plants of which 9 survived for a long time. These have proved very slow growing and are still not much bigger. Continental populations have been looked at to get an idea of habitat requirements. Clues about appropriate planting niches are being sought using a combination of known previous sites, a lot of which still exist, and new sites exhibiting similar habitats. Replanting both with and without pot compost has been tried and to date over 1000 plants have been put into 16 sites. Monitoring the growth of these plants is often tricky as the sites are mainly remote. Survival is variable with the poor rate at some sites being possibly attributed to a lack of wild mycorrhizal fungus. Although it is disappointing that in the ten years of the project, plant survival has not been great, Margaret is clear that progress has been good with a lot of the problems encountered being solved, a case of 'two steps forward, one step back'

In the UK, the Species Action Plan covers all aspects of the plant including publicity. The success of the collaborative venture between English Nature and RBG Kew has been cited as a model in the European Action Plan for this species.

The ideas produced in this collaboration are now not just being applied in Europe, but across the world; including the US and Mexico.
Unlike with *Cypripedium calceolus*, few amateur growers are involved in the *Liparis loeselii* (Fen Orchid) programme, so Kew has had to work from scratch. This species also poses very different problems in its conservation, with its decline within three English sites being attributable to changes in drainage rather than the problems of overcollection RBG Kew is working collaboratively with the Broadlands Authority, English Nature and Norfolk Wildlife Trust.

Peter Jones has suggested that pollination in the Kenfig population is by raindrops so "hand pollination" is achieved by putting a fine spray onto plants. In the first planting trial, plants were potted up in peat and moss from the planting site but dehydrated quickly so were planted out very early. Finding suitable places to plant proved very tricky as the habitat is difficult and the plant's needs are very specific. None of the original seven plants has survived.

Margaret has found that while germination of seed is much better on asymbiotic medium, subsequent growth is much slower than using symbiotic techniques. She is now experimenting with germinating asymbiotically and then introducing a fungus. Following the failure of the earlier planting trial, a broader trial is now underway using plants raised from German/Austrian populations. The site chosen is an island on the fens, enabling isolation from native populations. Planting out is done in trays that are sunk into the ground, allowing inundation so that surviving plants can be recovered and examined. So far, a 12% survival rate has been achieved with best results from planting in turf from existing sites. Last year, an introduced plant had flowered and set seed, which makes the techniques employed look very promising. A larger scale trial will now take place using plants raised from UK seeds.

The use of genetic studies to examine the differences between plants from the English, Welsh and continental sites, and between var. *ovata* and var. *loeselii* have worked well. They showed that one site includes plants that encompass the whole genetic diversity of the European populations and thus is of great conservation value. It also shows that var. *ovata* falls into the same genetic group as *L. loeselii* so the differences are due to habitat adaptation rather than genetic.

Study of the ecology of *L. loeselii* is now at its optimum enabling the management guidelines produced to cover all key aspects of conservation. This means that the next stage in its conservation is a study of GIS maps to identify possible re-introduction sites.

Margaret finished with a brief description of the Project's work with *Hammarbya paludosa*, the Bog Orchid. Work is being done with a Norfolk site which had

declined to such an extent that there was no longer a flowering plant. There is therefore no seed available, and the project will use vegetative propagation as *H. paludosa* produces bulbils. The first year's work was not successful and a second attempt will be made this year.

A question was asked from the floor about using a cross with European populations of *Cypripediums* to produce hybrid vigour. Margaret questioned the value of apparent vigour within the project objectives of producing viable wild populations. She also pointed out that although DNA differences cannot currently be detected, British and European *Cypripediums* look quite different when growing in the jar.

Margaret Ramsay's talk was reported by Moira Tarrant

HOS Eighth AGM
Conservation Panel Discussion

Following Margaret's talk there was opportunity to discuss some of the matters raised during the day's lectures. Richard Manuel, Norman Heywood, and Alan Dash sat with Martin Jenkinson and Margaret Ramsay on a panel to chair the discussion.

Martin opened the session by putting forward the suggestion that the use of slug pellets in replanting or conservation projects may be harmful. This was not just from the destruction of molluscs but also perhaps could be blamed for loss of plants too. The examples raised were Irish Lady's Tresses in Devon and also *Cephalanthera rubra* in Hampshire. Many members reported the use of metaldehyde based slug pellets in the garden around orchids without any apparent problem. It was pointed out that metaldehyde would eventually break down to formaldehyde which, in turn, is a fungicide. However, this is normally broken down by bacteria in the soil. The quantity of bait used may therefore be critical in these situations. Phil Meek suggested that the fungus growing on slug pellets (on the bran type, bulking agent) may be detrimental to small seedlings. Alternative means of slug control were put forward with many members reporting their own anecdotes. Thiocarbamate (Slug guard) was felt to be effective even in wet weather. Environmentally friendly alternatives would be better but the practicalities of many of these for use in a wild situation may mean it is impossible. Also the effect of, for example, egg shells on local soil and environment conditions is often unacceptable.

The next topic of discussion was bracken control. Sometimes bracken control can provide good orchid habitats. The use of sprays was discussed. Spraying had been implemented against bracken on Skomer Island without known damage to Early Purple Orchids growing there. The impact upon invertebrate life was unknown and we were reminded again to consider the whole biodiversity of a habitat. Swiping of the new shoots three times a year, although labour intensive, can be very successful to clear an area. Bill Temple raised the question of why the Lesser Butterfly Orchid often grows in areas colonised with bracken? Perhaps it is the need for woodland edge conditions or maybe the bracken repels herbivores enabling the orchids to survive better.

The point followed from this, that many orchids in Britain are in fact at the extent of their climatic range and therefore often colonise very localised sites in comparison to the same species growing on the continent. In other words they often are unable to pick and choose on the ideal PH of the site.

Norman Heywood mentioned a large area of woodland close to his home in Dorset. The 200 acre site is owned by the Woodland Trust. There are plans to widen rides and paths through the wood to enhance areas for butterflies and orchids. A management plan is needed for the whole site. It was felt that such a plan could only be drawn up if adequate surveys and history taking was done of the area. Kath Fairhurst mentioned the Continuous Forestry Group, which aims to help and advise amateur and commercial bodies on management of woodland areas. The main theme being management of small coups at any one time rather than widespread mass felling which can be so destructive to underlying flora.

Members were reminded of the value of submitting recording charts to the Environmental Record Centre. These records are then available to the public. However they must be reliable records i.e. accurate identification is essential. If information is not present and available then contractors are unable to obtain information which may preserve or protect a site. For example Summer Ladies Tresses were lost through drainage, at one Forestry Commission site, because the owners of the site were unaware of its presence – it had been kept a secret. Contractors are required to do an environmental assessment before starting a job – but the information has to be there first.

Peter Corkhill raised the point that accurate site information can be difficult to get hold of and that a 6 figure grid reference is very important.
It was also felt that it was important to collaborate better with other organisations to improve recording overall rather than just improving our own orchid records. There is also a need to record common birds and plants as well as rare ones, so that population changes can be monitored.

Hardiness of "Tender" Orchids
Mike Powell

I read Richard Manuel's article in the HOS April newsletter with interest. I would agree with all he says and would like to add a few comments based on my own experiences.
When I started growing hardy orchids, I worked on the assumption that those from the Mediterranean area as well as those from countries like Australia and Chile were not hardy. Not having an Alpine house meant that if I were not to lose my stock in the winter I would have to grow them in a greenhouse, alongside my *Cymbidiums* and other "cool" growing orchids. I tried this for about three years and managed to flower them and bring them through from one year to the next. I even had one or two really nice pots of plants. But what suits *Cymbidiums* didn't really suit these small terrestrials. They survived and grew but they were not really happy. On sunny days it got far too warm. The flowers didn't last; the colours were pale and muddy; they bloomed very early and went over very quickly. The growing season was too short and the tubers not as big as they should have been. Some of them got very lanky due to shortage of light, and then flopped when the temperature soared. I also had problems with watering as they dried out so quickly. In short they were too warm, too dry and generally too shady.

My eyes were opened the spring before last when due to pressure of space I was compelled to leave some pots of *Serapias* outside from about the middle of March. With some misgivings, I put them in a cold frame…. and they came to no harm at all. They flowered later than the ones in the greenhouse but bloomed far better. The plants were sturdier, the colours were more intense, they grew for longer and went over much later. The tubers I harvested were also much larger. "Interesting" I thought.

Last Autumn I decided to take a chance and put all my collection of tuberous terrestrials outside. In addition to the *Orchis*, *Serapias* and *Ophrys* that make up the bulk of my collection there were also some *Pterostylis* and *Diuris* and a pot of *Cloraeas* from Chile. I put them into two sheltered west-facing cold frames as I re-potted in August and left them. From November to February they received no direct sunlight but a good overhead light. I kept the frames open for ventilation, but apart from that I did nothing. They stayed there throughout the entire winter. To protect against frost I boxed and covered the frames with two-inch thick sheets of polystyrene – "Jablite", leaving the covers open to ensure best possible ventilation. This worked very well indeed. What really surprised me was how frost resistant the orchids were. The jablite gave some protection, but even so on frosty mornings the plants would have that ominous dark green speckly look that tells you that the leaves have been frosted. It harmed none of them. As the temperature rose, they thawed out

and simply kept on growing. I did not lose a single plant to frost damage – or damping off. The *Pterostylis curta*, *Diuris sulphurea* and *Chloraea alpina* frosted, thawed and grew with the rest and came to no harm. Indeed they thrived. The *Diuris* flowered for the first time since I had them and the *Pterostylis* were shorter, sturdier and flowered more prolifically. Indeed, many plants I had not expected to flower produced spikes.

From this I conclude that many orchids from a range of countries with a "Mediterranean" type climate are much hardier than first thought, and are very happy left outside under cover. They will tolerate quite sharp frosts of short duration if given even passive protection and kept dry – down to –7C. They relish the cold, bright, humid, well-ventilated conditions they get outdoors. What they need is protection against winter wet. They actually appear to enjoy the humidity of strong rain if they are protected against direct soaking and are well ventilated. They grow steadily throughout the winter, except when actually frozen. They do not need any heat. Under these conditions they grow steadily, sturdily and go over later. The longer growing season means they can produce larger tubers and more of them. The colder, more humid conditions mean you don't have to water too often and also seem to encourage some species to flower. If you are having the same problems I had perhaps a cold frame may be worth a try.

A word of caution before you do. I live in Southampton, in the south of England, so by and large the climate is mild. I live in the town itself, which is two or three degrees warmer than the surrounding country. We have also had a series of mild winters. Though we have had sharp frosts the temperature has always risen above freezing during the day. If I lived in a colder part of the country, I would be a lot more cautious. I do not know how my plants would fare if faced with a prolonged cold spell. I would not wish them to be frozen solid. Therefore it would be best to have available as a backup some form of heating such as a soil warming cable to counteract periods of persistent frost. This is what I am hoping to do this autumn. You would also need to site your cold frame to give shelter from cold winds.

However, if you can solve these problems, then cold and bright is a very good way to grow terrestrial orchids. But, as Richard said; "Ventilate, ventilate, ventilate!"

Orchis Nursery

Trevor Marks visits Richard Manuel's Nursery

Richard Manuel is a well-known figure in the hardy orchid world. He has been interested in hardy orchids for over twenty years, and has produced several publications on the subject. Indeed, Richard's series of articles in the Society's newsletter, especially those on raising orchids from seed, have been very well

received by many members. He served as Secretary to the Society for three years, and has recently rejoined the committee as Vice-chairman.

Richard was a professional zoologist, and spent many years in the Zoology Department at Oxford University before retiring last year. As an amateur, he spent many years developing methods of raising orchids from seed, and this culminated in Richard starting "Orchis Nursery" about 4 years ago. In a major change of direction, Richard and his wife Gaby moved from Oxford to the more rural pastures of Hereford when he retired. The last year has meant considerable upheaval for the nursery, but Richard feels that he is now well-settled following the move.

Orchis Nursery specialises in Mediterranean orchids, but Richard will freely admit to trying his hand at anything. The vast majority of the orchids for sale are seed-raised, and Richard estimates he currently has around 5000 saleable plants each year. His private collection runs to around 150 species and we always wait to see what Richard will produce next. A year or so ago Richard offered some Orchis x Serapias crosses for the more adventurous.

Most of Richard's plants are sold by mail order, but he regularly has a sales table at the HOS meetings, and also attends a number of other AGS shows each year. He is always willing to help with cultural hints and advice on growing.

For those interested, Richard can be contacted on: 01600 890644 or rmanuel@orchis.co.uk and a copy of his latest catalogue can be obtained by sending a sae to: Wye Valley Cottage, Leys Hill, Ross-on-Wye, Herefordshire, HR9 5QU.

Note from Ed.
This article is the first in an occasional series in which our roving reporter visits nurseries specialising in hardy orchids. The HOS Committee feels that an important aspect of conservation lies in ensuring that members are well informed about where to buy orchids and the range of plants available. The series will initially be covering the growers and nurseries who have supported the Society through advertising and through plant sales at shows.

Another Visit to Gotland

Simon Tarrant

An account by John Haggar in Newsletter 11 (January 1999) whetted our appetite sufficiently to persuade us to take our main holiday this year on Gotland. I thought it would be interesting to add my observations to John's, and compare our successes and failures. Gotland is an island in the middle of the Baltic, and

Location of sites mentioned in the text

although on the same latitude as northern Scotland it is blessed with a mild climate. The island is composed predominantly of horizontally stratified limestone. Forty percent of the land area is still wooded and despite continued drainage and low precipitation three percent is wetland. In addition there are about 300 hectares of traditionally managed meadowland.

I contacted John, and he very kindly sent me more information about some of the sites he had visited and I was also able to download a lot of useful material from the Internet. Many of the hundred nature reserves have their own websites, and there is a wealth of information about nature conservation on the island, as well as tourist information to be found. I had also obtained a copy of the booklet "Orchids of Gotland" published by the Natural History Museum.

We were able to spend nine days on Gotland, from 3rd to 12th June 2000. The first thing we gathered was that the weather had been hot and dry – in fact there had been virtually no rain during the month of May. Unlike John, who moved around the island, we stayed in one place, Kappelshamn, in the north of Gotland. This meant that we concentrated our searches in the northern half of the island, and it also allowed us to return to sites to observe developments over the course of a week or so.

Mindful of the forward season an early priority was to check the site for *Cypripedium calceolus* at Kallgatburg nature reserve (3), and to our delight we found them exactly as John had described, with well over a hundred spikes in full flower. We did observe however that a number of young plants were suffering from trampling by enthusiasts concentrating on the flowering plants.

We met a German couple at Kallgatburg who were keen to chat about orchids, and who gave as a site for *Orchis spitzelii* at Harudden (7) on the northwest coast only a few kilometres from where we were staying, so that became our objective on the next day. Because Gotland rose from the sea as the last Ice Age ended the coastline

is marked by raised beaches and inland cliffs, and where hollows occur in the raised beaches marsh orchids are common. At Harudden the first sight to greet us was colonies of *Dactylorhiza incarnata incarnata* in these hollows. The lack of tide and low salinity of the Baltic mean that the plants thrive only feet from the sea. Moving inland a few yards scrubby windswept pine trees grow, and under these were plenty of the ubiquitous *Orchis mascula*, but as we walked along the beach these were replaced by *O. spitzelii*. There must have been a few hundred plants here, and they really do look at first glance like spikes of *O. mascula* that are going over. When you look closely you can admire the brown stems and sepals, and they are actually quite attractive.

Orchis militaris at Hammarsänget
(Photo by Simon Tarrant)

Another early port of call was the Hammarsänget meadows (6) southeast of Lärbro, where our reading had suggested we might find *Orchis militaris* and *O. ustulata*. This was quite a large meadow area interspersed and surrounded by woodlands. We found *O. militaris* in thousands, as well as *Cephalanthera longifolia* in thousands. Of *Orchis ustulata* we found about ten spikes. There were also numerous *O. mascula* and *Listera ovata*, all of these being in full flower, and *Platanthera bifolia* and *Gymnadenia conopsea* with flowers just starting to open. This was the first place where the Swedish mosquitoes got a taste of us, but alas, not the last!

An unexpected joy was the range of orchids to be found almost on our doorstep. Kappelshamn (8) is a modest seaside resort which doesn't really wake up until July, and along the coast on its northern side is an open pine wood on a large area of raised beach. Walking along the track away from the settlement we saw some *Dactylorhiza fuchsii* and a solitary *Ophrys insectifera*. After a few hundred metres the trees open out to an undulating grassy area, the hollows containing a variety of marsh plants. Under the trees *Neottia nidus-avis* occurs, as it does commonly in Gotland's woods, then as the trees start to thin, *Cephalanthera rubra* and *Epipactis atrorubens* occur in considerable quantities. The first *C. rubra* were already in flower on June 4th, and by 11th they were all in flower, and *E. atrorubens* were in bud. We searched in vain for an open flower, but they are not supposed to flower before the end of June. I wish I could go back to see them because they must make a grand sight! On the open ground were a few *O. militaris* looking very photogenic, and in the hollows *Dactylorhiza incarnata incarnata* were accompanied by budding *Epipactis palustris*. Wherever groups of trees occurred there would be a collection of *Cephalanthera longifolia* and *C. rubra*. We looked

in vain for hybrids, but I am told that they do occur.

John Haggar described a range of marsh orchids, and so far we had only seen *Dactylorhiza incarnata incarnata*, so it was time to concentrate on some others. We visited Stigmyr (5), a marshy area in the huge Hall-Hangvars nature reserve, where we met our German friends again. Here the Dacs included *D. incarnata cruenta*, and after a lot of searching, a few *D. traunsteineri* – again these are not expected to flower before the end of June, but we found a couple of beautiful specimens. We also found a lot of Dacs that were difficult to classify, and in the end we concluded that it wasn't too important – the plants are obviously quite happy! There were also examples of several species we had seen elsewhere, and a number of sturdy spikes of *Ophrys insectifera*.

Vitärtskällen nature reserve
(Photo by Simon Tarrant)

Across the bay from Kappelshamn was the Vitärtskällen reserve (9), a fascinating habitat of open marshy woodland, with a stream flowing through it, a rather unusual occurrence on Gotland. The expected delights here were *Ophrys insectifera* and *Dactylorhiza traunsteineri*, which were flowering, and *Epipactis palustris*, which was not yet, but was present in good numbers. Rather unexpected was the pair of large horses that were grazing in the reserve, but it seems to be common practice to graze the marshland reserves with horses or cattle to keep the turf open.

I had set my heart on finding several rare and perhaps obscure orchids, and we visited Brucebo nature reserve (2) on the coast north of Visby (1), hoping to find *Herminium monorchis*. We met a Swedish contact here, but although he knew exactly where to look, there was nothing to be seen. I did see a rosette of *Anacamptis pyramidalis* here. This is a rare plant on Gotland, and gave no indication of wanting to flower unseasonably early. We were given a site for *Liparis loeselii*, the nature reserve of Millumträsk (4), where we were told to expect thousands, and were told that *Corallorhiza trifida* was so rare on Gotland that our chances of finding it were slim. We went to Millumträsk the next day, and searched meticulously for *L. loeselii*, but without success. What we did find there was four spikes of *C. trifida*!

Another personal disappointment was a failure to find the Lesser Twayblade, *Listera cordata*. This is reported from the Ulla Hau nature reserve (10) on the

island of Fårö to the north of Gotland. This reserve is a large area of pine-clad sand dunes, but unlike the rest of Gotland it is acidic, the sand consisting of glacial deposits sourced from northern Sweden. It was rather a large area to look for a very small plant in, but one always expects orchid-hunter's luck to pay off!

Acknowledgements
Special thanks to John Haggar for lending us maps and literature and providing site information, to Anders Lekander, chairman of the Naturskyddsföreningen på Gotland, for his help and enthusiasm, and to our anonymous German friends for site information and lively discussion about Swedish orchids.

Websites
www.guteinfo.com is a commercial site with a host of information about Gotland, including details of nature reserves.
www.gotlandweb.com/guide/u1natur.htm gives a general introduction to natural history and environmental websites relating to Gotland.
www.gotland.snf.se is the website for the Naturskyddsföreningen på Gotland, the Nature Conservation Union for the island. This includes a wealth of information, albeit in Swedish, including a list of a hundred nature reserves on Gotland, with links to individual websites for some of them.
www.lst.se/livsmiljo/natur/fridlyst/orkideer.html has a brief account in Swedish of the orchids of Gotland, with a chart indicating flowering seasons for every species.

Accommodation
We stayed in self-catering accommodation at Kappelshamn Fritidsby. Full details can be found on their website at **www.kappelshamn.com**.

References
A Visit to Gotland, by John Haggar. Hardy Orchid Society Newsletter 11 (January 1999) pp12-14.
Orchids of Gotland, by Karin Gotlander. Gotlands Naturmuseum, 1997.
Miniflora över Sveriges Orkideer, by Marianne Gransberg. Naturvårdsverket, 1993.
Gotland past and present, by Lars Olsson. Gotlands Lämmedelscentral, 2nd ed 1996.
Maps – northern Gotland is covered by five sheets of the official Swedish 1:50,000 series, sheets 66A to 66E, available from the Map Shop, Upton upon Severn, Worcs.
The Swedish publications are available from the Gotlands Fornsal (the Historical Museum of Gotland) in Strandgatan, Visby.

Members Ask (One)

Moira Tarrant

I have now been fortunate enough to see Lady's Slipper Orchid, *Cypripedium calceolus* growing in both Northern Italy and Sweden; in both countries seeing colonies that give us a vision for what the Species Recovery Programme might achieve in England.

The nature of the plants however varied markedly in the two countries as I hope the photographs shown below can demonstrate. Italian colonies formed tight "clumps" with leaves and flowers angled outwards from a compact base, with no indication of seedlings nearby. The Swedish colony was formed of well-spaced plants each carrying single flowering stems.

My interpretation of this variation in growth habit is that the Italian plants increase vegetatively, while the Swedish plants are obviously seed propagated. (Indeed, the colony had a huge number of non-flowering seedlings at the edge of each drift of plants). Cribb and Bailes indicate in Hardy Orchids 1989 that *C. calceolus* can be propagated from both seed and vegetatively in cultivation.

What surprises me is that the Northern European climate should favour one method so completely and the climate of Italy the other. Have members with experience of growing these astoundingly beautiful plants views on these observations?

I believe that winter temperatures on Gotland rarely fall below freezing although in Northern Italy heavy snowfall is common and the area of Pine forest favoured by *Cypripedium* is fissured with snow-melt channels. The Italian colonies were growing on steep slopes, allowing water to drain from their roots rapidly. The Swedish colony grows in a large area of seasonal bog – a Swedish myr.

C. calceolus in the Dolomites
(Photo by Simon Tarrant)

C. calceolus on Gotland
(Photo by Simon Tarrant)

Members Ask (Two)

Chris Oldershaw is seeking plants of the following species. If you can help and want to discuss terms with him please contact Chris direct at 72 Mossfield Rd., Kings Heath, Birmingham B14 7JB
Tel: 0121 444 8378

Cypripedium guttatum, Ophrys kotschyi or O. kurdica, Orchis simia or O. ustulata

Newsletter Editor Asks

We have been fortunate to have a series of stunning and beautiful cover drawings contributed by Carol Dash, Sarah Marks and Sylvia Temple. There must be other members who also enjoy the challenge of capturing the beauty of hardy orchids on paper. If you would be willing to see your work used to enhance the front cover of the Newsletter, the Editor would love to hear from you. I can scan clear, sharp copies of your work and will return any material that you ask me to. Experience shows that black and white line reproduces most effectively on the blue cover.

And please don't forget that if you can write as well, articles about any aspect of your interests in hardy orchids are always welcome.

Interested in back issues of the HOS Newsletter?

Copies of all issues of the Newsletter are still available from the Newsletter Editor at a sliding scale of prices to reflect their rarity value. A full contents list appears on the HOS website: www.drover.demon.co.uk/HOS
Contact the Newsletter Editor at the address inside the front cover or at m.tarrant@virgin.net

European Orchid Congress 2003

The next European Orchid Congress to be organised by the RHS and BOC will be held in both the Royal Horticultural Society Halls in London on 12-16 March 2003. If you would like to be placed on the mailing list for information as it becomes available, contact Ian Parsons on ian.parsons@virgin.net.