



The Hardy Orchid Society

Newsletter

No.3 January 1997

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INTRODUCTION

A HAPPY NEW YEAR TO ALL MEMBERS!

I hope that after the festivities of Christmas and New Year we can all get back to some serious orchid thoughts! Let the newsletter put your mind back in gear!

Initially we have a summary of the last meeting held at Pershore on November 9th 1996 which was attended by approximately 40 members. This means something of a repetition for these members I'm afraid, but even so I think they will find some of the references useful. For those who were unable to attend it does provide some idea of the content of the meeting but unfortunately they will miss the beautiful illustrations which accompanied most of the talks. Field trips are still being planned for 1997 and ideas are still welcome.

A reminder that any articles/letters/advertisements for the newsletter should be sent to the Newsletter Secretary: Mrs Carol Dash, Lower Lakes, Suckley Knowle, Whitbourne, Worcestershire, WR6 5RH. The next edition is due to be published in early April 1997, with a copy date of March 1st. Letters and Articles may have to be shortened to go in the newsletter - we do try hard not

to alter the essence of what you are saying but nevertheless we have to reserve this right. Also remember that any views published in this newsletter do not necessarily reflect the views of the society or the editor. Thank you.

Carol Dash

Newsletter Secretary

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COMMITTEE NOTES:

The next meeting, which includes our Spring Show and Annual General Meeting (May 10th 1997 at Pershore) is creeping over the horizon. Consequently the next issue of this newsletter will carry a copy of the Minutes of the last AGM and the Agenda for the next. If you wish to make any proposals for inclusion in the Agenda, please send them to me in writing, with your name and that of a seconder, by March 1st 1997.

Please note that the post of Show Secretary is still vacant. Kath Dryden has kindly offered to act as 'unofficial assistant show person' but still has no-one to assist! Is there anyone out there who would be prepared to be acting Show Secretary for just the one day next May? If so, please contact me.

At the November meeting the possibility was discussed, and generally approved by the members present, that we publish a list of member's names and addresses. One purpose of this is that members living in the same area (who may not otherwise know of each other's existence!) can contact each other if they wish, for instance for local gatherings or to get together to share lifts to Society meetings where a long journey is involved. We realise that some members may not wish to have their name and address published, so if anyone wishes to be excluded from this list please inform me or the Membership Secretary, Richard Nicol, 1364 Evesham Road, Astwood Bank, Redditch, Worcs, B96 6BD, in writing by March 1st 1997.

For the more distant future we have plans for a photographic weekend in south Wales, where the expertise of our chairman, Paul Davies, and other experienced photographers, will be at your disposal to help you improve your own technique and methods.

The proposed Expedition to Cyprus this coming March has attracted a lot of interest and seems likely to go ahead. Full details on p. 6. Norman Heywood has offered to organise a return field trip to the wilds of Dorset this summer; date to be announced. Any other ideas for field trips? Watch this space!

Lastly I should like to thank, on behalf of the society, all those members who contributed so much to the November meeting by giving us such a splendid selection of talks and slides.

Richard Manuel, Hon. Secretary, 45 Thorncliffe Road, Oxford OX2 7BA.

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MORNING SESSION

Alan Dash began the morning with an illustrated visit to Mallorca in March. This was an accompaniment to the article which appeared in the first newsletter.

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Tony Hughes then continued with slides from his visit to the Dolomites in the mid to end of June 1996. As many of us who were in Europe at this time will be aware the weather was very wet during June and undoubtedly dampened conditions for photography. Orchids were plentiful however. Tony and Diana had a two centre holiday and flew to Verona initially where they collected a car and drove to their first stop near Lake Garda. They provided the following summary of their visit:

A Few Orchid Sites in the Dolomites Tony and Diana Hughes

This note is intended to supplement the information given at the HOS meeting at Pershore, 9/11/96, following our trip to the Dolomites from 19/6/96 to 3/7/96. The most comprehensive discussion of orchid sites we are aware of is by Manfred Kalteisen and Hans Reinhard in the AHO Bulletin, Volume 18 number 1, pages 1-136, 1986, which not only catalogues about 20 years of records by several Germans, but also critically reviews the identification and distribution of various *Dactylorhiza* species.

In what follows we have deliberately omitted observations of *Dact. fuchsii* and *Gymnadenia conopsea*, which were extremely prolific in nearly all locations. Sites 1 to 7 are all readily accessible by car from anywhere in the Lake Garda region. The remaining sites are considerably farther north, around our second base at Pozza in the Fassa Valley.

Site 1: The region east of Torre del Benaco on the eastern shore of Lake Garda should be excellent to visit in May. Lightly wooded hillsides and open scrubby areas above Albisano were covered with fruiting heads of numerous species, but only *Anacamptis pyramidalis* and *Orchis coriophora* had any flowers left. Seed-heads of *Cephalanthera longifolia*, *Orchis morio* and *Limodorum abortivum* were definitely identified - the many *Ophrys* were not! Other reported species from the area include *Ophrys atrata*, *bertoloniiformis*, *insectifera*, *holoserica* and *sphogodes*; *Orchis simia*, *tridentata* and *ustulata*; plus various hybrids.

Site 2: On the north-eastern side of Monte Baldo, accessible via Mori and Brentonico, a nature reserve stretches from just above San Giacomo right up to the Monte Altissimo road. At the San Giacomo end is a track leading upwards with a sloping meadow on the right. In this meadow are boggy areas with various forms of *Dact. incarnata* and the *Dact. traunsteineri* group.

Site 3: The road that winds up to and along the eastern side of the Monte Baldo ridge is excellent. In the woods were *Neottia nidus-avis*, *Cephalanthera damasonium* and *Listera ovata*, while on the mountain slopes were *Nigritella nigra* and *rubra*, *Dactylorhiza sambucina* (just over), *Orchis ustulata*,

Traunsteinera globosa, *Coeloglossum viride*, *Gymnadenia odoratissima* and *Epipactis* sp. (buds only).

Site 4: Monte Bondone is probably an excellent area (but not in a down-pour as we experienced it) with a Botanic Garden on its northern side and all the usual mountain orchids along the roadsides. In beech woods beside the road that descends towards Garniga on its eastern side, we encountered *Cephalanthera rubra* and *Epipactis atrorubens*.

Site 5: Lago d'Ampola lies near the pass separating Val di Ledro and Val d'Ampola a few miles west of Riva. The marshy area around the lake is a nature reserve containing various confusing *Dactylorhizas*, including forms of *Dact. incarnata* with spotted leaves. *Epipactis palustris* was still at the early bud stage.

Site 6: Near to Lago d'Ampola a road twists upwards to the Passo di Tremalzo at about 5000ft. Although we failed to find *Orchis spitzelii*, there were large numbers of *Platanthera chlorantha* and *bifolia*, *Traunsteinera globosa*, *Orchis mascula* (going over, but probably the *signifera* form), *Leucorchis albida* and *Coeloglossum viride*.

Site 7: A few miles south of Vezzano, the roadside slopes between Padergnone and Calavino are a well-known site for *Himantoglossum adriaticum*. The three spikes we found were 99% over!

Site 8: The road from Pozza towards Bolzano over the Passo di Costalunga passes many wet areas on the eastern side of the pass where *Dactylorhiza* challenges abound.

Site 9: The road east from Moena towards the Passo di San Pellegrino passes through extensive pine woods. At precisely 4.8km from Moena (every 0.1 km has a 'milestone') the woods close to the stream are full of *Corallorhiza trifida* and *Coeloglossum viride*, and there are small numbers of *Listera cordata* and *Goodyera repens* (buds only on 2/7/96).

Site 10: The Val di Vaiiolet, just to the north-west of Pozza, is not open to cars, but is well worth a walk. Orchids included *Neottia nidus-avis*, *Gymnadenia odoratissima*, *Platanthera bifolia*, *Orchis militaris* and the only plant of *Cypripedium calceolus* we saw.

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Simon Tarrant then continued the theme with details of two holidays to France entitled Orchid Hunting by Car.

The first visit at the end of April to Early May of 1994 involved a visit to the Massif des Maures, Provence. A wide range of orchids was found including *Limodorum abortivum*, *Ophrys insectifera*, *O. aymoninii* (a yellow edged version of the Fly orchid) and *Dactylorhiza sambucina*. *Orchis purpurea* and *O. simia* appeared to be plentiful in places. Simon showed a photograph of a wonderful hybrid between *O. purpurea* and *O. simia*.

The second visit, in the last two weeks of May 1995, was to an area further west near the river Lot. Lizard orchids *Himantoglossum hircinum* were common on roadside verges. Orchids were very plentiful on the limestone areas in this region. Birds-nest orchids *Neottia nidus-avis*, Lesser Butterfly *Platanthera bifolia*, and various helleborines were seen near Bozouls. Also found were *Ophrys scolopax*, *Orchis purpurea*, *O. ustulata*, *O. mascula*, and *O. militaris*.

Simon is happy to provide more detailed information on any of the sites if members are interested (Please send a S.A.E.) his address appears at the end of

this section. He has also compiled the following information list to assist anyone in planning their trip.

Orchid Hunting in Southern France - some sources of information

An invaluable book: Bob Gibbons and Paul Harcourt Davies

Wildlife travelling companion, France published by Crowood Press, 1992 ISBN 1 85223 579 9

Geological maps published by BRGM - *Bureau de Recherches Geologiques et Minieres*, particularly the Carte Geologique de la France et la Marge Continentale (Geological Map of France and the Continental Margin) at 1: 1,500,000 - the only national geological map of France currently available, at around £25

General maps published by the IGN - the French equivalent of the Ordnance Survey are available in a range of scales. I find the 1 :25,000 Serie Bleue (Blue Series) invaluable.

Availability

Geological maps from: Geopubs, 43 Lammas Way, Amptill, Bedfordshire, MK45 2TR
Tel 01525 405814, Fax 01525 405376

IGN maps and general travel guides from The Map Shop, 15 High Street, Upton-on-Severn, Worcs WR8 0HJ tel 01684 593146, Fax 01684 594559 or: Stanfords, 12-14 Long Acre, London WC2E 9LP, Tel 0171836 1321 Neither stocks the entire IGN Blue Series, but both will order any map. Both operate mail order.

Simon Tarrant, Bumbys, Fox Road, Mashbury, Chelmsford, CM1 4TL, Tel 01245 231437

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In the fourth talk Richard Nicol gave us a whistle-stop resume of several holidays. Primarily he showed us some of what the limestone plateau of the Burren, Co Clare in Ireland, has to offer. The climate and grykes of the limestone provide microhabitats suitable for a wide range of species, including Frog orchids *Coeloglossum viride*, Greater and Lesser Butterfly orchids *Platanthera chlorantha* and *P. bifolia*, and Dark Red Helleborine *Epipactis atrorubens*. *Gentiana verna*, the Spring Gentian, also inhabited the thin soil layer over the limestone rock. Also found were *Dactylorhiza traunsteineri* and *Neotinea maculata*, locally known as the Irish orchid but known to most of us as the Dense-flowered orchid. The latter is more commonly found in Mediterranean regions and is a reminder of the mild climate enjoyed by western Ireland. Richard suggested May as the best time to visit, with a range of species to be found from April to June.

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To round off the morning session Paul Harcourt Davies showed slides to illustrate the proposed HOS trip to Cyprus in March 1997. A detailed itinerary follows for those who are interested. Much interest was shown at the meeting and as the visit needs to be organised as soon as possible we would urge you to contact Paul for further details NOW or preferably yesterday - address on the information sheet below. Even if this trip is too short notice (and by the time you read this it may well be full) please contact PHD if you are interested as this will enable us to gauge whether there is sufficient interest to repeat this trip and/or run others in 1998.

H.O.S. CYPRUS TOUR - 13 to 22 March 1997

Cost £795 (single room supplement £95.00)

Introduction

From 1978 until 1981 Paul Harcourt Davies lived and worked in Cyprus as Head of Science at the English School in Nicosia. A civilised local attitude to work allowed him to finish at lunchtime and indulge in the important things in life - making films for TV, writing books (*Wild Orchids of Britain and Europe*) designing stamps and exploring all the highways and byways of the island. This relationship with the island has continued with numerous articles written on the flora, annual tours for Hidden World and other companies and a guide book to the island published earlier this year for the Globetrotter series. Currently he is involved with two projects - a series of monographs on the island's wildlife (orchids being one of them . . .) and a television series along the lines of BBC 2's *Tracks* which attempts to link humankind with the landscape and ultimately aid conservation efforts there by increasing awareness.

In recent years development in Cyprus has occurred at a frightening rate - a testament to the worship of the Great God Concrete. But special places still remain and this tour will reveal a very different side of Cyprus from the tourist brochures - scrub-covered (and orchid filled) hillsides, lonely plunging limestone gorges where ancient volcanic rocks have been pushed up from the floor, and meadows where some of the vanishing 'weeds' of agriculture still grow. For those who are prepared to look up as well as down there are birds - migrating Cranes, Flamingos, Cyprus Warblers, Cyprus Wheatears and butterflies including the endemic Pafos Blue and Cyprus Festoon. On this tour we can cater for both the maniacal orchidomane and the rest of us who enjoy other flowers, birds and insects set in a stunning landscape.

What the Tour cost Includes

Nine nights accommodation on a half board basis at the Drousia Heights Hotel in the Akamas region which puts us within easy reach of some of the island's best scenery. Hotel manager Philippos Drousiotis is an old friend and one of the movers for sustainable tourism in Cyprus whose efforts have won him a Green Globe award.

Meals - We dine at the hotel for six nights of our stay and at local tavernas for three nights (included in the price). Anyone with special dietary requirements can be accommodated - Greeks call vegetarians 'hortophagos' (grass eater) - which sums it up. However, Cypriots have a tradition of excellent vegetable dishes which they are rapidly re-discovering. A light picnic lunch will be provided daily - fresh bread, fruit, cheeses and meats. Thus the tour price represents an ALL IN COST.

All transport - from airport transfers to daily carriage in 4-wheel drive vehicles to where we can walk and enjoy the countryside. With enough participants and several vehicles we can deploy vehicles to arrange some

lengthier walks for those who enjoy them whilst those who want to relax can be ferried by Nissan Patrol or Mitsubishi Shogun . . .

Proposed Itinerary

Fine-tuning is always necessary according to whether spring is early or late ...and the weather. Normally in March climate has stabilised to shirt-sleeve conditions but in 1996 that was not the case - we travel prepared, bad weather is seldom persistent and our commanding position at the Drousia Heights allows us to circumnavigate dangerous-looking clouds.

Day 1 Fly from Heathrow to Pafos (times to be finalised); transfer to Drousia Heights Hotel in the northwest of the island.

Day 2 We travel to Neochorio (where *Orchis punctulata* grows) and then with stops en route to our picnic place high on the Akamas peninsula where there are wild tulips. In the afternoon we follow a spectacular trail on foot down to the sea with numerous tiny bays laid out in front of us at the tip of the peninsula. We return along a coastal track where the wild cyclamen grow in profusion.

Day 3 We walk from our village past ancient vineyards where orchids now flourish towards the deserted Byzantine church of *Ayia Ekaterini* and then explore some of the surrounding countryside

Day 4 A short journey brings us to the head of the *Aspros* gorge where we descend on foot along a dirt road to the sea and confront some of the most spectacular scenery on the island. Here there are high limestone crags and ancient volcanic rocks thrown from deep below the earth - birds include hoopoes, rollers and bee-eaters if the spring migration has started and, Of course there are orchids. We explore the adjacent *Avgas* gorge from its spectacular lower end.

Day 5 A drive along the north coast beyond the town of *Polis* takes us into the *Tillyrian Troodos*, a wild landscape where black and red rocks tumble to the sea. We head inland to explore a valley where the dried up river bed always yields carpets of intriguing flowers and higher up the valley orchids grow in abundance.

Day 6 Travel to the Akamas ridge and walk down to the sea following a little-used dirt road which passes through a landscape where there are still weeds of 'primitive' cultivation.

Day 7 We explore the Xeros valley east of *Pafos* once the home of "bandits" and now a place where vultures and other birds of prey soar. Flowers carpet the flood plane in spring and there are remnants of Venetian rule in the shape of bridges and parts of an aqueduct.

Day 8 An early start for the journey along the coast towards Limassol and the salt lake at *Akrotiri* where flamingos can be seen. The scrub around the lake is home for *Ophrys kotschyi* and tree frogs - nearby the marshes at *Asomatos* are one of the best bird-watching sites on the island. We return along the coast with detours into the *Krassochorio* (Wine county) where there is some rugged, orchid-rich limestone terrain.

Day 9 A leisurely morning with a chance to explore some more of the countryside around our base. In the afternoon we travel to the *Skarphos* bridge (an old Venetian bridge) set in a fertile but deserted valley where we look for plants . . . keen birdwatchers might like to visit the large dam at the foot of the valley.

Day 10 Travel to Larnaca for the flight home.

ALL BOOKINGS . . are made through *SUNVIL* Holidays - interested parties will be sent a *SUNVIL* booking form which means that we are fully bonded and insured. *SUNVIL* holidays are the premier independent travel operator to Cyprus and its Director Noel Josephides has done more than anyone to encourage the use of village houses and sow the seeds of sustainable tourism. Their reliability is legendary.

(Address: Sunvil Holidays,
7 & 8 Upper Square,
Old Isleworth.
MIDDX TW7 7BJ.
Tel: (0181) 568 449 Fax: (0181) 568 8330

Flora and Fauna

Akamas was proposed as the island's first National Park - scenically it is a superb region where Cyclamen covered cliffs plunging towards an azure blue sea is only one of the attractions. Akamas is a centre for bird migration - warblers, cranes, raptors, hoopoes, rollers and bee-eaters, although exact times for spring and autumn migrations are impossible to predict. Animals are few - there is an interesting collection of (harmless!) reptiles and amphibians including both loggerhead and green turtles. Cyprus has a remarkable flora with some 125 of its 1250 species endemic to the island (including several unique orchids and bulbs). In springtime there is an explosion of bulbs and annuals. The wealth of trees and shrubs are at their best in autumn when colours change.

OTHER TOURS . . .

In conjunction with **Alternative Travel Group** of Oxford Paul Harcourt Davies is leading a series of tours to Europe designed for those who like their orchids with wonderful scenery, excellent food and some good walks (moderate fitness only is called for). This spring destinations include Italy's Mte Gargano, Sardinia, Mt Sibilini and in France the Cevennes and Causse country.

Lavish Brochure from **Alternative Travel Group**, 69 -71 Banbury Road, Oxford OX2 6PF, Tel; (01865) 513333 Fax: (01865) 310299

For those who want something a little different this autumn Paul Harcourt Davies will be starting a programme of easy walking tours to Cyprus with Hidden World which takes in Akamas. Walks end with a swim in a sea still warm after the summer. Birds are on migration and Lammergeier and Redfooted Falcon are often seen. Flowers are fewer in number but some of the real rarities appear after the first few drops of rain. We divide our time with Pitsillia, the least known region in Cyprus where villages are separated by high mountains. Our base at the Rodon hotel allows us to walk where the views are breathtaking and the autumn colours are incomparable.

POINTS TO NOTE - P.H.D.

- I would be grateful for an early indication of interest - this is a busy time for me and if the tour cannot fill then I can easily do something else with

enough warning! Quorum is 12. For a smaller number the trip would have to be recosted and would be slightly more expensive - similarly with 16 (max) the trip becomes slightly cheaper.

- Cost is below anything else on offer by a reputable tour company - this offers more time in Cyprus, all meals paid for (including taverna) and the costs of leader 'absorbed' (fee waived!). All flights are scheduled Cyprus Airways. This price depends on others being willing to drive one of the Pajeros.

- Credit Card bookings welcome by *Sunvil* BUT on these prices a surcharge will have to be made equal to the fee required by the card company (about 1 %)

- Contact PHD who will send a *SUNVIL* booking form - Write to : Mr P. Harcourt Davies, Fernhill, Llanquian Road, Aberthin, Cowbridge, South Glamorgan CF7 7HB

- Taverna meals will include local village wine - hotel meals wine extra.

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AFTERNOON SESSION

A brief business meeting was held immediately after lunch. The geographic distribution of members in the UK was illustrated and the suggestion of twin autumn meetings was put forward. These to take the form of separate northern and southern meetings. It was difficult to assess whether members were in favour of this idea since those members present were obviously reasonably happy with the current venue. It was felt that the membership was probably insufficient to justify two meetings in the autumn at present as this would double costs, particularly if guest speakers were invited. Some members suggested that Birmingham might be slightly more accessible to motorway travellers and Norman Heywood's idea of using Birmingham Botanic Gardens is to be investigated.

The subject of publishing a membership list was again discussed. No-one at the meeting had any objections so we will go ahead (see p. 2).

* * *

Returning to the programme, Adrian Blundell gave a very interesting resume of his experiences at Low-tech sowing which prompted much discussion. He has been experimenting with sowing orchid seed directly onto soil in controlled conditions. He uses John Innes No 1 or 2 and sharp grit in a 1:1 ratio, adding an equal quantity of Seramis to open the compost further. This mixture was placed in a honey jar and sterilised in a high dome pressure cooker for 10 minutes. After allowing the jar to cool down the lid is removed in a still room to allow fungus to be added. The fungus is taken from a sterile agar preparation with a spoon and dolloped into the jar. The mixture is then sprayed with sterilised rain water and the lid replaced. This is left for three or four days at room temperature to allow optimum conditions for fungal growth. Following this unsterilised seed is sown onto the soil. More water can be sprayed on at this stage if necessary. The jars are then placed in the dark. Protocorms can be seen in about six weeks with a hands lens. To date this method has been used to germinate *O. mascula* and *O. morio*, plus several

Dactylorhizas with reasonable success so far, though Adrian has only been using the method since August.

A reasonable amount of fungus is added so that it spreads quickly over the soil and there is little opportunity for secondary infection to occur.

As Adrian pointed out there would be no set back at weaning time as the plants are already in soil. In fact he is also experimenting with adding soil to seedlings already growing in sterile conditions. Once the seedlings are quite well established on the agar he then adds fungus, waits until this has established, and then adds soil on top. The agar medium disappears by absorption and the seedlings can romp away.

Peter Corkhill mentioned his experiences with growing *O. morio* on Oats Medium when the seedlings tended to reach a certain size and then stop growing. He wondered if adding soil at this stage might encourage root formation.

There was some debate about whether it is necessary to sterilise the soil initially. People have experienced success both ways.

Once the seedlings are growing well in the soil/agar mix Adrian suggests removing the lids and covering the tops with plastic cups with a few holes in the top. This retains the humidity for the weaning seedlings as it was generally felt that dryness is one of the commonest causes of failure at this stage.

The session prompted much useful discussion. Jim Hill wondered if adding yeast extract to the soil to enrich it (at the rate of 100mg/L) might be useful.

Phil Meek thought that using a pot with free drainage might be better to prevent self poisoning in the bottom of the jar as water would then drain straight through.

Adrian was keen to point out that this method would be useful to members wishing to try sowing seed for the first time in the absence of any sophisticated equipment. Many people purchased seed and fungus from the Society, through Adrian, at the meeting. Adrian said that it is necessary to replant the fungal cultures regularly, i.e. every 3 - 6 months, onto fresh medium to keep the fungus healthy. Several members spoke of doing this successfully in a flow of steam, for example over a pan of water.

Any members still wishing to purchase seed or fungus from the society should contact Adrian Blundell at 35 King Street, Chery Orchard, Shrewsbury, Shropshire SY2 5ES for the relevant lists.

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After Adrian's presentation Richard Manuel gave us some of his views and experience on weaning seedlings from sterile medium. The contents of this talk will be covered in his series of articles "Flasking Forum"

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FLASKING FORUM - Part 2

Richard Manuel

I have had a moderate response so far to my request for discussion/dialogue about seed raising. A couple of questions about sterility highlighted a point I had thought was well known: to sterilise the growth medium, instruments, and other paraphernalia, cooking things at the boiling point of water is NOT sufficient. The best way to do this in the home is with an ordinary pressure cooker, using it at full pressure for 15-20 minutes; this will kill very nearly all

microorganisms and their spores. Of course, if you have access to an autoclave, use that! Unfortunately a few types of spore are resistant even to this. If present (and they are rare) they may remain dormant for some time before 'hatching' and forming a nasty little colony of very unwelcome crusty blue-green stuff, or 'cotton wool', which is why you should remain vigilant and inspect your cultures at regular intervals. It is sometimes possible to remove, using a sterile spatula, the earliest stages of an infection, when it is just beginning and no more than about 3mm across. But if it is in contact with the side wall of the container even this will not work. Any chemical that will kill it will almost certainly kill the seedling too, though it is worth trying (as a last resort) a few drops of 10% bleach in the hole from which the infection has been removed if the bug flares up again.

Martin Smith wrote to say that he finds Hogg Laboratory Supplies very helpful and has bought various items from them in the past. His experience with Sigma has not been as fruitful as mine, but he said this was a few years ago and my experience with them is more recent. Hogg's address is Freepost, Sloane Street, Birmingham, B1 1BR.

Carol Dash has also supplied the following information:

Members may also be interested in the following Chemical Supply company which some members have already been using for laboratory chemicals and apparatus. I found them very helpful. If you wish to order anything from their catalogue it would be best to mention the Society. For the supply of any hazardous chemicals they do require either proof of membership of the Society or documentary evidence as to the purpose of use. For a catalogue or further information please contact:

Scientific and Chemical Supplies Ltd
Unit 3, Cheston Road, Bilston,
West Midlands, WV14 ORD.
Tel 01902 402402, Fax 01902 402343

Now, to continue last month's article:

... Once the protocorms have reached 3 or 4 mm across the time has arrived to replant them, to give them more space and fresh medium (with full sugar now if asymbiotic) in order to keep them growing well. Working under sterile conditions of course, simply pick out the largest protocorms and arrange them, evenly spaced on the new plate; about 20 -25 protocorms on a fresh 90mm plate is about right for best growth. Use fine 'watchmakers' forceps for this and try not to destroy too many root hairs whilst doing it. The bodies of the protocorms are surprisingly hard, like little nuts, and can be picked up quite easily. Often they become stuck together and now is the best time to separate them. Ideally two pairs of forceps is best, but it can be done with one pair by inserting the closed points between two protocorms and allowing the springing-open action of the forceps to separate the 'corms. Seal the plates and return them to darkness for a few more weeks; growth rates vary enormously so it is impossible to say for how long. When the protocorms start to develop shoots which turn greenish, and 'bang their heads against the roof' they can be moved to a flask of fresh medium.

Flasks: Any old glass bottle with a lid is suitable. Honey jars, which can be obtained with autoclavable plastic lids, are very popular, but are a little on the

short side for some plants. Jam jars are quite good for taller seedlings. Any jar without a suitable lid can be capped with aluminium kitchen foil during sterilisation, and then sealed with one half of a polythene bag off a roll, using a rubber band, once the seedlings have been transplanted. The inside surface of 'food bags' bought on a roll is effectively sterile due to the manufacturing process. Use at least 2cm of the agar medium as it has to last a relatively long time and a too thin layer will dry rapidly and not maintain a proper moist and soft environment for the roots.

The seedlings will grow fast from this stage if given plenty of light and room temperatures - 60 -70°, preferably with a marked drop at night. I grow my seedlings under fluorescent lights in a cool cellar and the drop in temperature when the lights go off is sufficient. If you use artificial lights set them on a timer and try to follow the day lengths outside. This way the seedlings will know what time of year it is and when to do things like making a tuber - in theory, at least!

Eventually your seedlings will be ready for weaning out of the flask and into pots of compost. At which stage you do this depends on whether the plants have been raised symbiotically (with a fungus) or asymbiotically (without).

The basic method of weaning European terrestrials is the same as that used for tropical orchids. A week or more before deflasking open the flask - a crack at first, widening it over several days - to admit fresh air to harden the leaves off. When ready, carefully unplug the seedlings from the agar, remove any large lumps of agar medium from the roots, and pot up, watering in thoroughly.

The idea of this deflasking method is to keep stress on the seedlings to a minimum by altering their immediate environment as little as possible during the change. In the flask they have high humidity, nice even lighting, their roots are immersed in a nutrient solution, they have no competitors other than each other, and no pests to worry about. After potting, all these conditions except for the root environment can be duplicated by using a propagator (see below) thus avoiding changes which are the main cause of trauma to the seedlings.

I will consider symbiotically raised seedlings first, because they are relatively easy. In the flask the seedlings are feeding on the fungus and continue to feed on it when they have been moved into compost; so only the fungus itself has to accommodate to the new substrate and this it does pretty easily. This means that the seedlings can be deflasked when they are comparatively young - when two or three leaves have formed and there are several roots at least 1cm in length. I think there is a definite advantage in adding a very weak organic liquid fertiliser to encourage the fungus to grow strongly and spread through the compost.

My normal compost for this is along the lines of Cribb & Bailes standard brew, which includes loam, dry broken leaf material (NOT rotted leaf mould), fine bark, all of which are food for the fungus, and lots of grit. Others find a simple mixture of John Innes 2 and equal parts of grit to work well; this probably depends on the quality of the JI2.

I start the plants off in a closed propagator with hydroleca in the bottom, just covered with rainwater, and arrange things so that the pots are actually just standing in the water to ensure that the compost gets properly wetted (the roots, of course, will be way above the water level). Over the next week the propagator is gradually opened until the plants are in open air. From now on

the plants can be grown in the greenhouse or even outside in the open air if the initial change of climate is not too severe - even frost hardy species do need a little time to acclimatise! Once growth in the real world has got going things will proceed as normal, a tuber will be produced and dormancy should occur at the appropriate time.

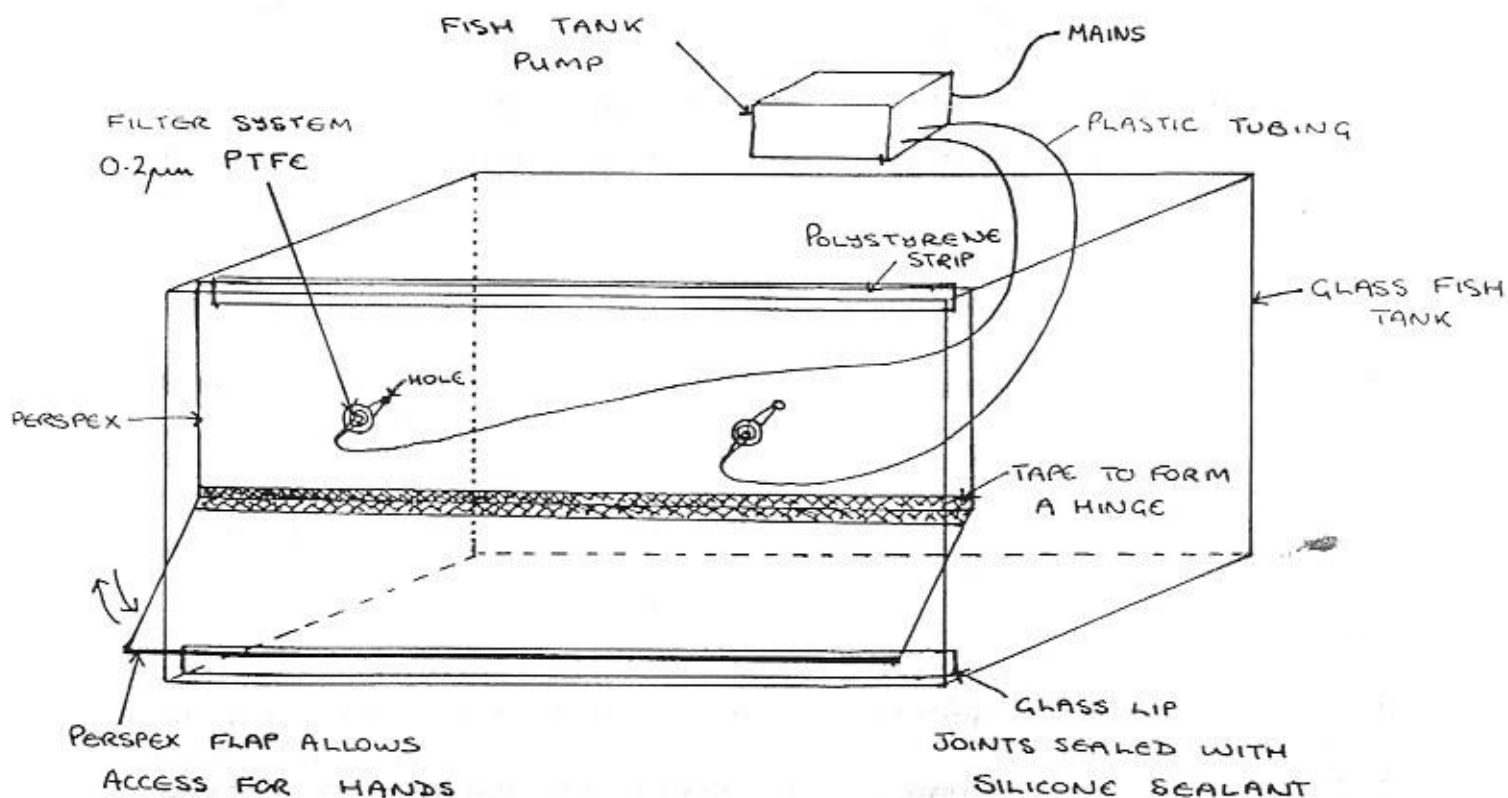
Next time I shall deal with the vexed question of weaning asymbiotically grown seedlings.

* * * * *

A DIY GLOVE BOX

Carol Dash

The following diagram shows a home made glove box made by Adrian Blundell and now in use at our house (Adrian has since made his own laminar flow cabinet). This will give people the basic idea for constructing a box of their own if they are interested. The basic shell is a fish tank on its side. The interior of the glove box can be sprayed or wiped with bleach prior to use to sterilise the surfaces.



Please remember to take care if transferring hot jars from a pressure cooker into the fish tank not to crack the glass floor. We have access to two different home-made laminar flow cabinets which could be reproduced here in the

newsletter. What might be more useful is if anyone with such a cabinet wrote to me enclosing a sketch of their own cabinet and its pros and cons for members to learn from.

* * * * *

GROWER'S DIARY - PART 3

Alan Dash

January

The weather this winter is cold. The thermostatically controlled fan heater in the greenhouse toils away most nights and sometimes during the day as well. It manages to keep the greenhouse and the sand plunge, where most of the orchids are situated, just above freezing. Because of the cold conditions the plunge remains moist and there is no need to water at all for about a month - except I do carefully give a little water from the top of the pot to wetter-growing species such as *Serapias lingua* and *Orchis laxiflora*.

Despite the apparent care with watering the only plant of *Ophrys holoserica* that I have begins to look sick. When the rosette is poked it becomes obvious that it has rotted off at the neck. At about this time I have similar problems with *Primula allionii* plants rotting off. At points, the greenhouse appears to drip water onto the benches either from small leaks or from condensation - I think this is the cause of the demise of the late spider. It reminds me that plants can easily be lost.

The *Barlia* flowers magnificently through January and February and other Mediterranean orchids prepare slowly to bloom.

February

A succession of orchids come into flower during this month. They appear to flower ahead of the same species in the wild. I think this must be to do with the early start they get with me in August/September as opposed to October/November rains they get in the Med.

Seed sowing is carried out when I can find the time. This is quite infrequently as the pressure cooker/kitchen sink/fish tank set up takes a good 3-4 hours to sow just five different seed types. Contamination remains a problem causing failures in about a quarter of sowings. Some seed just doesn't want to germinate - very frustrating! - but there are significant successes as well. I am exceptionally pleased to germinate *Cypripedium reginae* seed. Of the other seed that does germinate, those with fungus develop strongly whereas those in just sterile nutrient medium tend to be weaker in their growth.

March

More Mediterranean types flower. Some of these are selected for pollination. The pollinia are located and a cocktail stick is used to transfer pollinia to the stigmatic surface.

The cold weather has continued and greenhouse temperatures have not been high. The frost free conditions, however, are enough to start the *Dactylorhizas* into growth. These have been placed under the bench in the greenhouse. This (relative) cossetting proves a problem as they now need light but the new shoots could be tender. They are put outside by day and returned under cover by night - very labour intensive! Next year they're going to stay out in the cold.

In early March many of the *Cypripedium* seedlings are brought out of the fridge. The fridge has been in the cellar and temperatures within have gone below freezing on occasion - not ideal. Some seedlings are placed inside under lights and some in the greenhouse. *Cyp. reginae*, *guttatum*, and *californicum* all produce leaves. Those in the greenhouse are slow and unhappy compared to those under lights. I think they benefit from the higher temperatures inside (10-20°C) compared with those in the greenhouse (March & April 1996 continue to be very cold and light levels are also generally poor). Very much looking forward to our visit to Crete in early April.

* * * * *

ORCHIDS OF APULIA - PART 2

Paul Harcourt Davies

Italy's far south can be explored by flying to Bari the capital of Foggia. Unusually for a country which boasts some of the finest cities ever built by humankind, Bari has little to commend it. Fortunately, the Murgia hills, a quick escape to the west, remedy this deficiency. These rolling limestone hills have areas of mature open pine and oak woodland as well as 'scrub woods' with low trees of Downy Oak (*Quercus pubescens*) or Kermes Oak (*Quercus coccifera*) where there are orchid populations. There are large numbers of *Orchis morio* and *Orchis papilionacea* carpeting glades as they do on the Gargano peninsula. Both in the scrubby oak woods and on open ground *Ophrys bertolonii* is unmistakable with its deep pink tepals, chocolate labellum and bright, shining blue speculum.

Southern Italy is remarkable for the bewildering array of plants which clearly owe allegiance to *Ophrys holoserica* but which often defy the best of intentions to ascribe them to well-labelled niches. Two of these taxa are frequent here, *O. apulica* and *O. parvimaculata* - on the whole easily recognisable for what they are until one encounters some extremely confusing intermediaries.

Although there is extensive cultivation in this part of southern Italy one of the delightful features is the number of small fields enclosed by dry stone walls made from limestone lumps cleared from the field. Many of these fields have lain idle for some time and small oak bushes have grown in them with the Mediterranean Medlar (*Crataegus azarolus*) and large spikes of Yellow Asphodel (*Asphodeline lutea*). These fields provide orchid habitats of astonishing richness where a dozen and more species of orchid is not unusual: on several occasions when I have bothered to count I stopped at seventeen species before counting subspecies and hybrids which swelled the list to twenty six.

No-one will be disappointed by travelling along the narrow roads which thread the countryside between Mottola and Noci or branching off towards the Trulli country with the distinctive round houses (Trulli) with their conical roofs, warm in winter and cool in summer. The houses were built from stones cleared from the surrounding fields - the greater the number of Trulli making up the living accommodation the larger the number of cleared fields and thus the wealthier the landowner. Again, between Cisternino and Ceglie Messapico the roadsides are bright with pink spikes of *Orchis italica* and within stone walled

fields you might find, as we did. a veritable laundry list of species *Aceras anthropophorum*, *Anacamptis pyramidalis*, *Barlia robertiana*, *Orchis morio*, *O italica*, *O papilionacea* and *Orchis coriophora ssp. fragrans*, *Serapias lingua*, *S. parviflora* and *S. vomeracea*, *Ophrys lutea*. *O lutea ssp minor*, *O garganica*, *O incubacea*. *O bombyliflora*. *O bertolonii*. *O tenthredinifera*, *O. parvimaculata*, *O. apulica* as well as hybrids between several *Ophrys* and the attractive x *Orchiaceras bivonae* the product of parents *Aceras anthropophorum* and *Orchis italica*. As the icing on an already rich cake there were several plants of *Ophrys tarentina* (a relative of *O. sphegodes* with much-reduced speculum pattern) and the intriguing *Ophrys holoserica ssp 'celiensis'* a taxon now considered to be linked to *Ophrys oxyrrynchos* from Sicily. What caused the most head scratching as one moved about from one corner of a field to another (let alone from one field to the next) were swarms of *O. holoserica* relatives of almost unattributable identity which seemed to be 'intermediates'. If ever one needed an excuse to sit down with a bottle of earthy red Puglian wine in an evening and cool the fevered brow these plants provide it. Such an array of orchids is astonishing but a fragile treasure house like this can be destroyed in a single season by an EC-induced incentive to plough or change agricultural practice in some other way.

The autostrada running south of Bari provides an easy access to the country described but what comes as a surprise is the drop down towards the eastern coast since the road had risen gently. You have been travelling, in fact, on a large limestone plateau which gradually fades away towards the south and abruptly to the coast.

Most roads in the south seem to lead towards Lecce, sometimes referred to as the Venice of the South. An important city in Roman times, it later became a thriving trade centre and its wealth provoked a lavish style of baroque architecture almost ornate to the point of vulgarity. The old city is remarkable and offers the *orchidomane* a chance to see what else can be done with a soft limestone other than for the rock to form the substrate upon which orchids can grow.

From Lecce towards the coast at San Cataldo and then south there are numerous sites for orchids - here the land, although flat, is a low limestone area with numerous stony fields, extensive open areas and coastal plantations of Aleppo pine. In late April the roadsides are ablaze with colourful annuals and there are numerous orchids in flower the most intriguing of which is *Ophrys candica*.

Where *Ophrys parvimaculata* reigned near Bari and *O. holoserica ssp celiensis* took over near Ceglie Messapico, *Ophrys candica* now seems to fill the niche. *Ophrys apulica* occurs as a companion to all three throughout, though not as the silent partner judging by the number of intermediates. Populations of the taxa blend (but not seamlessly) into one another. One gets the distinct feeling in this part of the world that anyone who imagines they have finally come to grips with the genus *Ophrys* must be suffering from chronic self-delusion.

* * * * *

Review

The NORTH AMERICAN NATIVE ORCHID JOURNAL

Richard Manuel

The North American Native Orchid Alliance (NANOA) has been in existence for less than two years, but has already achieved a membership of over 400, and their journal is halfway through its second year. After a rather tedious (for non natives) start, consisting largely of checklists of native species and every known colour variant, the journal is gaining momentum and interest in its contents. Some of the recent articles describe things of particular interest to an outsider from Europe, such as the rapid spread in North America of the introduced alien *Epipactis helleborine* (an occurrence which is well known on this side of the pond) and also the appearance of *E. atrorubens* and *Dactylorhiza praetermissa* (which aren't). Other articles concentrate on regional orchid floras or habitat and range descriptions of individual species, which will be of help to those trying to grow the things; and there is even a recent list of nurseries supplying native orchids. Well known authors include Phil Cribb, Chuck McCartney, Philip Keenan and Ronald Coleman, but a noticeable feature is the large number of contributions from 'ordinary' members - readers of this newsletter please note!

The journal comes in quarterly parts produced cheaply but adequately. Several colour plates are included, but the printing is by colour photocopier so don't expect glossy magazine standards. The editor reckons that once subscriptions exceed 500 they will be able to do a much better production job. At \$30 per annual subscription it is reasonable value (except for the extra costs of buying dollars) and I shall certainly be renewing my subscription for next year.

Stop Press!!!

The sizzling ether between HOS and NANOA has been in danger of conflagration recently, resulting in the following SPECIAL OFFER to HOS members. Here are the details sent to me by the NANOA Editor:

The MARCH 1997 issue of the NORTH AMERICAN NATIVE ORCHID JOURNAL will be devoted entirely to a very special work on the genus *Cypripedium* and its cultivation by John Doherty. Also included will be a section of sources of many of the plants. Single copies of this issue will be available to HOS members for £7.50 each including all postage. Hardy Orchid Society members wishing to take advantage of this offer should send a cheque for £7.50 to Richard Manuel (Hon. Sec.) 45 Thorncliffe Road, Oxford, OX2 7BA by 14th Feb 1997. RLM will do the importation and distribution at this end.

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LETTERS TO THE EDITOR

From Stephen Davidson,

Dear Sirs,

Seed Sterilisation

Thank you for a thoroughly enjoyable and informative newsletter. You asked for some comment, and as I have tried for the first time this year to germinate hardy orchid seed in the kitchen at home, I thought some of my experiences may lead to other converts. Apologies to the experts.

My basic technique involved using a perspex box 2' x 1.5' x 1.5' with closed top, bottom and sides, and a half closed front. (Note: perspex melts under the heat of a flame used to sterilise equipment!). I use Milton to sterilise the box, my gloved hands, and the seeds. Neat Milton does work well, but whether it is too strong only time will tell.

After sterilising seed in the pod or in packets of filter paper for 30 mins, I transfer it to the medium in the box. Early attempts resulted in contamination, and now I succeed by placing Milton-dampened cloth over the jars & petri dishes, etc. This works well.

I learned early on not to sterilise medium in plastic petri-dishes in a pressure cooker - they melt. I still haven't found a way of using these, and therefore use jam jars which hold medium and can be pressure cooked for 20 minutes.

To date, only *Platanthera bifolia* has germinated asymbiotically on TGZ medium but it is early days and more may yet develop.

I would welcome ideas on how to transfer sterile medium into sterile petri-dishes in a kitchen without getting the medium contaminated.

Yours sincerely

Comment from RLM. I suspect that neat Milton may be too strong for sterilising seeds - can anybody else supply experience of this? As for transferring sterile medium to sterile petri-dishes (which come in sterile packs) I don't see why simply pouring your plates inside the sterile box shouldn't work; the main thing is to avoid strong disturbances of the air in the box once it is sterilised, and make sure that your gloves have been wiped thoroughly with your Milton soaked cloth. It also pays to leave the poured plates in a warm place for a week or so to allow any stray spore that might have got in to germinate and show up - better than sowing onto a contaminated plate!. See Flasking Forum part 1, Newsletter No. 2.

From Sandra Bell

Terrestrial Orchid Study Day at Kew

I very much regret that we will not be able to host our annual study day at Kew in 1997. The reason is that the Lower Nursery on which the Orchid Collection is housed will be demolished in April and new nursery facilities built. This is an exciting development and we will be thrilled to have new up-to-date glasshouses but it will mean disruption to our normal yearly programme of activities, especially during March when we will have to move the entire collection to alternative accomodation. I hope that by 1998 we can run the event in our new nursery.

* * * * *

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