The Hardy Orchid Society Newsletter

No. 29 July 2003

Content

Cover Illustration - Limodorum abortivum - Sarah Marks

Editorial

Welcome to the July issue of the Newsletter. As you will read in the AGM report, the Hardy Orchid Society is planning to try and im prove this newsletter by introducing more colour which will include a colour cover and possible changes in the way colour is used in the body of the newsletter. Any newsletter/magazine is only as good as the articles which it receives, so I would like to ask members to keep contributions flowing. If anyone is uncertain about the format or size of articles, we are developing a list of criteria which will become available to aspiring authors.

As editor, I also welcome letters from readers relating to articles or other orchid related matters, and will publish those space permitting. Articles published do not necessarily reflect the views of the Hardy Orchid Society.

HOS Car Share Scheme

The members of HOS are scattered all over the country so must have to make a long journey to reach the venues for meetings. Some will find it difficult, or impossible to attend as a result. It occurred to me that it might be possible for those happy to drive to offer spare car seats to nearby members, in return for a share of the petrol cost.

A questionnaire circulated at the last meeting met with a very encouraging response, and the committee suggested that I should try to organise such a scheme. To do this, I'll need as complete a list as possible of members prepared to offer lifts. I hope to hear from all you generous members who like to see the meetings well supported, and who don't usually travel in a car overflowing with plants, so that I can expand the list generated at the Wellesbourne meeting. I'll need your telephone numbers and e-mail addresses, please. I feel that this scheme will be well worth organising if just one or two extra members are enabled to come to the meetings.

Kath Fairhurst, Greenhill Cottage, Cradley, Malvern, Worcs WR13 5JE. Tel: 01886 880763. E-mail: kathfairhurst@freeuk.com

Seed & Fungus Bank

I would like to take this opportunity to thank all members who kindly donated seed to the bank for the year 2002. I should also like to thank members who requested Seed & Fungus in order to grow orchids from seed. I hope you all had some success.

Once again, can I ask any member who may have pollinated and collected seed from their plants, if they have any spare seed, please remember the Seed & Fungus Bank. Updated Seed & Fungus list is available from me. Please send a stamped addressed envelope to **Ted Weeks. 74 Over Lane. Almondsbury. BS32 4BT.**

The Hardy Orchid Society
Harlow Carr meeting, Sunday September 14th 2003.

Provisional Programme (all times subject to change).

9.30 a.m. Meeting opens. Tea/Coffee, Sales tables.

10.30 a.m. Chairman's Introduction

10.35 a.m. Michael Lowe *Some Problematic Spanish Orchids*

11.15 a.m. Brian Laney *Hunting for British Orchids Part 2.*

12.00 a.m. Brian Allen *Orchids of Scotland.*

1.00 p.m. Lunch

2.15 p.m. Cultural forum:
Richard Manuel *Cultivation of Mediterranean Orchids*
John Haggar *Cultivation of Summergreen Orchids*

Followed by Business Meeting and tea

Meeting closes at 5.00

An application form for this meeting is included with this Newsleter

HOS Plant Show - April 27th 2003

§Oh dear ! What did this year's strange spring weather do to the HOS Show ? I was receiving apologies from all areas because the members' plants were either over or struggling to flower. However, all was not lost and 10 exhibitors arrived with their little gems of orchids to put on the benches. Thanks to all of them we finished up with 25 plants exhibited, some of which were of a high standard despite the growing conditions this season.

The judge this year was Chris Bailes who used his expertise to give the Best of Show to an excellent pan of *Cypripedium plectrochilum* shown by Norman Heywood, after careful comparison with *Calanthe discolor* shown by Steven Newton. Another well grown Calanthe was *Calanthe sieboldii* shown by Malcom Brownsword. *Cypripedium plectrochilum* was one of the plants in a three pan group together with *Cyp. calceolous* ans *Cyp.* 'Gisela'. Also on the bench was an exhibit of two colour forms in the same pot of *Dactylorhiza sambucina* shown by John Haggar.

It was nice to see new members exhibiting plants, and a husband and wife team, Chris and Doug Caldwell competing against each other in the same class with *Ophrys helenae* and *Ophrys antiochiana.* Comgratulations Chris, on getting the

first prize. The full results are given in the table below. Hopefully next year's weather will prove more kindly to exhibitors who felt they were unable to exhibit this year.

No	Class	First	Second	Third
5	Three pots any country of origin	Norman Heywood *Cyp.plectrochilum* *Cyp. calceolus* *Cyp 'Gisela'*		
6	One pot British	Neil Hubbard *Anacamptis morio*	John Haggar *Anacamptis morio*	Colin Clay *Orchis mascula*
7	One pot European		Colin Clay *Ophrys speculum* = Doreen Webster *Serapias lingua*	
8	One pot non - European	Michael Powell *Cypripedium segawii*	Colin Clay *Ophrys antiochiana*	Doreen Webster *Cypripedium 'Emil'*
9	One pot Dactylorhiza	John Haggar *Dactylorhiza sambucina*		
10	One pot Orchis		Colin Clay *Orchis syriaca*	
11	One pot Ophrys	Chris Caldwell *Ophrys helenae*	Doug Caldwell *Ophrys antiochiana*	
13	One pot Cypripedium	Michael Powell *Cypripedium formosanum*	John Haggar *Cypripedium henryi* = Doreen Webster *Cyp.parviflorum var makasin*	
14	One pot any other genus	Steven Newton *Calanthe discolor*	Malcolm Browsword *Calanthe sieboldii*	Colin Clay *Pterostylis curta*

Report of the 11th AGM of the Hardy Orchid Society

Sunday 27th April 2003 at Horticulture Research International, Wellesbourne

The Chairman started by advising that the field trip in the Cotswolds had had excellent weather and the orchids had been in fine condition. The first meeting at RHS Wisley Gardens last October had been a good one with excellent speakers and a fine photographic competition, despite taking place on a day, which saw the worst weather of the year. Nearly one hundred members had attended.

He commented on the continuing improvements in the Newsletter and talked about further upgrades in the coming year. He detailed the suggestions for the newsletter later in the meeting. These included adding four pages of colour in each issue, and improving the quality of the cover, possibly adding colour. The subject was opened to the floor and a number of ideas were discussed, culminating in a proposal that subscriptions be increased by £4.00 from the next Annual General Meeting, with the committee deciding what would be the best and most suitable improvements.

The web site continues to go from strength to strength, under the very competent Web Mastership of Tony Hughes. The web site attracts many new members. The Chairman thanked all members of the committee for their work during the past year, particularly those finishing their term of office.

The Treasurer Tony Beresford reported that the past year was extremely successful as could be seen from the audited accounts. The use of Wisley had not cost the Society anything and our speakers had all spoken for no fee. The balance at the bank was £7228.00.

The membership secretary, Nick Storer reported that in the past year 78 members had not renewed, but 112 members were gained. Members were reminded that a standing order mandate had been issued with the newsletter and were encouraged to use this method of payment, though with a proposed increase in subs next year anyone with a current standing order will need to be reminded to change it before next April.

Future meetings were discussed, with details of the new September 14th meeting at RHS Gardens, Harlow Carr bringing a clear indication from around forty of the members present that they would be prepared to attend. Details of this meeting can be found elsewhere in the newsletter.

The autumn meeting is later than usual on Sunday 22nd November, due to the difficulty in getting an earlier slot at RHS Gardens, Wisley. Speakers have yet to be organised.

Under AOCB, Kath Fairhurst brought up the idea of a car share, which would seem sensible for a variety of reasons. Kath volunteered to co-ordinate the compilation of this list. A list was passed around during the meeting and there is an appeal from Kath in this newsletter for further expressions of interest.

Maren Talbot, new membership secretary, asked for members views on the style of the membership card. A discussion took place and an overall decision that a simple card would suffice was reached. While the current cards have been attractive, they have not lasted, even when only used as identification for the twice yearly meetings.

Election of Officers

This year several committee members had reached the end of their three year term therefore there was a need to find replacements for the posts in question. Norman Heywood, our secretary, Tony Beresford, secretary, Nick Storer, membership treasurer who introduced the colourful photographic membership cards and Simon Tarrant, ordinary member publicity were all thanked for their varying and valuable contributions to the continuing successful growth of the Hardy Orchid Society. As with many societies, the replacement of committee members is never an easy task and this year proved no exception, as it required an impassioned plea from the Chairman to ensure that we had a treasurer. Chris Birchall became our secretary, Rosemary Hill came to the society's rescue by volunteering to become treasurer, Maren Talbot became membership secretary and Jim Hill, Rosemary's husband filled the publicity post. All other committee members were re-elected on block. Nigel and Maureen Denholm were voted back again as the auditors.

President	Prof. Richard Bateman
Chairman	Richard Manuel
Vice Chairman	Tony Hughes
Secretary	Chris Birchall
Treasurer	Rosemary Hill
Membership Secretary	Maren Talbot
Meetings Secretary	Roger Gelder
Show Secretary	Doreen Webster
Conservation Officer	Bill Temple
Newsletter Editor	Patrick Marks
Ordinary Member-Newsletter Distribution	Barry Tattersall
Ordinary Member- Fungus Bank	Ted Weeks
Ordinary Member - Publicity	Jim Hill

Looking for Orchids in NW Greece

Bill Temple - The full text of his talk

A group of six members of the Hardy Orchid Society arranged to go to NW Greece on a day that Greece chose for a national strike in April 2001. This resulted in our arriving in Ioannina a day later than planned. We hired a pair of 4x4s and set off for our first destination, which was in a village just outside the port of Igoumenitsa. We enjoyed our stay there from April 27th to May 3rd and found many orchids during our tours into the surrounding countryside. We even found a friendly shepherd who spoke virtually no English but who could quote Shakespeare! The orchid finds

included *Anacamptis laxiflora, morio, papillionacea, pyramidalis, Neotinea tridentata, Ophrys cornuta, ferrum equinum, gottfriediana, helenae, lutea, mammosa, sicula, Orchis fragrans, italica, quadripunctata, simia, Serapias parviflora and ssp.* This area also saw a fantastic sunset at Parga and an "interesting" wooden bridge over a river at Ravina, which was safely crossed before the passengers noticed its condition!

From Igoumenitsa we drove, via the amphitheatre at Dordoni, to Bourazani. En route we saw *Cephalanthera damasonium, longifolium, Limodorum abortivum* and *Platanthera chlorantha.* At Bourazani we stayed at the Bourazani Hotel, (www.bourazani.gr) which had a character all of its own – the former hunting lodge had been extended, and rather than cut down the two conifers that were against the old wall, the trees were incorporated into the structure. This resulted in one living tree sticking out through the roof and the other living tree being visible inside a special conservatory, and the cloakroom. The dining room, reception area and cloakroom also featured artistically selected tree trucks and roots supporting tables etc and the bedrooms contained bedside lights in the same fashion. The owners also had a nature reserve containing at least 9 species of orchids plus *Peony pellegrina, Melitis melisophilum* and *Dictamnus albus.*

In addition to the nature reserve there was also a wildlife park containing three types of Deer, Wild boar, Mouflon, Kiri-kiri, which were being bred in order to supply other wildlife parks and in the case of the rare species, for release back into the wild. At the wildlife park there was a visitor centre and an antler workshop were local people converted the discarded antlers from the 3000+ deer into various items such as walking sticks and light fittings. Any injured or sub-standard animals ended up on the hotel menu as Red deer mousakka, Red deer in red wine sauce etc. We would definitely recommend this hotel, their website now lists 54 "species" of orchids in the area, however a number of these are not universally accepted as being valid. We learnt much from Georgos who speaks French and Greek as his main languages, rather than English. The scenery in this area was more mountainous and therefore more spectacular that beside the coast.

Although we were just as close to the Albanian border at both places, Border guards and Police (usually in black & white Mercedes 4x4s) were only in evidence in the Konitsa/Bourazani area. We would strongly advise stopping if flashed by unmarked new white vans in this area, so that you would have the opportunity to meet fit, young, friendly Greek men (carrying machine guns).

A feature of this area is a mountain known as Smolikas which we visited on several occasions, one of our trips on May 4th resulted in us finding *Fritillaria ionnica, Dactylorhiza sambucina, Crocus pellistericus* beside the snow and having a challenging 4x4 descent through Zouzouli during which we found *Tulipa australis.* In this area we found *Anacamptis laxiflora, morio, papillionacea, pyramidalis,*

Cephalanthera damasonium, longifolia, rubra, Dactylorhiza sambucina, Neotinea tridentata, ustulata, Ophrys aesculpii, attica, cornuta, epirotica, hebes, helenae, sicula, Limodorum abortivum, Orchis fragrans, italica, provincialis, purpurea, quadripunctata, simia, tridentata and Serapias ssp. The non-flowering plants were tentatively identified as *Himantoglossum calcaratum, Epipactis helleborine & microphyllum.*

After a wonderful time in these areas we used the time between flights in Athens to visit the Acropolis on our way home

Digital Photography
Report of a talk by Colin Clay at the HOS AGM

The rising popularity of digital photography is having a massive impact upon the whole photographic world, from the average person taking family snapshots to the professional photographer upon whose livelihood the quality of his or her images depend.

It was with this upsurge in interest in mind, that the Hardy Orchid Society committee decided to use a large chunk of the AGM to the subject. Colin Clay who has taken many digital photographs of prize winning orchids at past HOS AGM's, and who uses digital cameras in his work, was asked to give members an outline of the subject.

Colin began his talk with a series of questions about why we take photos, how we use them and claiming that if anyone enjoyed taking photos, they'd enjoy using a digital camera for a range of reasons. Following these introductory remarks, Colin went on to look in layman's terms how a digital camera functioned compared to a film camera. He explained that in a digital camera, film was replaced by memory cards or sticks of varying sizes, with the images being captured on to what are known as CCDs or *charge-coupled devices*, which are light-sensitive computer chips. These images are converted to image data, which is saved either into the camera's memory or a removable card or disk.

Colin then compared the advantages and disadvantages of digital photography compared to conventional film based photography. He felt that without a clear understanding of the basic technology it could be very confusing, particularly for the less computer literate.

Advantages listed by Colin included the following:

1. Low cost in the longer term compared to conventional film and developing costs.
2. The ability to have an instant result, the quality of which can be quickly determined.
3. The ability to review an image at up to 6x the screen size, and the subsequent ability to discard less good images.

4. The ability to have a massive paperless and filmless archive on disc with the ability to view images on computer or television.
5. Images kept have information on the date and time taken as well as the camera settings.
6. Images can be copied or stored without loss of quality.
7. Storage costs are very cheap, with a CD-ROM holding several hundred images costing well under a pound. As many copies as needed can be easily made.
8. There are opportunities for image manipulation with computer software, allowing "improvements" or a range of changes only limited by one's imagina tion.

Disadvantages that Colin listed included:

1. Pixels which are the tiny squares of colour which make up a digital image are still not as small as film grain. An enlarged print may not look as good as its film based alternative, unless the picture is taken at a higher resolution where there are more pixels per square inch and this uses more memory.
2. You need to own or have easy access to a computer if you are to get the full benefits. The computer needs to have specifications in terms of memory to cope with digital images and the software used to manipulate them.
3. Digital cameras can still be expensive to purchase, compared to equivalent film cameras. The cheapest digital cameras which will have less generous specifications and fewer pixels are not worth getting, unless they are only to be used for web photos.
4. Macro photography much beloved of most botanical photographers, is more difficult in digital.
5. You need to have sufficient capacity of camera memory to take a lot of high quality images. A good stock or access to additional memory cards is essential.
6. When taking a digital photo, there is a noticeable time lag of about a second, which can affect images such as flowers which can easily go out of focus.
7. Digital cameras do not have typical camera viewfinders, so the technique for taking photos by viewing the screen will require a relearning of photographic technique.
8. Prints from computers and associated inkjet printers will fade more quickly than conventional prints, though ongoing development of the technology will see improvements.

Colin then went on to discuss some of the technical aspects of taking the photos, many of which will be familiar to anyone reasonably competent with a conventional camera. Digital cameras have a range of menus, which relate to areas such as metering, weather settings, white balance and bracketing as well as image size and variable flash settings. The more expensive a digital camera, the greater the range of options it will offer. Optical versus digital zooms is one area where price differences will be obvious between two seemingly similar cameras. Digital zooms can

seem impressive in their basic specification but beware, all that is happening is a form of in-camera image processing where the camera enlarges the centre of the image area and trims away the outside edges of a picture. A picture from such a process will be of much lesser quality when printed, compared to a picture taken with an optical zoom. Colin advised the meeting to turn off digital zooms! Colin advocated the use of the JPEG (Joint Photographic Experts Group) format with minimal compression as opposed to full TIFF (Tagged Information File Format) quality. TIFF images use a lot of memory space and can take a full minute to 'load-up' into the camera memory card (you cannot take another picture whilst this is happening). JPEG images are economical on memory space and 'load-up' within seconds.

The last part of Colin's talk centred around the manipulation of the digital images taken using Adobe Photoshop, a well known and widely used suite of graphics software. He illustrated how you could manipulate images on screen to alter contrast, colour balance and sharpness amongst a range of options. One potential problem with JPEG images is that if they are resaved (e.g. after manipulations), without regard to software settings, the image could be further compressed with subsequent loss of resolution. Important images could be resaved as a TIFF version to avoid this. Technically both have their advantages and disadvantages depending upon how pictures are to be used. Tiffs can be stored in a slightly compressed format with no loss of image quality, but it is not a format used on the Web or acceptable by email programmes for sending. JPEG format is widely used for web and email. Writing all unmanipulated images to CD-R also ensures that one can always go back to an 'original' image for reworking.

Colin left us to make up our own minds about whether he'd converted us to the digital way of photography!

Orchids - The Far Side

Report of a talk given by Chris Bailes at the HOS AGM

Chris Bailes from RHS Rosemoor brought a novel slant to the talks that we've had at previous HOS meetings. His title was deliberately tantalising and was meant to an extent to reflect the well known Gary Lawson cartoon series in which animals and humans act in a bizarre ways.

Chris reminded members that orchids are the largest family of flowering plants with many thousands of species, their distribution stretching over most major landmasses, apart from Antarctica. His talk was sub divided into weird and wonderful facts about the plants themselves and also about human use or the Ethnobotany of the Orchidaeae as he described it.

His talk covered both hardy and non hardy orchids. He illustrated his talk with

slides of many of the strange and wonderful plants which demonstrated the huge variety of forms found in the family. Orchids he said could weigh up to three tons (*Gramatophyllum*) and down to a few grams (*Pleurothallis*). In height the terrestrials could be up to eight foot tall as in the bamboo orchid (*Sobralia)* or tiny such as *Corybas*, a tiny terrestrial.

Orchids can be epiphytic or saprophytic as well as terrestrial, and there are even orchids which exist all their life underground in Australia in association with a particular species of shrub. The form of orchids also reflects the association with pollinators such as the Madagascan *Angraecum* orchid with an extraordinary long spur, for which the pollinator was only discovered later to be a species of moth with a long enough proboscis.

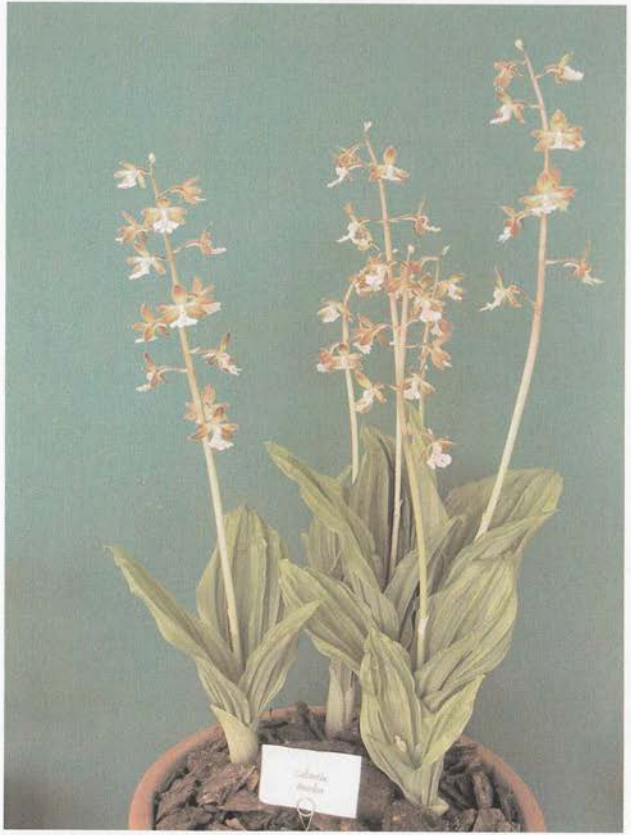
Chris then went on to discuss with examples human use and fascination with orchids. He said that the earliest known records date back around 2500 years, with China being a source of such early evidence. Confucius apparently said that the appreciation of orchids was a sign of a superior man. Pictures of *Cymbidiums* had been found carved into the walls of Chinese temples. Scent was appreciated before the form of the flower. Later the Japanese took up the cultivation of orchids according to Chris, but were more orderly in their interest with different orchid species being grown by different levels of society. In Japanese culture the presentation of the plant was almost as important as the plant itself.

Chris then went on to note the literary connections, citing the way in which Edwardian society often equated orchids with decadence. Indeed a Bornean epiphytic orchid (*Bulbophyllum*) according to Chris has a carrion like scent and flowers which mimic carrion.

Various cultures from China to India have used orchids for medicinal purposes. Ayurvedic medicine in India uses large amounts of a particular orchid species (*Flickingeria*) found in countries such as Nepal where it is illegally collected for use. Dendrobium nobile has medical and pest control purposes as it contains alkaloids, which lower blood pressure. A *Cymbidium* has flower buds which are used in curries. Chris quoted other examples of such uses.

In Europe some species were said to promote lust and *Ophrys ferrum-equinum* was used in orgiastic rites in Greek rituals. A more well known and still active trade of concern to orchid lovers is the picking of orchids, to make a flavouring known as salep, though this was at one time a commonly used beverage before the introduction of coffee to ordinary people.

In America some *Cypripediums* have been listed in American pharmacopoeias as narcotics, while the well known *Epipactis gigantea* was used by native Americans as a psycho tropic medicine to control mania. *Dendrobium* fibres have been used to make baskets, while another epiphyte had its fibres made into musical instruments strings.



Class 14 - *Calanthe discolor* - Steven Newton

Class 6 - *Anacamptis morio* - Neil Hubbard

Dactylorhiza incarnata - Sussex - 8/6/03 - John Haggar

Dactylorhiza incarnata - Surrey - 12/6/02 - John Haggar

Dactylorhiza incarnata - Wicken - 12/6/03 - John Haggar

Dactylorhiza incarnata - 18/6/02 - Co.Clare - John Haggar

Class 13 - *Cypripedium formosanum* - Michael Powell

Class 5 - *Cypripedium plectrochilum* - Norman Heywood
"Best in Show"

Chris finished with some examples of modern uses of cultivated orchids such as a model made in Japan of Mount Fuji using *Phalanopsis*.The extremes and oddities of the orchid world could fill a book.

The Quest For The Lapland Marsh Orchid in Ireland

Thomas Ennis

Although botanists had long suspected that the Lapland Marsh Orchid *Dactylorhiza traunsteineri lapponica* occurred in Great Britain, this was not confirmed until 1988. The British sites were all in Scotland, along the West Coast, including the Outer Hebrides and Kintyre. A glance at a map of the British Isles shows that the Garron Plateau in Co. Antrim lies less than 20 miles south-west of Kintyre, so when I learned that the Lapland Marsh Orchid had been added to the British flora from these sites, my thoughts turned to the *Dactylorhiza* site discovered by R. D. Meikle "in bogland near the sources of streams which drain the plateau basalt behind Carnlough," mentioned by J. Heslop Harrison in a paper he published in Irish Naturalists' Journal in 1956. These are the same plants referred to by V. S. Summerhayes in Orchids of Britain as collected by Meikle "in 1949 in Co. Antrim" which at that time Summerhayes designated *Orchis traunsteineroides (= D. traunsteineri*). With the discovery of *lapponica* so close I began to wonder if it might not be on my own doorstep, and so I determined to visit the Garron site.

But where exactly was the site located? The Garron is a huge area of windswept moorland with large areas of upland grasses, heathers and wet bogs. Looking for a small marsh orchid colony in this terrain without some guidance seemed a daunting task. By the late 1980s no botanist I knew could pinpoint it, and it looked like a long and painstaking search over perhaps a couple of seasons lay ahead. Then a stroke of good fortune came my way. In August, 1989 during a B.S.B.I. field outing looking for Bog Orchids *Hammarbya palludosa* in a very wet sphagnum bog on the Garron, the leader casually gestured towards a distant watershed and remarked that it was the old *D. traunsteineri* site mentioned by Heslop Harrison. Within a fraction of a second my friend John Phillips (then Director of Conservation, D.O.E. Northern Ireland and my boss) had the relevant O.S. Map out and was in a huddle with our informant busily pencilling in "X" where the stabbing finger was pointing. And so on 15th June, 1990, on a hot day and after a long slog, John and I located a small colony of *Dactylorhiza* orchids on the Garron Plateau, Co. Antrim which I now consider constitutes the first record of the Lapland Marsh Orchid, *Dactylorhiza traunsteineri lapponica* in Ireland.

The site lies to the East of Crockravar in very wet, flat ground in the headwaters of the Inver River. There were about 120 plants in mineral rich flush conditions along with a number of companion plants including: *Erica tetralix, Drosera rotundifolia, D. anglica, Carex nigra* etc. On drier more acid ground some distance away, amid the *Calluna vulgais,* were a few Heath Spotted Orchids *Dactylorhiza maculata*

ericetorum. I have since learned from Mr Meikle that his plants were "growing, rather sparingly, in an area of flat, very sodden bog" and that "my plants were collected in the area you indicate, namely the headwaters of the Inver River east of Crockravar,"

The plants were very small ranging from 60mm to 150mm in height mostly with five leaves. In the majority the leaves were unmarked but a few had some sparse, very fine spotting near the tips of the two larger sheathing leaves, and in some of these the spots even extended onto the underside. In some the sheathing leaves had their edges tinged purple. The inflorescence was lax and one sided with very few flowers; commonly five but seven or more could be found. Colour ranged from reddish purple through red to pink with the bracts washed purple in some. The labellum was three lobed with the centre lobe longer than the sides, strongly marked with darker lines and dots. The lateral sepals were spreading, marked with darker dots and the dorsal sepal together with the petals formed a hood. The spur was thick, straight and round in cross section. One or two larger plants were found which suggested hybridisation, perhaps with *D. m. ericetorum* present on drier ground a short distance away.

Because the plants did not look very like any published illustration of *lapponica* I had seen (I found the lack of heavy spotting on on the leaves and bracts a real concern), I revisited the site the following year, in company with M.R. Lowe, R. Piper and the late D. M. Turner Ettlinger. After careful consideration Mike Lowe was of the opinion that the plants, although puzzling in certain aspects, were best regarded as a dwarf form of *D. t. traunsteineri.* In subsequent correspondence he expressed the thought that the Garron *Dactylorhiza* might be hybrids *lapponica x traunsteineri* and in correspondence as late as August,1999 he cautioned that any claim to the discovery of the Lapland Marsh Orchid in Co. Antrim "should be expressed with caution, unless further finds have been made." However, more recently, he informed me that as the result of increasing experience at new sites in Scotland, he was content that some of the Garron plants should be called *lapponica*. While he feels that they are not 'typical' *lapponica* there is a close similarity to the dwarf forms of *lapponica* from south Harris.

By the time members of the Hardy Orchid Society read this an official record should have appeared in Eurochis. The site has been reported to Environment and Heritage Service, Northern Ireland

Madeira, 17 – 24 May 1999
Mike J Parsons

My wife and I had a week's holiday in Madeira in 1999, mainly to see the wild orchids and other wildlife of the island. Unlike the Canary Islands most of the orchids flower at different times so we decided that the third week in May would

be ideal to see the most species. It is difficult to pick an optimum time to visit but I should think that a week later would have been better for the endemic orchids - *Dactylorhiza foliosa* and *Orchis scopulorum* as they would have been in full bloom. However, I was not disappointed in the week that we had chosen as we did manage to see the last flowers of *Gennaria diphylla* and *Neotinea maculata* as well as the first blooms of the previous mentioned orchids. Of course to see flowrs of the other endemic orchid *Goodyera macrophylla* - a visit in the late autumn months would be necessary. This orchid is so rare that the best place to see them would be at Ribeiro Frio in cages, otherwise a good search in the Seixtal area might reveal them in their truly wild state.

We thought that the best way to get around the island would be a fly drive where we could stay in three locations, so we booked a trip with Style holidays which seemed to suit all our requirements. We flew from Gatwick to Funchal, picked up our car at the airport and proceeded through the capital to our hotel in the evening.

The following day, armed with all our books and notes (see "Further literature") , we set off towards Ribeiro Frio, which is north of Funchal in the centre of the island. At first we had difficulty locating the mountain road, but eventually we were on our way passing areas full of *Eucalyptus* trees and *Agapanthas* (not a good sign). On arrival we managed to park in a small car park by the semi wild botanic gardens that is opposite a trout farm. On the roadside we saw our first orchid *D.foliosa,* which we photographed, and then noticed a small colony of *Neotinea maculata* which we understand is extremely rare on Madeira . Both colour forms were found - red and white as well - as spotted and unspotted basal leaves. Unfortunately they were well past their best.

We returned to the botanic gardens and saw many *D.foliosa,* some truly wild and some arranged in rows just as one would arrange bedding plants. They were all shapes and sizes and the colour varied a lot, as did the spotting on the basal leaves. Most of them were in bud, so it was difficult to compare them to our books and those found in English garden centres that are normally much larger and have spots on the leaves, but I suppose the garden varieties have been hybridised. We knew from our notes that the botanic gardens would probably be our best chance to see *G.macrophylla,* so we set out into the woods. It wasn't long before we saw a cage between the paths and sure enough, there was one orchid hiding in the corner. Eventually two more cages appeared in another section of the wood that had six and seven orchids respectively. It wasn't until we were leaving the wood that we found the prime cage which was more or less in a flower bed with over 75 rosettes of orchids scrambled together. There were only five spikes, some with seed, towering from the centre of the cage. No wonder this orchid is so rare when the ratio of flowering stems to rosettes is taken into consideration. I wondered whether there are any truly wild specimens left on the island as all the pictures I have seen in books have always been photographed through these cages. It seems a pity that all these orchids

have to be caged under padlock, but this is the price we have to pay for conservation!

After a drink in the local café we set off down the road to the Levada do Furado. Levadas are man made channels used for irrigating the drier coastal areas from the high mountains. The watercourses make ideal hiking trails and they are a unique way of getting around the island on foot. We found a levada crossing the road so we set off towards Portela. En route we saw a few more *D.foliosa* in bud, just before seeing our first colony of *G.diphylla* clinging to the rocks. This strange little orchid is probably more common here and in the Canary Islands than it is in Mediterranean Europe. The last flowers were fading so we took a quick picture and departed to the opposite side of the levada towards the panoramic view known as Balcoes. Two more colonies of Gennaria appeared but all had gone over. It was good to see several spikes with seed showing that this orchid has a good future.

The following day we set off through Funchal up the same road but this time towards Pico do Areiro (1818 m) which is one of the highest mountains on the island. The road was tarmacked as are most roads on the island, but we encountered heavy mist en route. Once we had cleared the clouds we set off on the mountain path towards Pico Ruivo (1862 m) the highest mountain on the island. It wasn't long before we saw our first *O.scopulorum* which was in an inaccessible area just above the path. This is the area for many alpine endemics and we soon started photographing a few plants. More *orchis* appeared but still too dangerous for photos. We had heard that some botanists had lost their lives trying to get a good shot of this orchid. Then we had a little luck - just by a rock tunnel we found seven *orchis* ideally placed just on the side and below the path. Most of these beauties were in full flower so I had to lie horizontally on the path to try to get a good picture. The orchid is described as being like a cross between *Orchis mascula* and *Orchis patens*. The basal leaves were shiny and unspotted with a lot of foliage and sheaves running up the stem. The labellum was like *O.mascula* but much larger but I could not see any further relationship towards *O.patens* which is part of the *Orchis spitzelii* group. This orchid had only been identified by Summerhayes in 1961. After such a good find we returned to Funchal and visited the botanic gardens and tropical orchid house.

The third full day we headed towards Prazeras on the south west coast to a new hotel known as "Jardin Atlantic". En route we went to the Encumeada pass where we parked by a picnic spot. It wasn't long before we found *D.foliosa* on a nearby tump and down the side of the road towards St.Vincente. There were even more by the path towards Pico Ruivo on the east side of the road near the radio mast. These orchids seem to be growing in drier conditions. We then decided to walk the Levada do Norte which was situated opposite a café. After a drink we set off and eventually found *Gennaria* under pines instead of the usual rock faces and *O.scopulorum* below the path and again in an inaccessible position. This orchid surely lives up to

its description as preferring rock like conditions.

On day four we decided to visit the Risco waterfall near Rabanal which is known as the place with 25 waterfalls. We were not disappointed but the small road down to the car park is an eye opener if you meet traffic coming from the other direction. En route we saw the ubiquitous *D.foliosa* on the upper levada and *Gennaria* on the lower levada by the bridge. The Madeiran firecrest kept us company on the way, and the Madeiran chaffinch was very partial to cheesie biscuit crumbs in the car park.

Day five and six we spent on the north coast at St. Jorge. On route we visited Fonte do Pedra with some more *D.foliosa* in a wet gully. We continued through to Porto do Moniz with the beautiful coastline and wonderful scenery passing through Seixal where it is reported that *G.macrophylla* can be found in the wild. No use looking now!

The last day we went to Queimades to walk the levada to the Caldeiro Verde and Inferno - well known beauty spots. On the walk we found seven colonies of *G.diphylla* and many *D.foliosa* in the gardens and growing in the levadas. The other flowers were also catching our eye especially the *Aeoniums, matthiolas and Geraniums.*

Further literature

Luis Franquinoho & Antonio da Costa "Madeira plants and flowers"
J R Press & M J Short, "Flora of Madeira"
Hans-Erich Salkowski " Bemerkungen zu Goodyera macrophylla LOWE auf Madeira"
Hansen, " Orchid sites of Madeira"
Ursula und Dietrich Ruckbrodt "Beitrag zur Kenntnis und Verbreitung der Orchideen von Madeira"

The Early Marsh Orchid *(Dactylorhiza incarnata)* in Northern Europe

John Haggar

II - The purple flowered early marsh orchids

Subspecies pulchella, variant serotina and Scandinavian ***variant incarnata***

The Southern English forms of purple-flowered early marsh orchids that appear to be confined to acid bog habitats constitute the type originally described from the New Forest (by Druce in 1918) as *variant pulchella*.. Druce's original description included Northern English and Scottish forms apparently very similar in morphology, flower colour and markings but without such specific habitat requirements.

***"Pulchella"* has more recently been elevated to a subspecific definition that includes nearly all the purple flowered early marsh orchids that occur in Britain and Ireland in whatever habitat they might be found.** In his 1956 observations, Heslop Harrison included virtually all the purple-bloomed early marsh orchids of Britain and Ireland in *subspecies pulchella.* He made an exception of colonies containing plants with leaves spotted or blotched on both sides from Western Ireland which traditionally since have been ascribed to *subspecies cruenta (Heslop-Harrison 1956)* Bateman and Denholm failed to include any purple flowered Irish plants in their 1985 reappraisal with the exception of three populations from the far west all of which contained a minority (20% to 40%) of individuals with blotched leaves. For this reason all the plants were excluded from *ssp. pulchella*, and instead included in *subspecies cruenta.*

Variant serotina was first formally described in a German monograph in 1894 *(Bateman & Denholm 1985)* as a form said to occur in sphagnum bog according to Heslop Harrison *(1956).* I cannot personally find any reference to this particular habitat requirement in the original German text by Schultze, though. The said text describes *var. serotina* as thin stemmed with bright purple flowers and a trilobed labellum with a more or less prominent middle lobe. It is said to flower fourteen days later than most other forms of *D. incarnata* by Schultze but is reported to be synonymous with forms described earlier by Ruthe as flowering at the very end of July or at the beginning of August. Additionally Von Soó *(1930)* is reported by Heslop Harrison as describing *var. serotina* as being a plant typical of heather moorland. This reference I have been unable to access. In the south of its distribution (Germany, Austria), *var.* serotina is described usually a montane plant whereas in Southern Scandinavia it is a late-flowering orchid of lowland marsh and fen. *Subspecies* pulchella as originally described is a typical plant of acidic lowland bogs.

The descriptions of *serotina* and *pulchella* appear to have many anatomical features in common. These might include fewer, narrower leaves, a more slender stem, a fewer flowered inflorescence and more heavily pigmented flowers when compared with *var./ssp. incarnata.* Moreover, both are late flowering (when compared with other locally occurring forms of *D. incarnata* sensu lato) and both are said by some to have a tendency, at least over part of their ranges, to prefer acidic environments. A problem arises, however, when comparing these British and Continental forms because of discrepancies in the definition of *var./ssp. incarnata.* The purple flower colour would not in itself separate *var. serotina* from *var. incarnata* in those Continental localities where *incarnata* is assumed to be pink, lilac, rose-red or purple flowered. Indeed, in much of Eastern Europe and Scandinavia, *ssp. or var. incarnata* appears to be used as a description of what remains when variants with very specific characters (such as yellow flowers, blotched leaves or a slender, gracile stature) have been excluded from the population as a whole. Features associated with this definition of "rump" *subspecies incarnata* are that morphological

variation appears fairly continuous, the plants appear to be rather more generalist when habitat requirements are examined and the flower colour is predominantly one shade or another of red or purple, ranging usually from a somewhat dilute purple-red (not unlike the colour of many specimens of *Dactylorhiza praetermissa*) through rose-red and reddish purple to intense violet-purple *(Heslop-Harrison 1956)*. In the Swedish literature, such plants are included in "chief or main-form" *incarnata* and are usually described as having "röda" (literally translated as red) flowers *(Pedersen 1998)*. Pale flesh or salmon pink flowers are the exception rather than the rule in most parts of the countries that border the Baltic Sea but where they do occur they are considered to be no more than rarer extremes of the observed colour spectrum: just pale colour forms of *var./ssp. incarnata* as a whole.

The flowering period of plants in any one location in parts of Scandinavia, moreover, tends to be much extended when compared to the British forms and larger plants generally appear as blooming progresses over time. So defined, the "main-form" of *D. incarnata var. incarnata* in southern Scandinavia is a comparatively late-flowering (midsummer), often robust and large plant (up to 50cm in height) with most usually purple flowers. The earlier flowering subsection of this spectrum appears to contain a higher proportion of more diminutive and pink flowered plants that appear to be the nearest equivalent to the plant known as *ssp. incarnata* in Britain. The dichotomy in nomenclature has the unfortunate consequence that purple flowered plants of identical appearance may be called *var. incarnata* in Sweden and *ssp. pulchella* in the British Isles. The large midsummer "main-form" that is so typical around the Baltic appears to be largely if not totally absent from Britain and Ireland.

It seems sensible and in accordance with good science that *subspecies incarnata* should describe the plant originally described (the "type" specimen) as *Dactylorhiza incarnata.* More of this in a later chapter of the article, but suffice it to say at this point that the "type description" is of a plant described by Linnaeus from Sweden, possibly from Öland, but definitely not from Britain! *(Krok & Alquist 1984)*

Variant serotina flowers fourteen days or so later than "main-form" *var. incarnata* in Southern Sweden (i.e. early July) whereas *subspecies pulchella* flowers a fortnight after *subspecies incarnata* in Southern England (i.e. mid-June). Hence it is evident that these two taxa do not flower simultaneously adding doubt to their possible synonymy.

Jenkinson describes New Forest *pulchella* as having flowers with thickly marked labella that appear broader than they are long and that are only shallowly, if at all, trilobed and with entire and only weakly reflexed lateral margins. *(Pugsley 1935)* These characters appear not to be reported consistently though. Bateman and Denholm's biostatistical study tells us that many purple flowered early marsh

orchids from southern English bog habitats, for example, actually have strongly reflexed labellar margins. The *pulchella* with which I am acquainted from the South appear to have almost entire (i.e. weakly if at all tri-lobed) labella with somewhat reflexed lateral lobes whose edges tend to recurve upwards giving the flower an almost spatulate appearance. A photograph of *var. serotina* in a recent German field guide shows purple flowers with rather long and obviously trilobed labella with notched and reflexed lateral lobes and rather fine markings. They are really not very like the flowers of typical *ssp. pulchella* at all.*(Jenkinson, 1995)*

The Swedish plants from Öland described by Lundqvist as *var. serotina* do not show a preference for an acidic bog habitat (indeed I have found plants growing in the company of the calcicolous *cruenta* there) and in other respects, including their later flowering, stature and vegetative and floral structure they are typical of that variety.*(Kreutz, 2000)* Certainly Heslop Harrison and Bateman and Denholm concluded that *pulchella* and *serotina* were probably the same but Continental botanists have expressed doubt. Heslop Harrison noted in his 1956 observations that races specifically inhabiting acid moorland or bog habitats were not known in the northern part of the species' range in Scandinavia. *Dactylorhiza incarnata* in Scandinavia appears not to grow in poor acidic habitats that might suit bog-adapted *ssp. pulchella* here. The species as a whole is a typical inhabitant of basic wet meadows and rich fens where it occurs commonly. Outside these environments in sub-optimal habitats it is described as rare in Swedish floras.

If the two subtypes, *pulchella* and *serotina* are synonymous then in Southern England and the near continent *(pulchella* has been described from bog and heath habitats in Northern France *(Delforge 1995)* and the Netherlands *(Kreutz & Dekker 2000)* in addition to Britain) isolation of the form from other *incarnata* subtypes is maintained by ecological means and only slightly by separation of flowering time. This pattern, however, seems to break down in Sweden where separation is apparently only temporal. If, as many authors suggest, all purple flowered early marsh orchids in Britain and Ireland really do form a single subspecies and are thus more closely related genetically to one another than they are to other extant British morphs of *Dactylorhiza incarnata,* then both temporal and ecological isolation obviously breaks down in Britain and Ireland too when we move away from the core population of *ssp. pulchella* in central Southern England. In areas of Britain and Ireland away from central Southern England purple flowered early marsh orchids are often not obviously isolated in any identifiable ecological sense from other subtypes of the species. In addition, they may flower contemporaneously with other forms. Many of the purple plants found in such stations, moreover, do not closely resemble the *pulchella* plants from the heaths and bogs of the south in respects other than general flower colour and would appear to a Scandinavian as nothing more than purple flowered *var. incarnata.* It was suggested as far back as in the 1950's that certain aspects of flower colour and leaf and bract pigmentation in early marsh orchids might be "oligogenic" characteristics (under the control of

only a very few or even single genes) and therefore might not be features that can be reliably used as a means of subdividing the species taxonomically. *(Heslop Harrison 1956, Pederson 1998)* The phenomenal phenotypic variation (and presumably corresponding genetic variation) of the Scandinavian purple flowered populations, particularly in their Baltic strongholds of Öland and Gotland, strongly suggests that a reddish-purple flower colour in *Dactylorhiza incarnata* could be a primitive and ancestral feature of the species and not a derived characteristic that would allow the grouping of all purple-flowered individuals in a single subspecies. It is worth noting here, however, that despite the apparent variation in form and flower colour, *Dactylorhiza incarnata* as a species has been found to have comparatively little genetic variation between its different variants when analytical studies have been performed. *(Hedren, 1996 I. Rossi, 2002)*

Early marsh orchids that are purple flowered and which share some of the described anatomical characteristics of *var. serotina* (such as a comparatively short stature, slender form and narrow leaves) have been described across the entire range of the species in Northern Europe from Western Ireland to the Baltic. Bateman and Denholm noted that such features were common in purple flowered early marsh orchids from Britain. They are not, however, universal. These characteristics and the plants' often temporal and ecological separation from other locally occurring *incarnata* forms might truly qualify them for subspecific status (perhaps as *ssp. pulchella*) if a shared ancestry and genetic constitution different from other morphs of *D. incarnata* could be demonstrated, perhaps using allozyme or DNA investigations. The much later blooming of *var. serotina* in Öland might conceivably be explained by phenological difference resulting from climatic variation between Eastern and Western Europe, but this I personally doubt. Even in the Baltic Islands, early marsh orchids of other subtypes can be found in flower in late May just as they might be in the south of England. It seems most likely to me that in southern England and continental Europe, at least, *var. serotina* and *ssp. pulchella* are actually different forms with different flowering times, different floral markings and morphologies, different habitat requirements, adjacent distributions and coincidentally a shared deep reddish-purple flower colour.

It is difficult to believe that every purple-flowered early marsh orchid in Britain and Ireland should be included in subspecies *pulchella* with the forms as originally described. In common with many purple flowered Continental early marsh orchids, many British and Irish purple flowered plants are not ecologically isolated and do not fit the narrow description of *variant serotina,* nor the original description of *variant pulchella.* Many are more robust, or may have differently marked or shaped flowers. A large number share the morphology of and flower contemporaneously with other local early marsh orchid types, In particular, many of the purple flowered forms of *D. incarnata* that grow in alkaline or neutral fen/marsh habitats in the British Isles appear to me most unlikely to be more closely related to the bog forms originally described as *ssp. pulchella* than to other variants, types or subspecies.

Such plants, nearly all of which are consistent with the Scandinavian interpretation of main-form *var. incarnata*, are known from Western Ireland, Anglesey, possibly Scotland and from a few English sites including East Anglia and Southeast England. With the exception of the large Irish colonies, the occurrence of fen and marsh adapted purple flowered early marsh orchids in pure populations is unusual here. Indeed their rarity (in England in particular) is probably a major reason that they have been lumped together by many British botanists in *ssp. pulchella* solely because their flowers are coloured one shade or another of purple. Heslop Harrison in 1956 considered it "most expedient to group all of the British purple-flowered colonies under *ssp. pulchella* ", although "the assemblage is homogenous in relation to no other phenotypic feature of those which have been studied [other than prevailing flower colour - magenta-purple]". Indeed, Heslop Harrison was the first author to group all our purple flowered early marsh orchids under *subspecies pulchella*. Earlier workers such as Druce, Godfery(*Godfrey 1933)* and Pugsley apparently accepted that the then *variant pulchella* was a very specific description and not a general term to be applied to any purple flowered diploid dactylorchid. Even Bateman and Denholm who supported the retention of *pulchella* as a subspecies admitted that the purple flowered plants presented the greatest problems of taxonomy even though the bulk (but not all) of their purple flowered samples were fairly typical southern bog forms. Expediency might have been a valid reason to group plants together in a single subspecific taxon in 1956 but surely nowadays a subspecies should reflect genetic proximity of its members rather than describe the single character of flower colour. If a single character alone is being described then surely "*forma*" is an adequate taxonomic rank. The Swedish botanist, Hedrén, in his article concerning the esterase variation in *D. incarnata* concluded "in the absence of any better suggestions for an improved subdivision of *Dactylorhiza incarnata* s.l., the best solution is probably to recognize the different segregates of *D. incarnata* as varieties" *(Hedren 1996*). His conclusions seem particularly poignant in relation to British purple flowered forms.

The British forms will be discussed further in the next chapter of this article.

The illustrations show close-up photographs of the flowers of a range of purple flowered British and Irish early marsh orchids. The picture of a plant from a Surrey bog is close to the form originally described as *subspecies pulchella,* although the current British nomenclature includes all the shown specimens in that same taxonomic grouping.

A full list of the references quoted may be found on the author's web site at www.johnsorchids.co.uk.

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