

**Journal  
of the  
HARDY ORCHID SOCIETY**



**Vol. 12 No. 2 (76) April 2015**

## **The Hardy Orchid Society**

Our aim is to promote interest in the study of Native European Orchids and those from similar temperate climates throughout the world. We cover such varied aspects as field study, cultivation and propagation, photography, taxonomy and systematics, and practical conservation. We welcome articles relating to any of these subjects, which will be considered for publication by the editorial committee. Please send your submissions to the Editor, and please structure your text according to the "Advice to Authors" (see website [www.hardyorchidsociety.org.uk](http://www.hardyorchidsociety.org.uk), January 2004 Journal, Members' Handbook or contact the Editor). Views expressed in journal articles are those of their author(s) and may not reflect those of HOS.

## **The Hardy Orchid Society Committee**

President: Prof. Richard Bateman, Jodrell Laboratory, Royal Botanic Gardens Kew, Richmond, Surrey, TW9 3DS

Chairman: Celia Wright, The Windmill, Vennington, Westbury, Shrewsbury, Shropshire, SY5 9RG [celia.wright@windmill.me.uk](mailto:celia.wright@windmill.me.uk)

Vice-Chairman & Treasurer: John Wallington, 17, Springbank, Eversley Park Road, London, N21 1JH [jrwallington@blueyonder.co.uk](mailto:jrwallington@blueyonder.co.uk)

Secretary: Richard Robinson, Rhiw, Church Street, Amberley, Sussex, BN18 9NF [robinson60@hotmail.com](mailto:robinson60@hotmail.com)

Membership Secretary: Moira Tarrant, Bumbys, Fox Road, Mashbury, Chelmsford, CM1 4TJ [m.tarrant@virgin.net](mailto:m.tarrant@virgin.net)

Plant Show Secretary: Mike Powell, Shirley, Whitenap Road, Romsey, Hampshire, SO51 5RS [mgpowell@greenbee.net](mailto:mgpowell@greenbee.net)

Journal Editor and Website: Mike Gasson, Moor End Cottage, Moor End, Stibbard, Norfolk, NR21 0EJ [moorend@globalnet.co.uk](mailto:moorend@globalnet.co.uk)

Speakers Secretary: David Hughes, Linmoor Cottage, Highwood, Ringwood, Hants., BH24 3LE [davidcchughes@talktalk.net](mailto:davidcchughes@talktalk.net)

Southern Meetings Organiser: Betty Barber, 8 Dean Close, Deeds Grove, High Wycombe, Bucks., HP12 3NS [betty.barber@gmail.com](mailto:betty.barber@gmail.com)

Northern Meeting Organisers: John & Shelagh Temporal, 167, Littleworth Lane, Whitley, Melksham, Wiltshire, SN12 8RE [john.temporal@btinternet.com](mailto:john.temporal@btinternet.com)

Publicity Officer: Simon Tarrant, Bumbys, Fox Road, Mashbury, Chelmsford, CM1 4TJ [s.tarrant@virgin.net](mailto:s.tarrant@virgin.net)

Seed Bank Manager: Alan Leck, 61 Fraser Close, Deeping St. James, Peterborough, PE6 8QL [alanleck@alanleck.plus.com](mailto:alanleck@alanleck.plus.com)

Journal Distributor: Nigel Johnson, Cassandene, Station Road, Soberton, Hampshire, S032 3QU [cassandene@waitrose.com](mailto:cassandene@waitrose.com)

Conservation Officer: Bill Temple, Primrose Cottage, Hanney Road, Steventon, Oxon., OX13 6AP [bill@billtemple.f9.co.uk](mailto:bill@billtemple.f9.co.uk)

Field Meetings Co-ordinator: Alan Bousfield, Little Forge, Mill Cross, Staplecross, East Sussex, TN32 5HA [alan.bousfield@ukgateway.net](mailto:alan.bousfield@ukgateway.net)

## Cover Photographs

**Front Cover:** *Ophrys kotschyi* in Cyprus photographed by Yiannis Christofides  
(see article on page 54)

**Back Cover:** Hebridean Spotted-orchid × Frog Orchid hybrid  
photographed by Alan Smith (see article on page 71)

## Contents

Editorial Note .....	39
Chairman’s Note by Celia Wright .....	40
A Cream-Yellow Form of the Heath Fragrant-orchid <i>Gymnadenia borealis</i> in Ireland by Thomas Ennis .....	41
French Holiday 2013: Part 3 Vercors by Hilary & Steve Pickersgill .....	42
Helleborine Adventures by Richard Mielcarek .....	51
Cyprus Orchids – An update by Yiannis Christofides .....	54
Orchids on an Ex-refuse Tip by Roy Bailey-Wood .....	61
Book Review – Wild Orchids of the Algarve by Celia Wright .....	65
<i>Ophrys apifera</i> Huds. var. <i>cambrensis</i> M.J.Clark, var. nov. To Name or Not to Name by Michael Clark .....	66
Dactylorhiza Blight and Its Spread by Dave Trudgill .....	68
An Uncommon Hybrid – Hebridean Spotted-orchid × Frog Orchid by Alan Smith .....	71

## Editorial Note

We have a nicely varied set of articles in this issue, which I hope will include something of interest for most members. It is always helpful to have a range of different contributions. The medium to shorter pieces can be very useful in filling the journal space, so these are always especially welcome.

I have one interesting article on the pollination of *Epipactis helleborine* and *Epipactis palustris* that I was unable to include this time. It will be in the next *JHOS* but I am mentioning it now as the author, Nick Owens, is interested in observations that HOS members may be able to make during the current season. If you encounter these species when their pollinators are about I am sure Nick would be interested to hear about it. He can be contacted by e-mail at [owensnw7@gmail.com](mailto:owensnw7@gmail.com).

For those interested in the outcome of the Fen Orchid abstraction application in East Anglia, we are still waiting for a decision from the Environment Agency. It is promised for the end of March so I will post something on the website and discussion forum when there is some more information.

## **Chairman's Note**

### **Celia Wright**

Hello everyone.

This is the last HOS Chairman's Note I shall be writing to you as I step down from the Chairman role at the AGM this year, having done the job for five years. I've enjoyed doing it, especially working with other committee members who are all pleasant and helpful. We've worked together as a team and that's what makes the society run well. John Wallington is likely to replace me at the AGM unless (very unexpectedly) another candidate turns up and is voted in. Do give him the same support that I've enjoyed from you during my time as Chairman.

I ended my January Chairman's note with a plea for two volunteers to help our society by taking on the roles of Secretary and projectionist. I'm pleased to say that I now have volunteers for both roles: thank you to all those who put their names forward.

As a society we are moving forward with the introduction of PayPal. It's been in place for seed sowing supplies for a while and it's now running for membership payments, both new and renewals. This should make payment much easier for overseas members in particular. Having this facility has already resulted in some new non UK members who have joined from the web site.

The 2015 field trips are now filling up. If you haven't booked yet and would like to come on one or more trips, do dig out your January Journal to find the list or look on the web site. It won't be long until our native orchids are coming out to delight us for another year.

More members each year are growing hardy orchids from seed, quite a few after coming to one of our seed sowing workshops. Alan Leck organises these as well as the seed sowing supplies and Seed Bank. This year's workshop will be held near Oxford on August 16<sup>th</sup>: details are on the website or can be obtained from Alan. Alan has asked me to remind you that we would like some fresh donations of seed for the Seed Bank. If you can collect seed from your own plants or another legitimate source (you must have the landowner's permission and the plant must not be on the protected list) do consider sending some in to the seed bank. Alan is happy to give advice on request.

My best wishes to you all.

**A Cream-Yellow Form of the Heath Fragrant-orchid**  
***Gymnadenia borealis* in Ireland**  
**Thomas Ennis**

How many people are aware of the existence of a cream-yellow form of the Heath Fragrant-orchid *Gymnadenia borealis* that occurs in Co. Donegal in the north west of the Republic of Ireland? Doubtless, many will be familiar with the widely distributed pink forms and the less common white form but I can find no mention in the literature of a cream-yellow form. For this reason, I presume that its occurrence is restricted.

I first became aware of its existence in the mid-1990s when the late Raymond Piper showed me a specimen that he had brought back from a July trip to Cruit Island in Northwest Co. Donegal (photo below). Some years later, on 4<sup>th</sup> July 2004, I visited the area and found five plants of this unusual form, along with large numbers of the normal pink form and 15 of the white form. All were Heath Fragrant-orchids.



The habitat was old, stabilised sand dunes, up to 15 metres in height and well vegetated with various grasses, one or two prostrate junipers (*Juniperus communis*) and a few patches of Bell Heather (*Erica cinerea*). Some of the dunes had protrusions of granite at their crests. Amongst the vegetation were typical dune flora such as Lady's Bedstraw (*Galium verum*), Bird's-foot Trefoil (*Lotus corniculatus*) and Wild Thyme (*Thymus serpyllum*), together with several orchid species.

I re-visited the site on 9<sup>th</sup> July 2012, but very heavy grazing had cleared the site of flora; all vegetation had been cropped down to a few centimetres in height. Nearby, an area had been temporarily enclosed by electric fencing and contained at least 25 horses – presumably the cause of the over-grazing.

A further visit on 19<sup>th</sup> July 2013 showed site recovery underway but although I found hundreds of Hebridean Spotted-orchid (*Dactylorhiza fuchsii* ssp. *hebridensis*) and Pyramidal Orchid (*Anacamptis pyramidalis*), I found only 10 Twayblades (*Neottia ovata*) and about 30 Heath Fragrant-orchids. All of the latter were of the usual pink form and, in spite of a long search, no white or cream-yellow inflorescences could be found.

## French Holiday 2013: Part 3 Vercors Hilary & Steve Pickersgill

After three weeks of orchid hunting in very mixed, usually very wet and windy weather, we hoped we were leaving the worst behind. As we travelled along the Languedocienne we were amazed to see a wind turbine at a very jaunty angle. Had the wind been strong enough to inflict such damage? We were heading for the Vercors. We had stayed there for a few days in 2012 and thoroughly enjoyed exploring this beautiful area but as the season was late there were a few species we had missed and we hoped to have better luck this time. Unfortunately for us 2013 was no better, in fact it was even worse as we were about to discover.

Our first outing on Sunday 2<sup>nd</sup> June took us to a road near Barbieres. The site was an area of woodland, scrub and grassland at the top of a steep road-side bank and sloped quite sharply up the hill. It turned out to be an orchid lover's paradise. There were many *Orchis simia*, *Orchis purpurea* and their hybrids, *Orchis anthropophora*, early flowers of *Limodorum abortivum* and three rather poor specimens of *Ophrys gracilis*. The highlight of the site was the very large number of *Ophrys drumana* and *Ophrys insectifera* together with many impressive hybrids of the two.

Our next stop was a field near a recycling centre. Here the stars were beautiful specimens of *Ophrys fuciflora*. There were some *Ophrys* we thought were most like *Op. gracilis* and others that could well have been hybrids of the two. *Orchis militaris* was common but only the last flowers remained. There were a few specimens of *O. purpurea* which were over and a few obvious hybrids of these two *Orchis* species. *Platanthera bifolia* was common, just coming into flower, just one *Neottia ovata* which was in full flower and a few *Anacamptis pyramidalis* in bud.

Our next site, near Peyrus, found us exploring roadside verges. We soon compiled a list of 12 orchids. New species for our list were *Cephalanthera longifolia*, *Ophrys gresivaudanica* and a single *Ophrys scolopax*. We were travelling along the D68 and *C. longifolia*, *O. simia* and *Orchis mascula* were common on the verges. We continued along the D68 and as the road climbed the brilliant blue of gentians was spotted at the roadsides. We continued towards the Col des Limouches and soon spotted yellow spikes of *Dactylorhiza sambucina*. They were in superb condition, unlike 2012 when they were going over. Everything else was later, too, often in bud where it would normally be in full flower. Eventually we ran out of the cloud and stopped at a field near the col where we had recorded a number of orchids in the previous year. At this point it was 8°C and the wind was ferocious. There was a

Figs. 1-4: Hybrids of *Ophrys drumana* and *Ophrys insectifera*  
Photos by Hilary Pickersgill

1



2



3



4



carpet of yellow and pink *D. sambucina* in near perfect condition. At the top of the field there were some *O. mascula* in a variety of colours, shapes and markings. In the shorter grass some *Neotinea ustulata* were just coming into flower and one or two hybrids with *Neotinea tridentata* although there were no *N. tridentata* in evidence at that time. There were a few very small *O. anthropophora* in full flower and a large number of muscari.

At the junction we turned onto the D70 and made our way down from the hills. We stopped at a large pull-in on the west side of the road, just past a verge covered with *O. anthropophora*, and explored meadows on the east side extending up the hill. There was a large group of *O. mascula* easily visible from the road. They had been magnificent spikes in a range of colours but they were past their best. In the short turf further along there was a good population of *Op. drumana*. Further up the hill these orchids ran out and we were soon walking through a carpet of *N. ustulata*, *N. tridentata* and their hybrids. Yellow *D. sambucina* added to this colourful show. There had been some pink plants but their flowers had faded.

We continued to enjoy huge numbers of orchids at the roadside as we drove down from the hills. Our last stop for that day was a road verge near a campsite. The most common species in flower at this site were *Op. gracilis* and *A. pyramidalis* but judging by the emerging shoots there would be a wonderful display of *Himantoglossum hircinum* in the weeks to come. We found our first and only *Ophrys apifera* at this site and also noted *P. bifolia* once again.

The next day we woke to a clear blue sky and decided to head for the east side of the mountains. We had intended to do this in 2012 but we were thwarted as the Col de Menee was closed for repairs during our holiday. We managed to leave the campsite by 9am and it was hard to believe the weather had been so bad prior to this. As we drove into the mountains there were large rocks to be negotiated which had been brought down by the storms. On our way up to the Col we paused a number of times to enjoy and photograph the magnificent scenery. On the other side the blue sky soon disappeared behind a bank of cloud but at least it was warmer and stayed dry. Immediately, we noticed the numbers of orchids on the road verges and the very striking heads of *O. purpurea* which had not been in evidence on the west side. We started at Chateau Vieux and walked from there in search of *Corallorhiza trifida*. We were following a track through woodland and soon found lots of *Dactylorhiza fuchsii* and *Neottia ovata* in bud, *O. purpurea* and *O. anthropophora* in full flower, a single *Op. fuciflora* in flower, one *C. longifolia* in bud and two *Ophrys araneola* with

Fig. 5: *Ophrys gracilis*

Fig. 6: *Ophrys fuciflora* ssp. *montiliensis*

Fig. 7: *Ophrys drumana*

Fig 8: *Ophrys* with a difference

Photos by Hilary Pickersgill

5



6



7



8



faded flowers. It was a while before we spotted the *Corallorhiza* plants as they are so small and blend in with their surroundings. Eventually we were successful, a new orchid was added to our check list and photographs were duly taken. The next task was to track down *Cypripedium*. The first site we tried set the trend for most others. We found three plants in tight bud but the rest were small green shoots. The best site we found was on the road to Tresanne and here we were rewarded with more than 30 plants, most of which were just shoots but a few had breaking buds and four had open flowers.

Further along the road we spotted a group of people in a field on their hands and knees, cameras in hand. That is always worth further investigation. The object of their interest was a large population of *O purpurea* in a variety of shades and patterns. Along the margin of the field there were some spikes of *O militaris* which were going over and inevitably lots of hybrids of the two. While I examined every flower, as I do, Steve wandered up the hill at the side of the field and discovered several plants of *Orchis spitzelii* which were just starting to fade.

The road verges continued to delight us with strong spikes of *O. purpurea* and from time to time *Orchis pallens*. Our last stop was at the Col du Prayet. The *Cypripedium* plants here were very small green shoots but we did find more *O. spitzelii* and a single *Dactylorhiza majalis* just coming into flower. The drive back was very pleasant. The rocks had been cleared from the road, the cloud had cleared and the views were impressive.

The following day we decided not to venture too far. In 2012 we spent two hours exploring a wonderful bank north of Col J Cavalli and we were eager to see what would be in flower this year. Unfortunately, our car was broken into while we were there the previous year. We were told that was not uncommon at the height of the holiday season in summer but was rare otherwise. It seems it is becoming more of a problem at other times so it pays to park where the car will be visible. The potential thieves have realised that flower hunters often carry a laptop or tablet these days so there may be rich pickings in the car.

On the way we stopped to look at a bank near a recycling centre south of Beaufort. There was little to be seen but we did add *Epipactis helleborine* to our list of finds. We stopped at a viewpoint and there was a single perfect specimen of *N. tridentata* on the grass verge but no other orchids at all. Higher up there were large numbers of *Orchis provincialis* on the verge and spreading across the hillside beyond with a

Fig. 9: *Orchis provincialis*

Fig. 10: *Neotinea tridentata*

Fig. 11 *Corollarhiza trifida*

Fig. 12: *Cypripedium calceolus*

Photos by Hilary Pickersgill

9



10



11



12



few *A. pyramidalis* in places. There were many perfect cylindrical specimens of *P. bifolia* at the roadsides and at the top *D. sambucina* appeared once more. The bank did not disappoint but we had to work harder to find some of the species this year. *N. ustulata*, *N. tridentata*, *O. anthropophora*, *O. mascula*, *O. militaris*, *O. simia*, *O. provincialis*, *Op. drumana*, *Op. insectifera* and a single *Op. fuciflora* were just coming into flower, and there were young shoots of *H. hircinum*.

The next day we decided to visit an area for which we had no site information but it looked interesting on the map and any orchids would be a bonus. Our initial aim was to reach the Col de Rousset. On the way we stopped to photograph a red ribbon of poppies against the back drop of the mountains, and the pretty settlement Portaix. In the mountains the views were superb and we stopped to watch the vultures gliding on thermals but if you do not like driving round hairpins this is not the route for you. By the time we reached the ski resort the cloud had come down so we headed for the coffee shop before heading up the track under the telesiege. The ski runs were bright with fresh cowslip flowers and higher up there were carpets of small yellow and pink *D. sambucina* in perfect flower.

After lunch we drove towards La Chapelle en Vercors. Odd splashes of colour at the roadside were *O. mascula*, *O. pallens* and *D. sambucina*. The meadows between the steeply rising sides of the valley were bright with wild flowers on what had turned into a dismal afternoon weather-wise. By the time we reached La Chapelle the rain had started in earnest and we were amused to see secondary school pupils with totally inadequate protection against the elements – just like their English counterparts! Our route back took us to the Col de la Bataille and we stopped at a cemetery at Vassieux-en-Vercors. This was for members of the Resistance who lost their lives in a massacre in July 1944 and we were struck by the wide range of ages, particularly the most elderly, which was (understandably) so different from other war cemeteries we have visited.

The next day was a real treat. The temperature had risen to 28°C so we had a rest day to make the most of it and do some chores. However, we still had to have some orchid interest and we knew that a walk along the river would not disappoint. We found a number of *Ophrys*, *Op. gracilis*, *Op. fuciflora*, hybrids of the two, including one with labelloid petals. Later, we discovered the possible identity of some of the *Ophrys* to be *O. fuciflora* ssp. *montiliensis* (though not according to Kew).

Fig. 13: *Orchis spitzelii*      Fig. 14: *Orchis mascula* with white flowers  
 Fig. 15: *Dactylorhiza sambucina*      Fig. 16: *Orchis pallens*  
 Photos by Hilary Pickersgill

13



14



15



16



Our last day for orchid hunting dawned with clear blue skies but a risk of storms later. When the Col de Menee had been closed last year we headed for the Col de Grimone and found a number of orchids just coming into flower but rain stopped play so we decided to try again before the rain set in. On the way we detoured to see the Cirque d'Archiane. The landscape was beautiful and the view got better and better. There is a small settlement at the end of the valley with a car park. It was very quiet and we hardly saw a soul. We took some photographs and then headed for the Col. As we drove up the road the weather closed in and the first shower began as we stopped. After lunch we split up to explore the two sides of the road and as I settled down to take my first photograph there was a flash and an ominous rumble of thunder. As it was still dry we decided to stick it out and we were lucky; the sky cleared and it was suddenly warm again. The *D. sambucina* were in perfect condition, all yellow bar one. There were a few *O. pallens*, *O. mascula* was common, *N. ustulata* also common and in full flower, but the new species for the list was *Dactylorhiza viridis* which was abundant and just coming into flower. As we drove down from the Col we paused at a wet flush where there was a striking display of *D. majalis* in full flower.

Our last stop of the day was recommended by a fellow orchid hunter at the Col. This was a designated reserve near Borne. Apart from rough directions how to get there we had no idea where to look on the reserve for *Cypripedium* but we were determined to find them. The road to Borne tempted us with lots of orchids on the verges. In the end the car park was well signed and we soon set off in search of the beast, complete with wet weather gear as the storm clouds were gathering once again. At this site there was promise of things to come as most of the orchids were in bud. We found a few poor specimens of *O. purpurea* and *O. militaris* almost over, one *Op. insectifera* in good flower, lots of *D. fuchsii* and *Gymnadenia conopsea* in bud with a few early flowers, *C. longifolia*, *Cephalanthera damasonium* and *N. ovata* in tight bud. Worthy of note was a superb group of clean spikes of *Neottia nidus-avis* in various stages of flowering. The one thing that still eluded us was the promised *Cypripedium*. We were getting further from the car, the sky was even darker and the rumbles of thunder were much closer. The rain started but we went on. We were thrilled to find five lovely *Cypripedium* with buds just breaking but could not help thinking what a difference a few days of good weather would make. Perhaps there were others further along the path but not for us on this occasion. The thunderstorm was in full swing and we were soon soaked. It was time to call it a day but what a way to end our holiday.

We would like to thank the members of HOS who helped us with site information and the number of people over the years who have contributed to those records. Special thanks to Alan Blackman for site information and specific orchid identification.



## Laneside Hardy Orchid Nursery



Visit our new web site [www.lanesidehardyorchids.com](http://www.lanesidehardyorchids.com) for full details of plants available for sale on line, 2015 shows and events, cultural information and nursery opening.

A wide range of different hardy orchids are stocked including pleiones for the first time

Contact: Jeff Hutchings, 74 Croston Road, Garstang,  
Preston PR3 1HR

01995 605537 [jcrhutch@aol.com](mailto:jcrhutch@aol.com) 07946659661

### **Helleborine Adventures** **Richard Mielcarek**

I am lucky enough to have a colony of Violet Helleborines, *Epipactis purpurata*, only a 15 minute drive from my home and I normally visit a few times each July/August to monitor progress. In 2007 I found a Violet Helleborine that had three mutant flowers with no lip so I always now check for a repeat appearance.

The site is somewhat atypical, consisting of a narrow (no more that 15 yard wide) strip of mixed woodland a couple of hundred yards long, sandwiched between a fishing lake and a field. The colony is small and contains about three dozen Violet Helleborines (a dozen in one tight clump), one or two Broad-leaved Helleborines, *E. helleborine*, and a handful of plants that are hard to identify with certainty but could well be the hybrid *E. ×schulzei*.

My first visit in 2014 was on July 9<sup>th</sup> when all the plants were still in bud. When I visited again on July 18<sup>th</sup> the first Violet Helleborine stem in the clump was starting to flower, there were two Broad-leaved Helleborine in full flower, and I noticed that a pair of Violet Helleborines both had variegated leaves, something I had not noted before at this site. On 21<sup>st</sup> I found the first mutant flower, on the single flowering

Violet Helleborine stem in the clump; by 23<sup>rd</sup> I had found them on four different plants (including one of the ‘variegated’ Violet Helleborines), all within an area of about ten square yards. By August 4<sup>th</sup>, when some of the other stems in the clump were starting to flower, I found a dozen more across six stems; I had also started to find them on plants in other parts of the site. In total I found 41 mutant flowers across a dozen plants.

The majority of mutant flowers I found had four instead of the normal six perianth segments and broke down into two main types;

- the most distinctive, and similar to those found in 2007, had no lip and just two petals and two sepals in the form of a cross with the lower sepal like a sepaloid lip (Fig 1). I found a dozen examples like this, including a couple on one of the unidentified plants. A further two (one on a Broad-leaved Helleborine) were a variation, with the lower sepal being partially split in two, suggesting it may have been formed by two sepals becoming merged (Fig 3). The column appeared normal and in some included pollinia and a viscidium.
- the commonest mutation was the hardest to spot, appearing normal with a fully formed lip, but no petals (Fig 2). Although superficially normal, closer scrutiny revealed that many had a column at an angle to the lip (suggesting the lip had rotated slightly from its normal position) while the column itself was often misshapen and the anther missing. I found 16 examples like this while a further four were a variation, the lip not being fully formed along one side and resembling a sepal (Fig 4).

In addition I found five flowers that had five perianth segments; these looked normal except for having only a single petal, making them somewhat lopsided (Fig 5) and one flower that had only three perianth segments and consisted solely of a column and three sepals (Fig 6). Lastly there was a flower that had the full complement of six perianth segments but the lip was totally misshapen, lacking a hypochile and was just essentially a small epichile.

What is interesting about these flowers is that the number of perianth segments is reduced so they are not strictly examples of peloria or pseudopeloria. They seem to be just random mutations in individual flowers (about a third of the flowers on a couple of stems but otherwise only one or two per stem), with the rest of the flowers on the stem being normal in appearance. In many cases the affected flower(s) were at the top or bottom of the stem. I understand that *Epipactis* is prone to such events (Prof Bateman, pers com.) but what triggered this year’s high proportion of mutations at the site is unknown. Similar flowers were also recorded in 2014 from another site about 20 miles to the north, (see <http://framptonwildflowers.wordpress.com/2014/08/02/violet-helleborines-in-the-lower-woods/>). Did anyone notice any at other sites?



## Cyprus Orchids – An Update Yiannis Christofides

It is now six years since the last *JHOS* article on the Cyprus orchids by Paul Harcourt Davies (Harcourt Davies, 2008). Much has changed since then, both in the re-naming of genera and species and the description of new species. These changes are of course ongoing but with the latest batch some loose ends seem to have been tied up. Cyprus occupies a special position at the far end of the eastern Mediterranean. Its flora is thus expected to be influenced by the close proximity to the Anatolian and Near East mainland land masses. It is however more isolated than islands like Rhodes, which results in less gene exchange, leading to more endemic species. Here, the Cyprus species will be reviewed in relation to this geographical position. Orchids which have a widespread European distribution will be mentioned first and then those with a limited range will be looked at.

Orchids with a widespread European distribution encountered in Cyprus include *Limodorum abortivum*, *Cephalanthera rubra*, *Spiranthes spiralis*, *Neotinea maculata*, *Ophrys apifera*, *Ophrys mammosa*, *Ophrys sicula*, *Anacamptis pyramidalis*, *Anacamptis laxiflora*, *Anacamptis collina*, *Anacamptis fragrans*, *Orchis italica*, *Orchis simia*, *Serapias bergonii*, *Himantoglossum robertianum*, *Dactylorhiza iberica* and *Dactylorhiza romana*.

Orchids such as *Anacamptis sancta*, *Anacamptis syriaca*, *Ophrys israelitica*, *Ophrys umbilicata*, *Serapias orientalis* and *Serapias levantina* have a more limited distribution in the Eastern Mediterranean.

A number of common European orchids are very rare here, such as *Epipactis microphylla* and *Anacamptis palustris*, or are considered extinct for Cyprus, such as *Orchis anthroporum* and *Neotinea tridentata*.

*Epipactis* is represented by four species. Of these *Epipactis condensata* and *Epipactis microphylla* are rare species found on the higher slopes of the Troodos, often in the company of the commoner *Epipactis troodi*. *E. condensata* has a Near East distribution and the Caucasus. *E. troodi* is found on Cyprus and the Amanus mountains in Turkey. *Epipactis veratrifolia* is a robust member of this group, common in its habitat of mountain streams. It has a widespread distribution east of Cyprus to Afghanistan and southwards to Ethiopia and Somalia.

Fig. 1: *Epipactis condensata*

Fig. 2: *Epipactis troodi*

Fig. 3: *Orchis punctulata*

Fig. 4: *Orchis sezikiana*

Photos by Yiannis Christofides



*Platanthera chlorantha* ssp. *holmboei* is a common plant on the Troodos range, also found in Syria and Turkey.

Of the four *Serapias* species found here, *Serapias orientalis* and *Serapias levantina* are Eastern Mediterranean species and *Serapias aphrodite* is a recently described endemic. It is a rare, slender and quite distinctive plant found on the north-western tip of Cyprus, the Akamas peninsula.

*Orchis* and related genera had remained relatively unchanged until genetic studies by Bateman *et al* (1997) pointed the way to a revision of *Orchis*, *Aceras*, *Anacamptis* and *Neotinea*. Thus *Orchis fragrans*, *Orchis sancta*, *Orchis syriaca*, *Orchis laxiflora*, *Orchis palustris* and *Orchis papilionacea* (*Orchis caspia*) have been transferred to an enlarged *Anacamptis* group. *Orchis tridentata* has been transferred to *Neotinea*, *Aceras* to *Orchis* and *Barlia* to *Himantoglossum*. Some subspecies in these groups have been elevated to specific status.

It was long recognised that our *Orchis quadripunctata* with a variable number of spots was somewhat different from the nominate species. It is now ascribed to *Orchis sezikiana*. *Anacamptis papilionacea* is represented by *Anacamptis caspia*, and its population is limited to a few individuals. *Orchis anatolica* is represented by the nominate species which is found mostly on the Pentadaktylos range, and by *Orchis anatolica* ssp. *troodi*, found mostly on the Troodos range. *Orchis punctulata* is an impressive and beautiful species, occurring in Anatolia, the Middle East and the Caucasus. On Cyprus it is relatively rare and flowers very early in the season, in February and early March.

Some of our *Ophrys* species are well defined, whereas others form what appear to be continuously varying complexes. A host of new endemics or near endemics has been created, some of which look remarkably like the former nominate species which occur in nearby countries.



Within the Umbilicata group *Ophrys lapethica* is mostly found on Cyprus, whilst *Ophrys flavomarginata* is also found in Israel. The presence of another species has long been suspected, with green sepals, smaller rounded lip, variously ascribed to *Ophrys rhodia* or *Ophrys attica*, which has now been described as a new species, *Ophrys astarte*.

Fig. 5 (above): *Epipactis veratrifolia*      Fig. 6: *Orchis anatolica* ssp. *troodi*  
 Fig. 7: *Ophrys morio*      Fig. 8: *Ophrys lapethica*      Fig. 9: *Ophrys elegans*  
 Photos by Yiannis Christofides

6



7



8



9



The Mammosa group has also provided a source for considerable confusion over the years. The Flora of Cyprus (J.J.Wood in Meikle Flora of Cyprus) describes a number of subspecies of *Ophrys sphegodes*, i.e. *Ophrys sphegodes* ssp. *mammosa*, *Ophrys sphegodes* ssp. *sintenisii* and *Ophrys sphegodes* ssp. *transhyrcana*. All have now been elevated to specific status under the respective names of *Ophrys mammosa*, *Ophrys alasiatica* and *Ophrys morio* (endemic). Fairly representative specimens of each species described can be found, but I suspect there is a certain amount of hybridisation going on! The presence of another late-flowering species, *Ophrys posteria* has been postulated by some people but I am very doubtful about the existence of such a species.

*Ophrys tenthredinifera* has an interesting history in Cyprus. One plant was known for a number of years in the Akamas peninsula, in north-western Cyprus. This has now disappeared but a new one has been found in the Troodos mountains. It seems that what is happening is that the occasional seed finds itself here, carried by wind, and while this germinates and grows, the plant is effectively isolated and cannot reproduce further.

The Bornmuelleri group contains two species, the common *Ophrys levantina*, a Eastern Mediterranean species, and *Ophrys bornmuelleri*, with a Near East distribution, which on Cyprus is now *Ophrys aphrodite*.



Within the Argolica group Cyprus is represented by the near endemic *Ophrys elegans*, also found in southern Anatolia.

Members of the Fusca-Lutea-Omegaifera group are distinct and well behaved on Cyprus, being represented by *Ophrys iricolor*, *Ophrys cinereophila*, *Ophrys sicula* and *Ophrys israelitica*, all Eastern Mediterranean species.

And last, but not least, Cyprus's own spectacular endemic, *Ophrys kotschyi*, a rather rare orchid with specific preferences as to where it grows.

Fig. 10 (above): *Serapias aphrodite*

Fig. 11: *Ophrys flavomarginata*

Fig. 12: *Ophrys astarte*

Fig.13: *Ophrys alasiatica*

Fig. 14: *Ophrys kotschyi*

Photos by Yiannis Christofides

11



12



13



14



To end with a quote from Richard Bateman 'And each Mediterranean island has in recent years miraculously acquired its own endemic species of almost every species group of *Ophrys*'. It seems Cyprus has not escaped the attention of the 'species makers!'

### References

- Bateman, R. M., Pridgeon, A. M. & Chase, M., W. (1997) Phylogenetics of subtribe Orchidinae (Orchidaceae) based on nuclear ITS sequences, 2. Infrageneric relationships and reclassification to achieve monophyly of *Orchis* sensu stricto. *Lindleyana* 2: 113-141.
- Davies, H. P. (2008) Cyprus Days Journal of the Hardy Orchid Society 5: 127-133.
- Devillers, P. & Devillers-Terschuren, J. (2012) *Ophrys* of Cyprus: Diagnostic Characters, Relationships and Biogeography. *Natural. belges* 93 (Orchid. 25): 97-162.
- Kreutz, C. A. J. (2004) *The orchids of Cyprus*. C.A.J. Kreutz, Landgraf, The Netherlands.
- Christofides, Y. (2001) *The orchids of Cyprus*. Self Published

Yiannis Christofides, is the author of the *Orchids of Cyprus* and leads botanical tours in Cyprus, Greece, Turkey and the Dolomites. Comments welcome at [minerva9@cytanet.com.cy](mailto:minerva9@cytanet.com.cy)



**WILDLIFE TRAVEL**  
Natural history holidays worldwide

More than just a wildlife holiday  
...discover a new world

**Cyprus in spring  
with Yiannis  
Christofides**

Yiannis's other destinations include  
Crete Lesvos  
The Dolomites  
Cyprus autumn  
Peloponnese autumn  
Pontic Alps spring

Our profits are donated to conservation

ATOL protected no. 808

01954 713575  
office in Cambridge, UK  
[www.wildlife-travel.co.uk](http://www.wildlife-travel.co.uk)



## **Orchids on an Ex-refuse Tip** **Roy Bailey-Wood**

Howardian Local Nature Reserve is now a 34 acre urban site just a couple of miles to the east of the centre of Cardiff. Prior to 1970 it had been a Cardiff City Corporation domestic rubbish disposal site. In 1973 when this role ceased, the council covered the area with a thin layer of topsoil and, in their wisdom, suggested that part of the site be managed as a nature reserve by pupils from the local secondary school, Howardian High School. This proved highly successful, and in 1989 with the help of a newly formed Friends Group the reserve area was extended to 30 acres. This necessitated a network of paths to be laid out and at the same time some 25,000 trees and shrubs were planted. After thirty-odd years these have now reached maturity.

The reserve is managed by the Rangers' section of the Council's Park's Service with considerable help from an enthusiastic Friends Group. As a result of all this effort, a relatively small area now contains a range of habitats. In particular, there is a large area of mixed woodland, made up of a good cross-section of over 30 British native trees and shrubs. In addition there are extensive hedgerows, as well as scrub, ponds, a reedbed and wetland and a large area of damp flower meadow (Fig.1). It is home to a surprising variety of plants, birds and animals (including dormouse) with over 500 species having been recorded.



Fig.1 Large damp flower meadow at Howardian Local Nature Reserve  
Photo by Roy Bailey-Wood

Particularly welcome have been the orchids, which have been increasing in numbers over the years, with the summer of 2014 being the best to date. The Greater Butterfly-orchid, *Platanthera chlorantha*, made its first appearance in 2008 with a single small inflorescence appearing amongst the tall grasses of the flower meadow. The same plant, presumably, made a further appearance the following year but has not been seen since then until this year. Its appearance does not seem to be related to the pattern of mowing in this area.

The meadow also supports a reasonable number of Common Twayblade, *Neottia ovata*. These are generally short specimens and tend to favour the drier areas. Following sterling clearance work by the local scout group, a sizable number of spikes appeared in one area where they had not been found before, or perhaps not seen. The Pyramidal orchid, *Anacamptis pyramidalis*, has been found in recent years in very small numbers reaching a peak in 2013 of three! It failed to appear this year although locally this has been an excellent year for this species. It may be suffering from competition from surrounding vegetation. This autumn the area has been mown so we will have to wait to see if it re-appears.

In the woodland areas of the reserve the Broad-leaved Helleborine, *Epipactis helleborine*, is found. These grow in heavily shaded spots where most of the specimens are small, single and flowerless spikes. However, one very localised colony seems to be made of sterner stuff and flowers regularly. In 2013 it reached its highest observed number of twenty-one flower spikes although not all yielded flowers. In 2014 only a few spikes appeared and only one plant produced flowers.

The Common Spotted-orchid, *Dactylorhiza fuchsii*, favours the drier areas of the flower meadow, generally the edges, where it grows with small specimens of Twayblade. It also has to compete with tall grasses. Probably because of this it has never appeared in large numbers. This is not the case with its relative *Dactylorhiza praetermissa*, the Southern Marsh-orchid. It has always been found in good numbers on the meadow, but 2014 was exceptional with 2088 being counted (Fig.2). As can be seen, almost all are a deep purple colour with very few having the more typical pink colouration. Some hybrids with *Dactylorhiza fuchsii* are undoubtedly present, but these can be difficult to spot because of the general dark colouration. As mentioned earlier, the meadow is being increasingly infiltrated by common rush and this may prove a difficult competitor for the orchids and other flowering plants. The Rangers are proposing to spray selectively with herbicide so hopefully the orchids will continue to provide a magnificent display.

Fig. 2 Stand of *Dactylorhiza praetermissa*  
 Fig. 3 Colony of *Ophrys apifera* growing in shaded woodland  
 Photos by Roy Bailey-Wood





Fig.4: Tall plants of *O. apifera*  
Photo by Roy Bailey-Wood

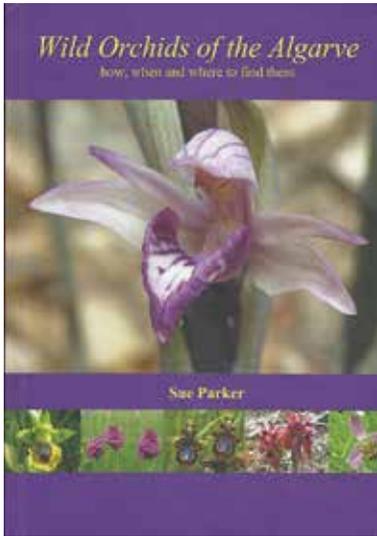
The Bee Orchid, *Ophrys apifera*, has always been observed in modest numbers, particularly along the edges of grassy paths, and even on the road-side outside the reserve. In addition, plants have been observed in the past in the shaded wooded areas. These don't usually flower although one small colony responded to tree clearance and flowered in 2013. In that year also, an extensive colony of small leaf rosettes was found in a very heavily shaded area. A few of these plants produced rather etiolated flower spikes. The leaf rosettes continued to grow over the following winter period, probably aided by the warmer winter temperatures in that year. The result was that in the following June some 350 flower spikes were counted, some of which were tall (see Figs 3 & 4). These plants were found over an area of a few hundred square metres with very little other vegetation present. There had been no tree or shrub clearance during this period so the heavy shading seems to have been

to the benefit of the orchids. Interestingly, virtually all the leaf rosettes have now disappeared and it is highly likely that these plants have now died. The origin of this extensive colony is difficult to ascertain but probably was the result of wind-blown seed from nearby plants. One can only assume that because of the dense tree cover the seed distribution was restricted to a relatively small area.

The trees and shrubs planted over thirty years ago have now matured and the wooded area is particularly attractive in the summer. Herbaceous plants and flowers have established themselves naturally although many were probably brought in with the original topsoil. This may well be the case with the orchid species since there seems to be no nearby areas from where they might have seeded.

We hope the reserve will continue to develop and mature and the orchids will always be there for our enjoyment. Howardian LNR is situated close to a large residential area and is therefore an important leisure feature for the local population. Somewhat worrying in this respect are the proposed cuts to the Ranger service as a result of reductions in Council funding. I guess this is a problem that many other wildlife sites will be facing in the future. I wish to thank the Friends Group for help and support in putting together this article, especially Gerry Nowell, Roger Gilbert and Martin Doe.

## Book Review – Wild Orchids of the Algarve Celia Wright



Wild Orchids of the Algarve: how, when and where to find them by Sue Parker  
Published by First Nature 2014  
ISBN 978-0-9560544-8-7  
Hardback 128pp £18-50

This book is the result of the 16 years Sue Parker has spent hunting for orchids in the Algarve region of southern Portugal. If you have a copy of Wild Orchids in the Algarve, a much slimmer volume by Sue published in 2009, you will recognise immediately the greater scope and much improved presentation and printing of her new book.

The book starts well with discussion of orchid habitats, directing those looking for them to the most productive terrain. A guide to the species follows. Before reading the section itself, the table of contents is worth a look with its thumbnail photographs of all the species covered. These pages will be very helpful to someone less familiar with these plants as they can be used to help with a preliminary identification. Forty different species and subspecies are described, usually on a double page spread including good sized photographs of excellent quality, so that diagnostic features are in most cases easy to see. Alternative (usually older) names are given, though the headline name is the one supported by the most recent DNA evidence.

The descriptive method is quite different from that in many other hardy orchid manuals. Rather than a mass of detail covering every part of the plant with numerous measurements, there is a more narrative description that draws attention to significant features, especially where they help with differentiation from closely related species. Distribution, in the Algarve, further afield in Portugal and across the rest of Europe, as well as habitat and flowering time are included. A useful feature is the note on possible confusion with other orchids.

The section on orchid sites and walks will be most useful to those planning a trip to the Algarve and keen to find orchids there. Eight walks are described in some detail with directions to the starting point and a list of species found. Sometimes there is a specific path to follow, sometimes a whole area is recommended. In addition, there

are shorter notes on some less well explored areas that may well yield even more varieties of orchid than are described here.

This is a good book to carry when out walking in the Algarve in the orchid season, for orchid experts and beginners alike. For this reason, I would have preferred a soft cover version to reduce the weight in my rucksack. Although the book is also available in Portugal through the Mediterranean Gardening Association, I would recommend getting a copy from First Nature at <http://www.first-nature.com/books/index.php> before leaving home.

***Ophrys apifera* Huds.var. *cambrensis* M.J.Clark, var. nov.**

**To Name or Not to name**

**Michael Clark**

In my area of Wales it was a good year in 2014 for *Ophrys apifera*. One colony had in excess of 200 plants with the occasional *trollii* variant and some nice *O. apifera* × *insectifera* appeared at a Stroud site. I had an e-mail in June from a friend stating there was a large colony of *O. apifera* down on the coast in Glamorgan. On surveying the site I was surprised to find a colony of over 100 strange variant plants with an overall yellow ochre appearance to the lighter parts of the lip and a double strapping to the speculum zone of the lips. The dark maroon areas are variable on each lip but nearly all have a dark maroon distal area to the centre lip, not looking anything like the known U.K variants: *bicolor*, *belgarum*, *badensis*, *trollii*, *atrofuscus*, *chlorantha*, or the two peloric forms.

If it had just been one strange looking plant I would have taken it as a one-off but such a large colony is, as far as I know, very rare. A variety in these numbers should to my mind be named. I am aware that leading authorities frown on naming varieties but as eight varieties have already been named, here comes one more – *O.apifera* var. *cambrensis*, named after Cambria, the Latin name for Wales (**Holotype:** National Museum of Wales, Cardiff, accession number v.2014.001.1). At least if all the known varieties are photographed and named we know what to look out for in the field! Recently, it has come to my attention that one plant keying to var. *cambrensis* was found at Box Hill Surrey a few years ago.

**Reference**

Clark, M. (2014) *Ophrys apifera* Huds. var. *cambrensis*, a new variety from Wales J.Eur. Orch. 46: 725-729.

Whole plant and close-up images of *Ophrys apifera* var. *cambrensis*,  
Photos by Michael Clark



## Dactylorhiza Blight and Its Spread

Dave Trudgill

The thrust of this article is that the spread of a lethal disease that has devastated several *Dactylorhiza* species in our meadow (Fig. 1), and which we think we have seen in other wild orchid populations, is aided by people walking through orchid meadows and that this may be a major means of its spread within and between sites. We have not identified the pathogen involved but it is probably ‘Dactylorhiza Blight’ (Isobyl la Croix, 2010), possibly caused by *Cladosporium orchidis* (Wilson & Wilson, 2001).



Fig. 1: Northern Marsh-orchid showing symptoms of the ‘blight’

Photo by Dave Trudgill

The saga began when, in the late 1980s my wife, Jean, and I bought a house in rural Perthshire that lacked a septic tank (the household effluent went straight into the nearby burn). To accommodate a new septic tank we bought a triangle of land of about one third of an acre from the neighbouring farmer. This land had been in a rotation of grass and arable production. After fencing and the installation of the tank we sowed a grass mixture and bought a few sheep. These we kept for several years until we despaired of their foot problems. Jean then suggested we turn this ‘paddock’ into a wild flower meadow and as part of this project we hired a JCB to dig a pond (ca. 20m x 6m) in the lowest, dampest part. Before digging the pond I moved four plants of Northern Marsh-orchid to the side of the future pond. To our surprise, four years later, the spoil heap from the pond was covered with many hundreds of flowering Northern Marsh-orchids. This was the start of our interest!

I had been cutting the grass in the paddock with a ride-on mower but I changed the management to cutting the grass in the early spring (removing the mowings) and again in the autumn (removed as hay) with the intention of decreasing the soil fertility. This strategy seemed to work as the Northern Marsh-orchids continued to spread and other local species including Heath and Common Spotted-orchids also appeared. I was also able to obtain a seed head of Lesser Butterfly-orchid that I spread with the aid of a light breeze.

At about the same time in our garden we planted an exotic *Dactylorhiza* (probably *D. foliosa*) with long purple flower spikes. For the first 2 or 3 years this plant appeared healthy, but in the third or fourth year it developed many dark brown/black lesions on the leaves, growth was stunted and after a further year it disappeared. At about this time, almost all of the many hundreds of Northern Marsh-orchids on the spoil heap also disappeared. One summer they were there, the next spring they were gone.

At this point we noticed other plants with symptoms similar to those on the exotic *Dactylorhiza* and assumed that the disease had transferred from the garden to the paddock. Having ‘googled’ the problem we concluded that the symptoms are typical of those caused by *Cladosporium orchidis*.

To cut a long story short, we embarked on a programme of roguing-out infected plants, initially involving many scores of plants each year, and over several years appeared to have eliminated the problem. But about 4 years ago I thought it had re-appeared in a milder form, but then found we had a leaf-miner problem that also induced browning and stunting of the leaves and flowers (Figs. 2 & 3). However, after a short break of a couple of years with no clearly blight-infected plants it reappeared in an area localised to the north-east of the pond. Again, I am now trying to eliminate it by roguing.



Fig. 2: Leaf-miner damage  
Photo by Dave Trudgill



Leaf-miner damage  
Photo by Dave Trudgill

As we have become more alert and experienced it has become evident that the majority of the blight-infected plants were located where people (mainly me) walked, especially along an informal path that ran along the north-east side of the pond. We are now almost certain that much of the plant to plant spread of the blight, particularly where it jumps several yards, is on our footwear as we walk through the paddock. Close examination (on hands and knees) of the 'path' showed there were many more blight-infected plants than we first realised as many are young and, hence, very small. We now realise that in the past we would have been missing these infected plants, some of which would have survived the winter to provide a source of infection in the following spring. Distinguishing between plants damaged by being trodden upon and blight-infected plants can be difficult but I now err on the side of

caution. All four species of *Dactylorhiza* and the numerous hybrids growing in our meadow seem to be susceptible.

Of major concern, and the main reason for writing this article is that in recent 'orchid walks', some part of the programme organised by the Hardy Orchid Society, we have noticed what we suspect are blight-infected plants at several other sites. As a typical day-out involves visiting two or three sites the potential for spreading blight is obvious. In our experience blight spreads extremely rapidly between neighbouring plants and we now try to limit spread over a longer distance by restricting our movements, walking through the infected area in one direction only and then immediately washing our boots in the stream. Plants infected later in the summer can be rescued by removing the newly developing tuber and washing it in 2.5% bleach for four to five minutes and then thoroughly rinsing in tap water. Covering infected plants to protect them from the rain and removing infected leaves will also greatly slow disease development on a plant.

La Croix, I. (2010) *Dactylorhiza* Blight *Journal of the Hardy Orchid Society* 7: 117-118.

Wilson, M. & Wilson, B. (2001) *Cladosporium orchidis* - a fungal pathogen. *The Journal of the Scottish Rock Garden Club* 107:168-170.

## HERITAGE ORCHIDS

4 Hazel Close, Marlow, Bucks., SL7 3PW, U.K.  
Tel.: 01628 486640 email: [mtalbot@talktalk.net](mailto:mtalbot@talktalk.net)



Would you like to grow Pleiones like these? Then look no further. I have a fine assortment of Pleiones, both species and hybrids. Among them the beautiful Pleione Tongariro (left), which wins awards every year.

I also have a selection of Hardy Orchids and Cypripediums, all legally propagated from seed.

Please visit my website [www.heritageorchids.co.uk](http://www.heritageorchids.co.uk). It contains a plant list, descriptions, detailed growing instructions and an order form.

### **An Uncommon Hybrid – Hebridean Spotted-orchid × Frog Orchid** **Alan Smith**



The hybrid between Hebridean Spotted-orchid and Frog orchid is not seen so often. During June 2014 I discovered this plant in the orchid rich machair on the north west coast of the Isle of Lewis. The first thought of a visiting Sassenach was Common Spotted-orchid hybridised with Frog Orchid but closer inspection revealed (what I believe is) its true identity. “Hebridensis” was growing close by and the intensity of colour in the flower, as well as the purple edged leaves, convinced me and a couple of knowledgeable orchidologist friends.

Hybrid between Hebridean Spotted-orchid  
& Frog orchid (opposite & back cover)  
Photo by Alan Smith

