

Journal
of the
HARDY ORCHID SOCIETY



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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, January 2004 Journal or contact the Editor).

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Front Cover Photograph

Neotinea (Orchis) ustulata photographed in Picos de Europa, Spain by Robert Thompson (see article on page 60).

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Editorial Note

Space for just a few words to say that we are starting to catch up with the recent backlog of articles, and to welcome new contributions for the Journal. As well as full articles, it is good to include smaller contributions of a page or so.

Report from the Chairman

David Hughes

Nearing the end of my first year as chairman of the Hardy Orchid Society, I can reflect on my good fortune to inherit a successful thriving organisation. We have a series of excellent day lecture meetings across the country. We have an excellent plant show in Kidlington, and a thriving photographic competition in Wisley. Our field meetings occur across the country, and they afford a wonderful means of exploring different localities, and meeting other society members. We are privileged to have a journal whose quality and interest is second to none, thanks to Mike Gasson ‘s editing. Looking forward, we plan to build on this excellence. The programme of speakers at Kidlington is particularly good as you can see from the programme below. The flower show has slightly different classes this year; see the schedule in this journal. We are grateful to Malcolm Brownsword for taking on the running of this event. We are very keen to have a maximum number of entries so don’t leave your plants at home; they need to be in Kidlington. There is a novice class, and also a show bench, the latter for those who would like to show their plants but aren’t competitive.

Our field programme was given in the January journal; Alan Gendle’s trip to the Lancashire coast is already fully booked, and Martin Jackson’s trip to the Dales nearly so. The trip to Porton Down is filling fast, I must have names for that one at least

a month in advance. The other trips at the time of writing still have spaces, but do get your names in in good time to avoid disappointment. Kidlington is the time for our AGM. I have inherited an excellent committee but the constitution requires each post to be vacated after 3 years with no one serving more than 6 years on the committee. As a result we have vacancies and I need YOU to fill them. Without you, we have no society. Serving on the committee is fun, and it provides the opportunity to meet other members, often expert in their fields. You do not need to have any orchid skill yourself, just enthusiasm. Please contact me at or preferably before Kidlington to offer your services.

Programme for Spring Meeting & AGM Exeter Hall, Kidlington, Sunday 20th April 2008

- 09.00 - Doors open; plant sales tables open; Plant Show entries staged by 09.45.
- 10.00 - Tea / coffee.
- 10.30 - Chairman's Welcome followed by AGM*.
- 11.30 - Svante Malgrem: "25 *Ophrys* species or 250 Genetic Properties uncovered by Self Pollination and Hybridisation."
- 12.30 - Prof Richard Bateman: "The Lonkey Orchid."
- 13.00 - Tea/coffee for all, lunch for those who have prepaid.
- 14.00 - Plant Show Judge comments on winning plants.
- 14.30 - Ian Butterfield " Sichuan in the Spring, including *Cypripedium* and Other Flora."
- 15.30 - Tea/coffee.
- 15.45 - Phil Seaton: "Orchid Conservation."
- 17.00 - Hall to be vacated.

*Please note that the AGM (only) is open to all members without charge. Availability for the Committee should be notified in advance to the Chairman or Secretary, or nominations can be made from the floor during the meeting.

More on Badgers or Birds Alan Blackman

In reply to the article by Derek Larter, "Are the Nippers Badgers or Birds" (*JHOS* 5: 23-24, 2008), my observations were that the flower spikes (indeed often just the flowers, leaving the remains of the ovary attached to the stem) had been consumed by the predator in question. Also, they had not been left on the ground. I am no expert on badgers, but I would not have expected them to be vegetarian. As far as I know their favourite food is earthworms which they dig for with their "snouts". If it were one particular badger living in the wood, I would expect this destruction to happen every year, which certainly it does not. It is an interesting problem, and if possible I will try to make some more observations to elucidate the culprit/s.

HOS Plant Show 2008

Malcolm Brownsword

Prior entry is mandatory for the Plant Show on 20th April, and can be made by one of two methods. Either fill in the entry form that is currently on the web site, and e-mail it on completion to malcolm.brownsword@tesco.net, or for those not having Internet access, please telephone me, the Show Secretary, on 01235 850668. Give your name and address, and an entry form will be sent immediately. Entries close at noon on Saturday 19th April. I will be away in Spain from 7-14th April inclusive, but will instruct my daughter, who will be at home, to send out forms where necessary. In the event of anyone wishing to speak to me personally during this period, I can be contacted on 00 34 96 6498780.

You will notice that there are some new classes. It is hoped that this will encourage more entries. In particular, note that there is a Beginners' Class, for those who have never won a first prize in a Hardy Orchid Society Plant Show. In addition, please bring along as many plants as possible for the non-competitive class. On the day of the competition please pick up your entry cards from the Show Secretary or a Steward, and then place your entries in the appropriate section on the show benches. If you wish to enter, but are unable to attend or to get someone else to bring your entries, please contact the Show Secretary, who will do his best to locate a member willing to transport them.

Schedule of Classes

1. Three pots native British orchids, distinct varieties.
2. Three pots native European (not native to Britain) orchids, distinct varieties.
3. Three pots non-European orchids, distinct varieties.
4. Three pots hardy orchids, distinct varieties, any country of origin.
5. One pot native British orchid.
6. One pot native European (not native to Britain) orchid.
7. One pot non-European hardy orchid.
8. One pot *Dactylorhiza*.
9. One pot *Orchis*, *Anacamptis* or *Neotinea*.
10. One pot *Ophrys*.
11. One pot *Serapias*.
12. One pot *Cypripedium*.
13. One pot *Calanthe*.
14. One pot *Pleione*.
15. One pot of any hardy orchid (Beginners' Class open to members who have never won a first prize).
16. Non-competitive Class for any hardy orchid, number of entries unlimited.

Reprint of “*The Genus Cypripedium*”

The Genus Cypripedium by Phillip Cribb (2008), Kew Publishing, Royal Botanic Gardens, Kew ISBN 0 88192 403 2. Hardback, with dust-wrapper, 301pp RRP £60.

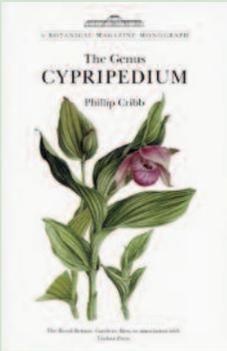
The reprinting of this Series: A Botanical Magazine Monograph, first published in 1997, is a very welcome decision by Kew Publishing. As many members will already know, this is a classic text on the temperate slipper orchids by the distinguished authority, Phillip Cribb. The text covers the history, biology, evolution, conservation, cultivation and classification of these attractive hardy orchids. The text is enhanced by a series of 27 superb colour paintings by Kew botanical artists, together with 98 colour photographs, 51 line drawings and 22 maps.

Whilst “*The Genus Cypripedium*” was out of print this was a difficult text to acquire on the second hand market, and good copies commanded a high price. The book has been reprinted as a small print run of just 250 copies, so now is the time to take advantage of the availability of new pristine copies.

Kewbooks.com

Publications of the Royal Botanic Gardens, Kew

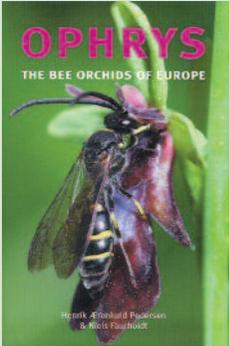




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The Genus
Cypripedium
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More Photographic Competition Winners

More winning photographs from the competition at Wisley in 2007 are shown below, and on the following three pages. As before, the images are identified by a number that is equivalent to the class, followed by the place. For example 3-2 is the second place in Class 3.

- 2nd in Class 1 (photo 1-2) Patrick Marks - *Orchis italica*
1st in Class 2 (photo 2-1) Pietro Roseo - *Serapias vomeracea* (Samos)
2nd in Class 3 (photo 3-2) John Spencer - *Epipactis phyllanthes*
2nd in Class 5 (photo 5-2) Patrick Marks - *Gymnadenia borealis*
2nd in Class 6 (photo 6-2) Don Tait - *Serapias vomeracea*
2nd in Class 7 (photo 7-2) Patrick Marks - *Anacamptis (Orchis) papilionacea*
2nd in Class 8 (photo 8-2) Martin Halley - *Dactylorhiza fuchsii*
2nd in Class 9 (photo 9-2) Tony Hughes - *Gymnadenia conopsea*
2nd in Class 10 (photo 10-2) Rosemary Webb - *Cypripedium calceolus*
2nd in Class 11 (photo 11-2) Tony Hughes - *Orchis (Aceras) anthropophora*
2nd in Class 12 (photo 12-2) Rosemary Webb - *Ophrys regis-ferdinandii*
1st in Class 13 (photo 13-1) Matti Niissalo's - *Epipogium aphyllum*
2nd in Class 13 (photo 13-2) Pietro Roseo - *Ophrys herae*





6-2



11-2



3-2



13-1





A Holiday in a Long Thin Country

Bill Temple

This is a summary of my presentation at the Wisley meeting in November 2007 in which software (Pro Show Gold) was used to take advantage of digital projection. Our holiday in Chile took place from 27th October to 18th November 2006 but, as we had no local contacts, the dates chosen turned out to be a little early. Although we saw thousands of orchid plants, about half the species that we saw had only a single spike in flower. Unfortunately that meant photographing plants with frost damage.

Our first week was spent in Viña del Mar, a town on the coast just north of Valparaiso. On our first day there we explored the Reserva Nacional Lago Peñuelas, which lies between Santiago and Viña del Mar. We found many interesting plants, but no orchids, and it was the only place where we saw wild llamas. Our second day was spent both in the Jardín Botánico Nacional, which contained a large range of trees, and later among the enormous sand dunes near Viña del Mar, which yielded our first Chilean orchids, waist high *Chloraea bletioides*. Flushed with success we headed for Valparaiso and Neruda's House for some sight seeing; this trip also yielded pelicans, carpets of wild flowers near the coast, and impressive Pacific Ocean breakers.

After the cultural interlude it was back to looking for orchids, and our next visit was to Parque Nacional La Campana. After chatting to the CONAF officials at the gate, we learned that orchids could be found deep in the park (up a never-ending hill) and, after passing many exotic looking flowering trees, we discovered *Loasa tricolour*, and I foolishly tried to lift it up a little using my bare hands. I quickly realised that having Sylvia hold it up with a stick, so that I could photograph the underside, was a much safer option! Eventually we reached a level at which we found the almost waist high, unbelievably vivid orange coloured orchids, *Chloraea chrysantha*. After showing the CONAF officials my photographs on the way out of the park they presented me with a poster of the orchids at Reserva Nacional Lago Peñuelas. The next day we were back at R.N. Lago Peñuelas, and a few questions led to a friendly chat with the reserve manager and a personal guided tour by the head warden in an area that did not seem to be open for public recreation. This was extremely beneficial as he could recog-



Chloraea chrysantha
Photo by Bill Temple

nise the species that we saw - *Chloraea barbata*, *C. bletioides*, *C. chrysantha*, *C. heteroglossa*, *C. multiflora*, and the hybrid *C. bletioides* × *barbata*. During this tour we also saw *Alstroemeria peruviana*, *Calydorea xiphioides*, and a *Calceolaria* species. I was very pleased to learn that the orchidaceous parts of the reserve were being managed in such a way as to benefit the orchids, even when they were growing in areas used for timber production. After our tour we headed for the coast, and looked at a small village harbour. On our way back we saw dozens of orchids (*Chloraea bletioides*) growing at the side of the road. How could we have missed orchids that were three feet tall bearing white flowers three inches wide on our way to the harbour?

Our last day in Vina was spent looking around the town, and the next day it was back to Santiago and a flight to Puerto Montt, followed by a four hour drive to Villarica, where we were staying for our second week. Towards the end of the flight we had seen a number of snow-capped volcanoes, and we were soon to have much closer views as there are four of them near Villarica in the Chilean Lake District.



Arachnites uniflora, a non-orchid saprophyte

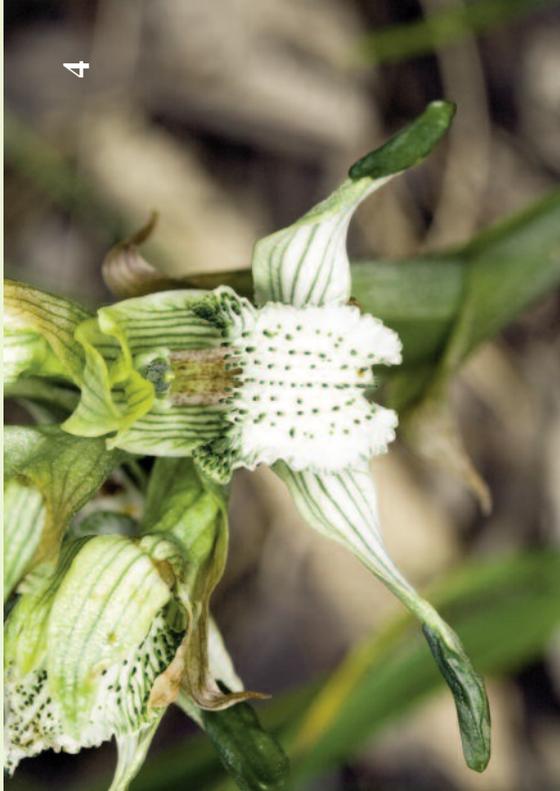
Photo by Bill Temple

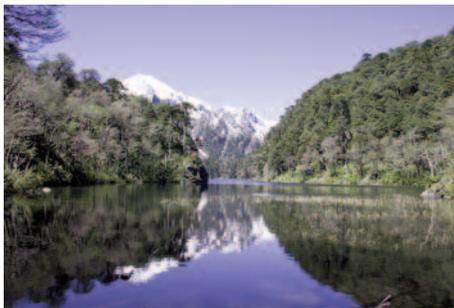
Our first day in Villarica included a visit to an Austrian lady who thought that she had orchids growing on her land. These weird plants looked very much like an Australian/New Zealand species of orchid, but turned out to be saprophytes called *Arachnites uniflora*. When turned upside down they did look amazingly like spiders - perhaps they are pollinated by spiders. The old growth southern beech forest included many strange plants, and this estate was the only place that we saw deer in Chile. The grazed fields contained the greatest concentration of raptors on the ground that I have ever seen - hundreds of them.

The following day we set off for Parque Nacional Huerquehue. Our walk included a climb of about 2000 ft from the car park and gave us wonderful views of the very beautiful lakes Lago Verde, Lago Toro and Lago Chico. These lakes were about 1500 ft higher than Lago Tinquilco and were located just below the snow line in a, now rare, Monkey Puzzle forest.

Figure 1 *Chloraea bletioides*. Figure 2 *Chloraea barbata*. Figure 3 Hybrid *Chloraea barbata* × *bletioides*. Figure 4 *Chloraea heteroglossa*.

Photos by Bill Temple





View of Lago Toro (top) and
Codonorchis lessoni habitat (bottom)
Photos by Bill Temple

On the 5th November we went to the Thermas Geometrica, a set of increasingly hot pools fed by a volcanic spring. The dirt track to the Thermas produced our first *Codonorchis lessoni*, as well as *Viola ovalleana*, *Ugni nolinae*, *Berberis darwinii*, *Berberis linearifolia*, *Ribes punctatum*, *Azara lanceolata*, and the very spiny shrub *Rhaphithamnus spinosus* with its almost alien looking flowers. To my eyes *Codonorchis lessoni* is a strange flower; from above it can look a bit like a white Eeyore with purple eyes, but from underneath the flowers have lots of green tipped tubercles on the labellum. These tubercles were a feature of all the Chilean orchids that we saw, apart from *Chloraea bletioides*, which had rows of ridges on the labellum instead.

On the following day we took the road to Pinguay where we found *Codonorchis lessoni* and *Gavillea odoratissima*. This waist high orchid is possibly night scented as I was unable to detect any scent. We progressed to the spectacular water falls Salto La China, Salto Leon and Salto Puma and, at the latter, I found an example of *Codonorchis lessoni* with two flowers on the stem instead of the normal single. We went to Thermas Palgun where we found a wood with a carpet of *Codonorchis lessoni* near the roadside, but no other orchid species. On the 7th we visited the area around Pucon, and found an example of *Chloraea virescens*, some impressive *Gavillea odoratissima*, *Codonorchis lessoni* and, near the entrance to the Parque Nacional Volcan Villarica, a white throated nuthatch (*Pyrarrhincas albogularis*).

On our last day in the Chilean Lake District we saw the volcanoes Volcan Villarica, Volcan Quetrupillan and Volcan Lunin, as well as more *Codonorchis lessoni* and *Gavillea odoratissima*. Along the banks of the road beside Lago Pullinque we saw a number of trees including *Sophora macrocarpa* with its strange male and female flowers. The 9th November saw a foggy 3am start for the four hour drive to the air-

Figure 1 *Chloraea multiflora*. Figure 2 *Codonorchis lessoni*. Figure 3 *Gavillea odoratissima*. Figure 4 *Chloraea virescens*
Photos by Bill Temple



port at Puerto Montt. This was notable for the fact that we only passed 12 vehicles on the whole journey, and not a single open petrol station! This resulted in a hefty penalty for returning a hire car with little fuel in it, although being one of the first in the airline queue meant that we were able to obtain a window seat on the side of the plane facing the Andes, and this afforded spectacular views during the flight. The predicted six hour/260 mile drive from Punta Arenas to Parque Nacional Torres del Paine turned out to be very eventful. After starting on a good metalled surface, we soon progressed to a dirt road, but found this closed for a bicycle race. The unsigned diversion along an unmarked dirt track included delays while Army staff created a makeshift bridge consisting of bits of broken wood wedged halfway down inside a 4ft deep V shaped drainage ditch that cut through the track. Eventually we arrived at our hotel eight hours after leaving Punta Arenas.

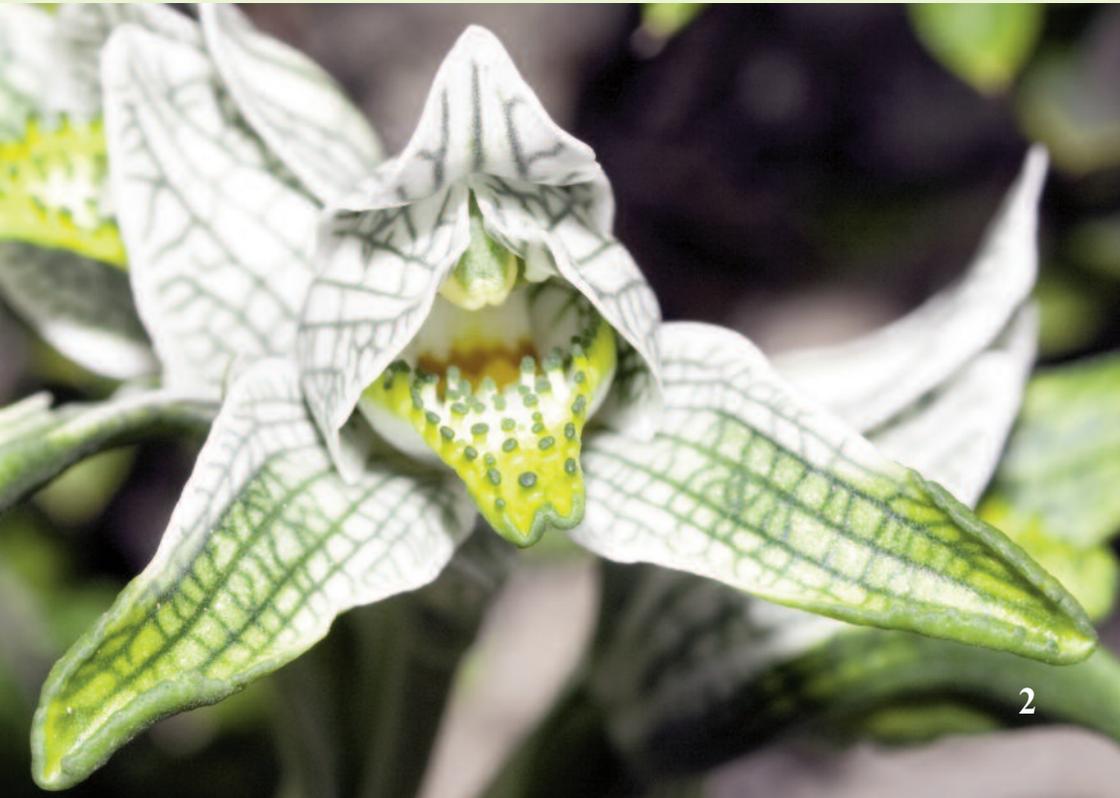
Our first two days in the park yielded many orchid leaves, stunning views and the following plants – *Osynium biflorum*, *Saxifraga magellanica*, *Anemone multifida*, *Leucheria purpurea*, *Anarthrophyllum desideratum*, *Calceolaria uniflora*, and *Astragalus palenae*. The following day saw us embark on a trip to Glacier Grey by boat. First we had to cross an interesting suspension bridge - ripples started when you stepped on it and as soon as one person put a foot off the centre line the motion changed from two dimensional to three dimensional, and everyone started grabbing the sides. I wondered if this was the prototype for the Millennium Bridge! The island at the end of the bridge yielded our first Patagonian orchids - *Codonorchis lessoni* which we found as we made our way via the floating jetty, inflatable transfer boat, and cabin cruiser for the three hour round trip to the glacier.

Two days later we were walking along the closed road when we found our only Porcelain orchid, *Chloraea magellanica*. Although there were orchid plants of several different species clearly visible all along the road, it and a single *Codonorchis lessoni* were the only ones with an open flower. This was also the place where we had a close-up view of a condor, which we had previously seen in the distance both from our cabin and several footpaths. There were a number of other bird species in the area with Magellan geese, rufous collared sparrows and buff necked ibis being the most common. The locals claim that to see all four seasons in the park you need to stay for two days. Although this is clearly an exaggeration, we did go from warm sunshine to blizzard in less than an hour, and Lake Grey seemed to have a climate all of its own as it is located at one end of the South Patagonian ice field. On our way back to Punta Arenas we also saw a pond with flamingos at the side of the road, and we obtained another window seat facing the Andes for our return flight to Santiago.

Figure 1 View of Torres del Paine.

Figure 2 The Porcelain orchid, *Chloraea magellanica*.

Photos by Bill Temple



Ophrys xroyanensis and other *Ophrys insectifera* Hybrids

Mike Gasson

The subject of this article formed the core of a short presentation at the Wisley meeting in 2007. It relates to a visit to Vercors during early May of the same year. The trip was motivated in part by reports in earlier HOS journals by Richard Manuel (2003a, 2003b) and Tony Hughes (2004a), but also by an affection for the anthropomorphic *Orchis* species and their hybrids that thrive in the region. In addition, Vercors offers some interesting *Ophrys* species, notably the virtually endemic “Delforgian” species *Ophrys drumana*, and a highlight of this visit was an encounter with the hybrid between *O. drumana* and *Ophrys insectifera*. This orchid was described relatively recently by Gerbaud *et al.* (1993), and the translation of the French text provides an interesting and rather humorous account of its discovery.



Ophrys xroyanensis
Rochefort-Samson
on 5th May 2002

Photo by Güenther Blaich

Natural History Museum of Grenoble. In this article, the authors provided a Latin text, and the hybrid between *O. drumana* and *O. insectifera* was formally named *Ophrys xroyanensis*, reflecting the location of its discovery.

The authors were engaged in a field trip, searching for rarer orchids in the area around Pont en Royans, when they discovered a single specimen of this hybrid accompanied by both of its parents. Not wishing to destroy their discovery, the hybrid was left in place, but one of the group returned some ten days later to check out its progress. On this occasion the company proved to be “quadruped” in the form of a herd of Charolais cattle complete with a bull. Braving the inquisitiveness of the latter, the intrepid botanist proceeded, but found the ground to be badly trampled and the hybrid “disappeared, probably absorbed by one of the bovines”. Fortunately, a meticulous search led to the discovery of a second specimen some ten metres away. Fearing that this plant was also “promised a disastrous destiny” the flowering spike was taken and entrusted to the

Figure 1 *Ophrys drumana*. Figure 2 *Ophrys insectifera*. Figure 3 *O. drumana* × *O. insectifera* (*Ophrys xroyanensis*), all at Rochefort-Samson, 10th May 2007. Figure 4 *Ophrys apifera* × *insectifera* (*Ophrys xpietzschii* invalid), in Somerset, 25th May 2007.

Photos by Mike Gasson





Habitat of *Ophrys xroyanensis*,
Ophrys insectifera and *Ophrys drumana*.

Photo by Mike Gasson

My encounter with *Ophrys xroyanensis* was far less daunting, with only a rather wet morning to contend with, as the image of *O. drumana* illustrates. The site was a small meadow flanked by rather open woodland; *O. drumana* flowered in the former and *O. insectifera* in the latter. There were half a dozen hybrid plants, mostly scattered amongst their *O. insectifera* parent plants. Some hybrid vigour was evident and the tallest measured 45 cm. The flow-

ers of *Ophrys xroyanensis* exhibit a beautiful mixture of their parents' features, and they show some variation in their form. A more recent article in L'Orchidophile (Scappaticca & Aubenas 2006) reports the existence of six sites for *Ophrys xroyanensis*, and a different location from the one described here has been visited by HOS members Jess Stone and Kath Barrett. The L'Orchidophile article also mentions the existence of forms with a stronger pink colouration, and I have reproduced an image from Güenther Blauch that seems to exhibit that characteristic. The plants that I saw included freshly opened flowers, so this variation in the depth of pink is not a just case of colour fading as has been described by Robert Kempster (2006) for *Ophrys apifera x insectifera* in the UK.

After returning from France, I could not resist the temptation to make a trip to Somerset in order to compare *Ophrys xroyanensis* with the hybrid between *O. apifera* and *O. insectifera*. To my knowledge we have one small extant colony of this hybrid, although it has been recorded previously in the Avon Gorge, and near Arundel in Sussex. Tony Hughes (2004b) described this hybrid in some detail following a HOS field trip a few years back, so I will not repeat all of the detail here. Suffice it to say that there are some similarities, and some striking differences, between the two *O. insectifera* hybrids. The lip of *Ophrys apifera x insectifera* exhibits the characteristic "hairy" side lobes of the Bee Orchid, and the two petals of *Ophrys xroyanensis* are more prominent and darker pink coloured, reflecting those of *O. drumana*. I was particularly struck by the robustness of the UK *Ophrys apifera x insectifera* plants, which really did seem to have some hybrid vigour.

An interesting observation by Svante Malmgren (2004), also described in the new *Ophrys* monograph (Pedersen & Faurholdt 2007), is the apparent sterility of several experimental hybrids involving cultivated *O. insectifera*. Pedersen & Faurholdt (2007) use this observation to support their species concepts for *Ophrys*, but it might be pertinent to the fate of *Ophrys apifera x insectifera* in the UK. Although this



Ophrys xhybrida
(*Ophrys insectifera* x *sphogodes*)
Photo by Güenther Blaich



Ophrys xdevenensis
(*Ophrys insectifera* x *fuciflora*)
Photo by Güenther Blaich

hybrid is not mentioned, its sterility would be in marked contrast to the fertility of seed from the usually self pollinated *O. apifera*. The latter facilitates the persistence of several variant forms of *O. apifera*, whereas the former would restrict hybrids to the immediate product of occasional cross pollination.

I am especially impressed by hybrids that involve parents with relatively distinct morphologies, and *O. insectifera* does provide a significantly different lip from that of many other “bee orchids”. Researching the literature reveals that the Fly Orchid is known to hybridise with several other *Ophrys* species, including both of our UK Spider Orchids. There are old records from Kent for *Ophrys xhybrida*, the hybrid with the Early Spider Orchid (Turner Ettliger 1997), and both this and *Ophrys* x*devenensis*, the hybrid with the Late Spider Orchid, are encountered regularly on the European mainland. This is illustrated by the accompanying photographs taken in Germany by Güenther Blaich. Other known *O. insectifera* hybrids include those with the closely related *O. aymoninii* (*Ophrys* x*tytecaeaena*), *O. scolopax* (*Ophrys* x*nelsonii*), *O. speculum*, and two members of the Pedersen & Faurholdt (2007) *O. sphogodes* cluster - *O. araneola* (*Ophrys* x*apiculata*) and *O. passionis* (*Ophrys* x*fonsaudienensis*).

The taxonomic approach to *Ophrys* advocated by Pedersen & Faurholdt (2007) has some interesting implications for the orchids discussed here. *O. drumana* would become *Ophrys* x*flavicans*, a partially stabilised hybrid complex derived from the authors’ broadly defined species *Ophrys bertolonii* and *O. sphogodes*. Also, all of the binomial hybrid names used here would be discouraged as they do not represent partly stabilised hybrid complexes. This is all very logical and scientifically rigorous, but I can’t help thinking that *Ophrys* x*royanensis* has a certain charm that would be lost in its conversion to what I presume would be *Ophrys* x*flavicans* x *insectifera*.

I would like to thank Richard Bateman for his helpful comments on this article, and Güenther Blaich (<http://www.guenther-blaich.de>) for his advice and photographs.

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How Did “Young’s Helleborine” Originate?

Stan Jordan

Ever since Young’s Helleborine, *Epipactis youngiana*, was first described in 1975, it has been something of an enigma. Colonies from different parts of the country contrast considerably in appearance: some have light flowers, and others dark; some hold their leaves in two rows and others in three rows; some are insect-pollinated, and others are self-pollinated. When it was first found it was described as a separate species, but it has since been downgraded to a variety of the Broad-leaved Helleborine, *Epipactis helleborine*. This was because recent DNA results showed that the “*youngiana*” in any one population are genetically closer to *E. helleborine* in the local area than they are to “*youngiana*” in populations elsewhere in Britain (Hollingsworth *et al.*, 2006).

Given that this is the case, what causes the local *E. helleborine* to repeatedly transform into “*youngiana*”? One way of addressing this question is to consider the areas where “*youngiana*” grows, and what makes them different from any other areas. Records from Newcastle upon Tyne, Hexham, Glasgow, and (arguably) South Wales, show that “*youngiana*” is found over a fairly wide area. Nonetheless, why don’t such populations grow in the many other areas of our countryside where *E. helleborine*, our most common helleborine, is abundant?

Some populations of “*youngiana*” are associated with the spoil of lead mines. Those

in the Glasgow area are on old coal bings, those in the Newcastle area grow in woods, and those in South Wales grow on sand dunes. So what is the common denominator — what is abundant in all of these areas but absent from others? The waste from coal mines, termed coal slack, still retains the properties of coal. The waste from lead and tin mining is dominantly derived from coal. And for a century the South Wales site lived alongside the largest railway sidings in Europe that traded in coal; the prevailing westerly wind constantly blew coal particles across the habitat. So I suggest that coal is the most likely culprit in repeatedly transforming “bog standard” *E. helleborine* into var. “*youngiana*”, probably ultimately via a simple mutation or environmentally induced epimutation (cf. Hollingsworth *et al.* 2006). It is conceivable that components in this material are able to disrupt gene function and/or plant growth if provided in excessive quantities (R. Bateman pers. comm. 2007).

With a theory on what might change an *E. helleborine* into a var. “*youngiana*”, we have to ask ourselves whether these sporadic colonies, always associated with “normal” *E. helleborine*, truly deserve the status of variety? Consider an inland variety of *E. dunensis* that has recently been given the name of var. *tyneensis*, the reason given being that these populations are slightly different genetically from the coastal *E. dunensis* plants, and supposedly also differ slightly in appearance.

These populations grow on steam railway lines (both abandoned and preserved) and on disused railway coal sidings. They also occur alongside the South Tyne river, which is littered with coal waste. So once again it



Hexham *Epipactis youngiana* plant from lead minespoil.
Photo by Mark Lynes



Epipactis youngiana plant from a South Wales Dune slack.
Photo by Stan Jordan

appears that coal could be responsible for changes in appearance, this time transforming “normal” *E. dunensis* into var. *tynensis*. However, *Epipactis dunensis* var. *tynensis* appears to be stable, and populations do not vary greatly among sites, whereas “*youngiana*” differs substantially between populations. Which prompts me to ask once again whether these plants deserve the formal status of variety, when in reality they are merely a few aberrant individuals of *E. helleborine*?

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Spain Part 2: Picos de Europa

John Spencer

In an earlier article (Spencer 2007), I gave an account of the trip I made to the Cuenca region of Spain with Mike Parsons and Robert Thompson. The trip involved two centres, and this article covers our time in the Picos de Europa mountains near Spain’s northern coast. During the long journey north we took only one real break, when Robert insisted on a “five minute stop” to photograph the striking scenery near Valdeleiteja on route N623. Since we knew that Robert’s five minute stop would be at least thirty, Mike decided to stretch his legs, and wandered away from the car. He first found an emerging *Orchis militaris*, then a group of fading *Orchis purpurea*, and then a pair of *Cephalanthera rubra* in full flower. By the time we left we had added *Anacamptis pyramidalis*, *Orchis (Aceras) anthropophora*, *Ophrys scolopax*, and *Serapias parviflora*. In addition, two of the dozen or so *O. scolopax* were definitely of hybrid origin, the absent parent being possibly *Ophrys tenthredinifera*.

Having reached the coast, we headed west and then drove inland to the town of Potes via the narrow La Hermida Gorge. Potes was not built with motor vehicles in mind and, although the Hotel Dolnar proved a good base for our stay, we did struggle with the parking. The following day, May 29th, we drove south to the Puerto de San Glorio. The pass is at 1675 m (5495 ft) and gives great views of the 700 square km of the National Park. The mountains rise to 8,700 ft, and this is wild country where wolves and bears still roam. Just below the pass, in windy cool conditions, we saw both red and yellow forms of *Dactylorhiza sambucina* (Plate 1) together with *Orchis mascula* and *Neotinea (Orchis) ustulata*. It was a little early to see *Gymnadenia*

Plate 1 *Dactylorhiza sambucina* at the San Glorio pass. Plate 2 Hybrid *Ophrys scolopax* x *sphogodes* at Cordinanes. Plate 3 *Ophrys tenthredinifera* at Cordinanes. Plate 4 *Dactylorhiza markusii* at Fuente De.

Photos by Robert Thompson (plates 1, 3 & 4) & John Spencer (plate 2)



(*Nigritella*) *gabasiana*, and we dropped down south towards Riano, before taking a minor road back north in the direction of Puerto de Pandetrave and Posada de Valdeon. Before the pass, at a boggy elbow in the road, we noted Large Flowered Butterwort, Lousewort and Water Avens. On a bank above the road was a solitary *Orchis pallens* growing with massive *O. mascula*.

We had received glowing reports of the excellent flora between the villages of Posada de Valdeon and Cordinanes and we weren't disappointed. Lured from the road by showy Bastard Balm and Bloody Cranesbill, we found *Ophrys insectifera*, *Ophrys sphegodes*, *O. anthropophora*, *O. mascula* and *N. ustulata*. There were a number of confusing *Ophrys* hybrids (Plate 2) displaying features of *O. sphegodes*, *O. scolopax*, *O. insectifera* and *Ophrys apifera*. Above the road was a small colony of what I will still call *Dactylorhiza markusii*, although I understand that the Spanish plants might be renamed. The plants were past their best, but the arching grooved leaves were distinctive. Amongst Greater Yellow Rattle and the pink form of Kidney Vetch were budding Martagon lilies, colourful Orobanche and the occasional *Anacamptis* (*Orchis*) *morio* and *O. tenthredinifera* (Plate 3). It was hard to tear ourselves away, but, late in the day, we headed south west out of Posada with emerging *Dactylorhiza maculata* beside the road. The evening run back to Potes via Riano was truly scenic. The mountains and lakes to the west could have done duty as a movie backdrop with only the dinosaurs and erupting volcanoes missing!

May 30th was to be Fuente De day. In the morning we explored the woods and pastures to the west of the cable car's lower station. Seeing *Dactylorhiza markusii* (Plate 4) and *Dactylorhiza insularis*, side by side, and in full flower, helped us to appreciate the differences between these two yellow orchids. *N. ustulata* (Plate 6) was abundant with some robust specimens about 16 inches tall. *Neottia nidus-avis* lurked in the shadows. In the afternoon we considered making use of the cable car, but were told that the late Spring meant that there was little to see higher up. Instead, we foraged in the summer pastures immediately below the cables. In addition to the species already reported we saw *Ophrys fusca*. Mike was led away by Rock Buntings and found small *Dactylorhiza fuchsii* plants, in numbers, just starting to flower. We bumped into Teresa Farino who told us that locally *Himantoglossum hircinum* was definitely in flower on the road from Potes to the Piedrasluengas Pass. So, to get to our last stop for the day, we drove back through Potes. After passing the remains of *Himantoglossum robertianum*, we soon spotted the *H. hircinum* as the road climbed to the pass. Another long day and another 10pm evening meal; late for Britain but the norm in Spain.

Plate 5 *Anacamptis* (*Orchis*) *papilionacea* near Colio. Plate 6 *Neotinea* (*Orchis*) *ustulata* at Fuente De. Plate 7 *Dactylorhiza maculata* at the San Glorio pass. Plate 8 *Cephalanthera rubra* near Baro.

Photos by Robert Thompson (plates 5, 6 & 8) & John Spencer (plate 7)



The next day we decided to visit the Plains of Castille, just south of the Picos. We retraced our steps to the Piedrasluengas Pass, driving past yesterday's Lizard Orchids and on to the pass itself. With only *A. morio* and *O. mascula* in flower, we didn't stay long, and soon started a southerly descent. Our next stop, at 1220 m near Arenos, had brightly coloured *Dactylorhiza incarnata* growing beside a mountain stream. Just south of Vanes we had another "one species" stop, this time to see hundreds of robust *A. morio* growing on ridges over boggy ground, and perhaps one week past their best. An open woodland bank short of Puente Almuneu boasted hundreds of *Himantoglossum hircinum* (Plate 9), mostly in flower, and a similar number of *O. sphegodes* at the last flower stage. I managed to find a hypochromatic (albino) Lizard Orchid (Plate 10), although, in truth, it didn't take much finding. It shone out like a beacon, the green and white colouring making it look very fresh. We saw little else here apart from Spotted Rock Rose and an elderly *O. purpurea*. Curiously, *O. purpurea* is not found in the Picos proper, but only on the approaches. Near Val Martino we had started checking out old terraces to the east of the town when driving rain forced us back to the car. This was frustrating since *O. apifera* and *O. tenthredinifera* were emerging together in force, along with other orchids, including *Ophrys lutea*, *O. sphegodes* and *O. anthropophora*.

On day four in the Picos we found out that Peter Carey of Monks Wood shared our hotel. He kindly pointed us down the valley to take a minor road to Colio (Plate 14). At 400 m in a damp roadside meadow we saw *Serapias lingua* fully out and unusually large *Anacamptis papilionacea* (Plate 5), rather past their best. Trekking uphill through the traditional hay meadows, Mike spotted a dozen *Dactylorhiza elata* (Plates 15 & 16), the tall spikes standing clear of the lush vegetation. Robert and I busied ourselves with our tripods, and Mike went walkabout to find *D. incarnata* (going over) plus a couple of *O. apifera* and *O. tenthredinifera*.

Later in the day we explored the wooded slopes above Baro. Here we found *C. rubra* (Plate 8) in flower together with some early flowering *Epipactis helleborine*. With the days running out, the group format was breaking down. Whilst I photographed *O. apifera*, with attractive pink and white sepals (Plate 13), Robert was finding *Orchis langei* (Plate 12) in another part of the wood, and Mike had disappeared in the car to locate flowering *Limodorum abortivum*. The *O. langei* was noticeably later flowering than the related *O. mascula* (Plate 11) with some plants still mostly in bud. The lip was angled in profile, and the leaves carried the odd pale spots of this species.

Plate 9 *Himantoglossum hircinum* at Puente Almuneu. Plate 10 hypochromatic *Himantoglossum hircinum* at Puente Almuneu. Plate 11 *Orchis mascula* at the San Glorio pass. Plate 12 *Orchis langei* at Baro.

Photos by Robert Thompson (plates 9, 10 & 11) & John Spencer (plate 12)

9



10



11



12





Plate 13 *Ophrys apifera* with pink and white sepals

Photo by John Spencer

and *Dactylorhiza elata* growing beside the road. In the extensive pine wood close to the town we saw thousands of *Platanthera bifolia* and a similar number of *E. helleborine*. Mike recognised the round leaves of *ssp tremolsii* and Robert, who we lost for a time, reported *Epipactis phyllanthes*. We also saw small numbers of *Cephalanthera longifolia*, *C. rubra* and *O. apifera*. After a late meal near Laredo we arrived at Bilbao in good time for our flight home.

Even a person with no interest in flora can not fail to be impressed by The Picos; the orchids and other plants were a bonus. Thanks to Mark and Clare Kitchen, Maria-Jose Friedlander and Peter Carey for site information. As always, our trip was a team effort. So, thank you Robert for your excellent photos and thank you Mike, not only for the research and planning, but also for your ability to drive and spot orchids at the same time.

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Plate 14 Landscape of the hills above Colio. Plates 15 & 16 *Dactylorhiza elata* near Colio.

Photos by Robert Thompson

14



15



16



Cyprus March 2005 Peter & Pauleen Mottershead

Following our first visit to Cyprus in 2004 (*JHOS* 3: 51-53, 2006)), we returned for two weeks in 2005. On 27th February we picked up our car and made our way to



Orchis punctulata

Photo by Peter Mottershead



Dactylorhiza romana

Photo by Peter Mottershead

meet Joan Hubbard (co-author of “*The Orchids of Cyprus and Where to Find Them*”). Joan showed us orchid sites around the Akamas area, including two sites for *Orchis punctulata*. The first site was near Neo Chorio. in a ploughed field, down a small lane off the main road, and here we found a superb group growing in the hedgerow. Returning to the car, we drove a little further and, near to some small residential flats, we dropped down to a small area where *O. punctulata* grew around the base of a small shrub. Here there were about 20 spikes in flower, and they were in superb condition. We found *Himantoglossum robertiana*, and a number of other species. We proceeded to the Smigies Picnic Site where we spent some time walking along both sides of the road discovering many more species, including *Dactylorhiza romana*, *Ophrys umbilicata*, *Ophrys funerea*, *Ophrys lapethica* and *Ophrys elegans*. I took Joan to see my site for *Orchis troodi*, which she thought was *Orchis anatolica*. Yiannis Christophides had told us that it is definitely *O. troodi* in that area, so who knows! We went to see the site for the *Ophrys tenthredinifera*, but there was no sign of any plant. Personally, I think that this had been planted there some time ago and subsequently dug up by an “enthusiast”.

On 28th February we were up early, and drove to Limassol to meet Pam and Rom Scraton. Pam is the other co-author of the previously mentioned book on the orchids of Cyprus. They took us to the Akrotiri area to see sites around the Salt Lake. We drove

down the road towards the Monastery of the Cats and visited an area on the right hand side of the road near a track leading to an old goat farm. Here we saw many orchids once again, but the highlight for us was seeing *Ophrys kotschyi*. They explained that this area was very good for *Serapias* and bee orchids, but of course we were a little too early in the season to see these. However, we managed to see *Ophrys levantina*, *O. elegans*, *Ophrys sicula*, *O. funerea*, *O. lapethica*, *Orchis anatolica* and *Anacamptis (Orchis) syriaca*. After an enjoyable day spent with Pam and Rom, we made our way back to the hotel, stopping to look for *Epipactis veratrifolia* in its lowland site at Episkopi. Here we found many spikes in bud with a few flowers open, but nothing different to our visit in 2004.

On 1st March we returned to Neo Chorio, but only called at the second site for *Orchis punctulata*. Nothing different was found, but I was able to spend more time in photography. There were many people looking for flowers, and also looking for the site for *O. tenthrediniflora*. Several of the *O. punctulata* had “disappeared”, I think picked by people rather than eaten by goats as the site appears to be well known by many people. On 2nd March we made a trip to Larnaca to visit the Salt Lake Area there. We found the best site in the open woodland area at the back of the car park, off the main road to Hala Sultan Tekke Monastery. In this area we found a number of species, and large numbers of *Orchis italica* and *O. sicula* were just coming into bloom. We saw *Ophrys flavomarginata*, *Ophrys mammosa*, *O. umbilicata* and *O. elegans*. Leaving here we tried to find the site for *Anacamptis (Orchis) papilionacea* without success. We visited a few sites along the coast near to Mori Power Station, but did not find very much other than some good spikes of *Anacamptis (Orchis) collina*.

On 3rd March we set off once again to Neo Chorio to look at a pure white *Orchis quadripunctata* that we had found earlier. It



Ophrys elegans
Photo by Peter Mottershead



Ophrys kotschyi
Photo by Peter Mottershead



White *Orchis quadripunctata*
Photo by Peter Mottershead



Ophrys iricolor
Photo by Peter Mottershead

and found *O. mammosa*, *O. elegans*, *O. syriaca*, *O. quadripunctata*, and over 100 plants of *N. maculata*. We returned home after a very successful trip, and perhaps our next visit will be at a slightly later date to see what other species can be found.

was now further into flower, so I was able to take one or two photographs. We found three or four spikes of *Neotinea maculata* growing in the middle of a footpath, so placed some stones around them for protection. On the following day we went towards the village of Nata and found a good site on a small hillside with *H. robertiana*, *Ophrys iricolor*, *A. collina* and *A. syriaca*. On 5th March we went to Akrotiri, seeing many of the same orchids again, and the *Serapias* were just starting to come into bud. Next day we went to Smigies once again. More *N. maculata* spikes had appeared, but there was nothing new to see. We went on the road towards Polis, taking the E709 to Drouseia. Here we saw *H. robertiana*, *O. mammosa*, *O. flavo-marginata*, *O. sicula* and *A. syriaca* as well as many leaf rosettes. We returned via Peyia Forest, where we saw *A. syriaca*, *O. sicula*, *O. funerea*, *O. levantina*, *O. lapethica*, *O. elegans* and *O. umbilicata*.

On Monday 7th March we went back to Larnaca, where the *O. italica* were a little further out with many plants to be seen. The next day we returned to Nata to visit the *O. iricolor* site. We were disappointed that the *H. robertiana* and *O. iricolor* had been eaten by goats. I did manage to photograph the underside of an *O. iricolor*, which a goat had kindly left behind. We visited Akrotiri again and the *Serapias* were much more into flower; we believe that they were *Serapias bergonii*. We found Agios Georgios Chapel, near the Akrotiri Village, and here there were many *O. kotschyi* in amongst the scrub. On our last orchid day we went to Neo Chorio,



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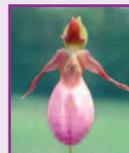
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