

**Journal
of the
HARDY ORCHID SOCIETY**

Vol. 13 No. 3 (81) July 2016

The Hardy Orchid Society Committee

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

Chairman: John Wallington, 17, Springbank, Eversley Park Road, London, N21 1JH jrwallington@blueyonder.co.uk

Vice-Chairman: vacant

Treasurer: Maureen Denman, Three Feathers, Little London, Stroud, Gloucestershire, GL5 5DU maureen@denmansaccounting.co.uk

Secretary: Hilary Pickersgill, Sissinghurst, Warrendene Road, Hughenden Valley, High Wycombe, Buckinghamshire, HP14 4LY hilaryp52@btinternet.com

Membership Secretary: Moira Tarrant, Bumbys, Fox Road, Mashbury, Chelmsford, CM1 4TJ moira.tarrant@outlook.com

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

Photographic Competition Secretary: Steve Pickersgill, Sissinghurst, Warrendene Road, Hughenden Valley, High Wycombe, Bucks HP14 4LY steve_pickersgill@btinternet.com

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

Speakers Secretary: Celia Wright, The Windmill, Vennington, Westbury, Shrewsbury, Shropshire, SY5 9RG celia.wright@windmill.me.uk

Southern Meetings Organiser: David Cooper, 2 Lane Cottages, Cookley Green, Henley on Thames, Oxon, RG9 6EP david.cooper@digibus.demon.co.uk

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

Publicity Officer: Simon Tarrant, Bumbys, Fox Road, Mashbury, Chelmsford, CM1 4TJ tarrant.simon@outlook.com

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

Journal Distributor: Nigel Johnson, Cassandene, Station Road, Soberton, Hampshire, S032 3QU cassandene@waitrose.com

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

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

Cover Photographs

Front Cover: *Neotinea tridentata* subsp. *tridentata* on a Sibillini ski-slope by Sue Parker. (see article on page 93)

Back Cover: Chlorophyll free White Helleborine by Bill Temple (see page 107)

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, 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.

Contents

Editorial Note	75
Chairman’s Note by John Wallington	76
Results of HOS Plant Show 2016	77
Growing Hardy Orchids – 1 by Moira Tarrant talking to Steve Clements	81
Broad-Leaved Helleborines in Central Scotland by Roy Sexton, Melissa Shaw, Suzanne Burgess & Craig MacAdam	88
The Sibillini Mountains – Botanic and Gastronomic Wonderland by Sue Parker	93
HOS Photographic Competition 2016	100
More of the Same ... But Better, Book Review by Richard Bateman	101
Kefalonia 6 th to 20 th May 2015 by David Morgan	103
HOS Science Show at Autumn Meeting	107
Chlorophyll free plants of White Helleborine by Bill Temple	107

Editorial Note

Apologies are due for the late production of this issue but I hope the contents are worth the wait! Another varied JHOS this time and I am pleased to be able to include another article with a cultivation theme, thanks to Moira Tarrant’s initiative. Otherwise it is good to continue the recent trend with quality pollination articles thanks to Roy Sexton and his colleagues. There are some interesting reports from overseas orchid trips with some nice photography. Closer to home Bill Temple has found a very interesting chlorophyll free White Helleborine that graces the rear cover. Also, we have an authoritative new book review from our president, Richard Bateman.

Do take a look at page 107 for details of a new Science Show for the Autumn Meeting at Kidlington. There are changes to the classes in the Photographic Competition, which are detailed on the website and in the new handbook.

Chairman's Note John Wallington

Some thoughts now we are into another orchid season. All of us will set out more or less determined to find a “new” orchid. This may be a mutation of a well known favourite or one of our more common species; it may be a hybrid – we may even find a “hybrid swarm” with tens or even hundreds of different plants – or at least different flowers. From a completely unscientific viewpoint we are all aware of the variability of our favourite flowers – how much variation is there in the flowers and the leaves of the common spotted orchid?

And think about the *Ophrys* genus. The flower of each species varies considerably – differing colours, differing shapes of petals, sepals and particularly the lip. But then, a similar species, shown in the field guide looking slightly different, also shows a similar degree of variability. So – is this species “A”, or species “B”, or is it a hybrid – or perhaps even a new species? We consult the field guide, the detailed descriptions, the drawings or photographs. Perhaps we consult several guides. Perhaps we consult some of our fellow members. One day maybe there will be a portable DNA identification kit. But will that provide a definitive answer? That seems unlikely.

Delforge (2006) offers 259 species of *Ophrys* including sub-species and variants. Pedersen and Faurholdt (2007) offer 80 species of *Ophrys* including sub-species and variants and partly stabilised hybrids. The Kew Plant List (<http://www.theplantlist.org/>) offers 210 accepted species of *Ophrys* including sub-species and variants and partly stabilised hybrids. There is not a one for one correspondence between these guides. There are many other general and local guides with their own names. And none of them take any account of the unstable hybrids found in every swarm. So when we encounter a species of *Ophrys*, or indeed any other hardy orchid, we may be able to find many different, or no, names to describe it.

In the end it should not matter too much. Take the photograph, keep the memory, that plant differed from all other versions previously seen. Post the picture on the Forum and the rest of us can debate its identity through the long winter months. If all else fails its name is “A Hardy Orchid” And a final thought. Please remember to be careful when photographing or just inspecting the orchids and do not damage other plants.

Delforge, P. (2006) *Orchids of Europe, North Africa and the Middle East*. A&C Black, London

Pedersen, H. & Faurholdt, N. (2007) *Ophrys: the Bee Orchids of Europe*. Kew Publishing, Surrey

Results of HOS Plant Show 2016

Class 1: Three pots native British orchids, distinct varieties

1st Barry Tattersall: *Orchis anthropophora*; *Orchis simia*; *Anacamptis laxiflora*

Class 2: Three pots native European (not native to Britain) orchids, distinct varieties

1st Barry Tattersall: *Serapias neglecta*; *Serapias lingua*; *Serapias neglecta* × *lingua*

2nd Stephen Clements: *Ophrys lutea*; *Ophrys insectifera* × *cretica*; *Ophrys leucadica*

Class 3: Three pots non-European hardy orchids, distinct varieties

1st Barry Tattersall: *Satyrium coriifolium*; *Diuris orientis*; *Serapias levantina*

2nd Stephen Clements: *Pterostylis* Daisy Duke; *Pterostylis curta*; *Diuris longifolia*

Class 4: Three pots hardy orchids, distinct varieties, any country of origin

1st Barry Tattersall: *Ophrys lutea*; *Orchis sitiaca*; *Serapias neglecta*

2nd Stephen Clements: *Pleione* Alishan Mother's Day; *Pleione formosana* Cairngorm; *Pleione* Marco Polo Raymond

3rd Mike Powell: *Orchis italica*; *Cymbidium goeringii*; *Pterostylis pedunculata*

Class 5: One pot native British orchid

1st Barry Tattersall: *Anacamptis laxiflora*

Class 6: One pot native European (not native to Britain) orchid

1st Barry Tattersall: *Serapias bergonii*

Class 7: One pot non-European orchid

1st Andrew Bannister: *Satyrium erectum*

2nd Stephen Clements: *Cymbidium goeringii*

3rd Barry Tattersall: *Anacamptis morio* ssp. *caucasica*

Class 8: One pot *Dactylorhiza*

1st Peter Ward: *Dactylorhiza* hybrid

Class 9: One pot *Orchis*, *Anacamptis* or *Neotinea*

1st Barry Tattersall: *Orchis italica*

Class 10: One pot *Ophrys*

1st Barry Tattersall: *Ophrys picta*

Class 11: One pot *Serapias*

1st Barry Tattersall: *Serapias* × *godferyi* (*Serapias neglecta* × *cordigera*)

Class 12: One pot *Cypripedium*

1st Mike Powell: *Cypripedium formosanum*

Class 14: One pot *Pleione*

1st Stephen Clements: *Pleione* Captain Hook

2nd Stephen Clements: *Pleione* Zeus Weinstein

3rd Malcolm Brownsword: *Pleione* Dr Mo Weatherhead

Class 16: Novice Class

1st Stephen Clements: *Pleione* Rakata

Winner of Best in Show Trophy:

Barry Tattersall for *Anacamptis laxiflora* in Class 5 (photo below right)

Winner of Chairman's Trophy:

Barry Tattersall for *Satyrium coriifolium* in Class 3 (photo below left)

Most Points & Winner of RHS Banksian Medal:

Barry Tattersall

Thanks to John Hagggar for judging the Plant Show



Plant Show winners from Barry Tattersall (Figs 1-5) & Mike Powell (Fig. 6)
Fig. 1: *Satyrium coriifolium* (class 3) Fig. 2: *Anacamptis laxiflora* (class 5)
Fig. 3: *Orchis anthropophora* (class 1) Fig 4: *Ophrys lutea* (class 4)
Fig. 5: *Serapias neglecta* (class 2) Fig. 6: *Cypripedium formosanum* (class 12)
Photos by Mike Gasson

3



4



5



6





WILDLIFE TRAVEL
Natural history holidays worldwide

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

Cyprus in spring
with **Yiannis Christofides**

Other worldwide destinations include
Crete Lesvos
The Vercors
Bulgaria Romania
Slovakia Estonia
Pontic Alps, Turkey

Our profits are donated to conservation

ATOL protected no. 808

01954 713575
office in Cambridge, UK
www.wildlife-travel.co.uk

HERITAGE ORCHIDS

4 Hazel Close, Marlow, Bucks., SL7 3PW, U.K.
Tel.: 01628 486640 email: 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. It contains a plant list, descriptions, detailed growing instructions and an order form.

Growing Hardy Orchids – 1 **Moira Tarrant talks to Steve Clements**

Steve Clements' plants have achieved some fame and generated a great deal of interest from the public in summer 2015 when they were used on exhibits at two major plant shows. Steve lent some pots of hardy orchids for the Laneside Hardy Orchid Nursery stand at the European Orchid Show, Royal Horticultural Society Halls, London in April. As a result he was asked to contribute plants to the exhibit being prepared by the Orchid Society of Great Britain (OSGB) for the Chelsea Flower Show in May. The OSGB planned to highlight our native orchids as part of a larger display and Steve's plants provided the living examples backed by huge photos of British natives. When I visited the Gold Medal winning OSGB stand, it was Steve's pots of perfect, comparatively tiny plants that were attracting attention, questions and photographs from visitors.



Fig. 1: Steve Clements beside his plants on the OSGB stand at Chelsea 2015.
Photo by Sandra Clements

I visited Steve at his home on a grey day in November when the surrounding Lincolnshire fens were living up to their reputation for chilling winds. Steve grows a wide range of hardy orchids but we started by talking about winter-green species as it was these that the public had seen at the summer shows. A standard design 8ft x 10ft greenhouse was packed with clay pots plunged into sharp sand. Most pots

were showing healthy rosettes already well-developed and some early flowerers such as *Himantoglossum robertianum*, *Orchis italica* and *Gennaria diphylla* had developing flower spikes and would probably flower by Christmas. Steve explained that he finds growing the plants as hard as possible keeps them short and sturdy even in the relatively low light conditions of an English winter. The door of the greenhouse is open most of the time, only being closed when temperatures fall below 4°C. He finds that good ventilation is essential and so keeps a 4in greenhouse fan running continuously which, according to the manufacturer, should be sufficient to change the air twice every hour. This is supplemented, when the door is shut, by an additional fan which runs 15 mins per hour overnight.

I noticed that the sand plunge was visibly wet and we talked about watering. Apart from the damp sand (wet enough to leave an ‘inverted sandcastle’ when a pot is removed) Steve waters very carefully around the edge of the pot as growth starts in autumn. This edge watering is more generous as roots start to develop but he never waters freely over the leaves, fearing that water left in rosettes can lead to rots starting. He slows down watering during very cold spells but never allows pots to completely dry out. Some growers suggest watering from below by plunging the bottom of the pot in water but Steve reserves this for pots with multiple plants where aiming between the rosettes gets tricky as plants get bigger. We also both commented on the disturbance to compost (and plant) that can be caused by plunging a pot too speedily into water, particularly if the compost contains Perlite. It is also difficult to judge how much water has actually gone into the pot.

Light also plays an important part in keeping the plants stocky and he only puts up bubble-wrap in very hard winters. A heater is set to maintain the air temperature at 4°C but Steve emphasises that this is to suit the autumn and winter-flowering Pleiones which share the space. He believes that the Mediterranean and other winter-green species are far tougher than is often supposed.

As his plants start to die down and go dormant Steve chooses where to put them depending on the needs of the plant and the constant juggling of space required to maintain a large collection. *Orchis pallens*, for instance, stays in the slightly damper sand plunge but *Ophrys* are moved to cold frames or another small dry greenhouse. There they stay until late summer when he repots all his plants. He likes to check on how a plant has fared in the previous season, but also finds that sand in a compost will wash down and collect at the bottom of a pot and during summer dormancy form a hard plug.

Fig. 2 (top): Steve’s greenhouse in November.

Fig. 3 (bottom): Winter-green orchids in full flower.

Photos by Simon Tarrant (Fig. 2) & Steve Clements (Fig. 3)



He uses 11cm or 13.5cm (4in or 5in) clay pots depending on the number and size of tubers, reserving plastic pots for Australian species and Disas which he finds do better in them. The compost he uses has become steadily less organic each year and he wants it to be consistent and easily available so he avoids components such as loam and pine duff. He varies it slightly according to species but a basic starting point is now 3 parts Perlite, 3 parts grit, 2 parts silica quartz sand and 1 part John Innes no. 2. For a large collection he needs buckets full so uses the imprecise measure of handfuls. We recalled that not so many years ago the only guidance generally available was in the book 'Hardy Orchids' by Phillip Cribb and Christopher Bailes (1989) and all their recommended composts are very organic in composition.

Touching on feeding, Steve likes to experiment and although in the past he has used very little, he is now trying out Akerne's Rainmix at half-strength every other watering. He uses *Pterostylis* and *Gennaria* as his Guinea Pigs for experiments like this; they multiply so well he always has plenty of spare plants.

We also talked briefly about propagating and he uses the long-established method of digging up a strong-growing plant in February to March and cutting off the new tuber, then re-planting both the parent and baby in the old compost to allow a secondary new tuber to develop. He finds *Ophrys tenthredinifera* easy to grow and he can do this easily with them.



A subject of great interest and concern to Steve is the curse of neck-rot. The sudden collapse of an apparently healthy plant seems common to most growers. He has noticed that it is more likely at the beginning of the growing season and often the only sign is that a plant suddenly stops growing. A gentle tug will lift the rosette off in the hand. John Haggard, in his talk at the HOS Southern Autumn meeting reminded the audience that when the late Norman Heywood had the fungal attack in *Dactylorhiza* known as 'Black Death' professionally investigated only the fungus already associated mycorrhizally with *Dactylorhiza* could be detected. John

Fig. 4 (above): Pleiones over summer out of doors.

Fig. 5 (opposite top): Pleiones in large bowls make a substantial display.

Fig. 6 (opposite bottom): Steve's plants at the European Orchid Show 2015.

Photos by Steve Clements (Figs. 4 & 5) & Sandra Clements (Fig. 6)



shared his suspicion that Black Death is therefore linked to over-activity by the fungus breaking the delicate balance between it and the plant.

Steve and I discussed whether a similar situation might be happening in winter-green species triggered by a change in cultural conditions such as a plant changing ownership. Steve does also have a battle with condensation in his greenhouse in spite of the constant air movement and water dripping into rosettes is a problem so stagnant air or over-watering may also play a part.

Steve finds he has few pests but they are the predictable ones. He uses constant vigilance to detect both slugs and greenfly. As his garden is surrounded by miles of vegetable farming, he suspects that the greenfly population is immune to pesticides so Steve always carries a small paintbrush to clear them off a plant. As we left the greenhouse, Steve was careful to replace a wire-mesh screen across the door as Blackbirds have, several times, got in and wreaked havoc both pulling up whole plants and pulling out plant labels.

Back indoors, Steve explained that although his winter-green orchids have had a high profile recently his passion is for *Pleiones*. He first got into these beautiful plants after hearing a talk by Richard Evenden. Richard gave him some bulbs of *P. Tongariro*, *Zeus Weinstein* and *Surtsey* and Steve has found success in bulking these up sharing Richard's view that *Pleiones* are best displayed as large colonies in a single bowl. At the time of my visit his spring-flowering bulbs were safely dormant although his were in paper bags in boxes in a cool garage as he finds his fridge is unreliable and has been known to freeze stored cucumbers.

Pleione Eiger and *P. forrestii* are the earliest to flower so he uses them as a guide to judge when to pot up the rest; usually mid-February. He used to use the traditional mix of medium-grade potting bark, Perlite and sphagnum moss. However having had some success using only moss with *P. aurita*, which is reckoned to be a tricky species, he is now moving to pure sphagnum moss for more plants. The moss is dampened as he pots up the bulbs and he maintains the dampness as long as he can see root buds, which provides good stability as the plants flower.

His plants are put outside as soon as the last frost can be guaranteed and they stay there until autumn and frosty nights once again threaten. Steve emphasised that he cannot rely on rain to water the plants as leaf cover is too dense. He feeds with MiracleGrow at ½ strength until the leaves are fully grown and then switches to ½ strength Tomorite for the rest of the season. He secretes a few slug pellets in amongst the pots where neither cats nor birds can get to them. As with his winter-green orchids, Steve grows *Pleiones* in a way which respects their Himalayan origin and subsequent toughness.

We finished a very pleasant morning of orchid-talk by discussing the showing of hardy orchids. Steve often takes his plants to shows but emphasised that for him the attraction is the opportunity to talk to people about them. He admitted that the London shows were tough on his plants, principally because of the heat. In contrast, achieving a collection of native hardy orchids to show at Chelsea required weeks of delaying tactics for him, removing plants from the greenhouse whenever sunshine threatened to warm them and putting them back in again to protect from wind and rain.

Steve does buy plants from reputable sellers but his philosophy is never to buy any plant which may have been wild collected. So he may often be seen at plant shows rigorously interrogating sellers about the origin of their plants. I am indebted to Steve for sharing his skills and experiences so generously.

Reference

Cribb, P. & Bailes. C. (1989) *Hardy Orchids* C.Helm, London.



Laneside Hardy Orchid Nursery



Visit our new web site www.lanesidehardyorchids.com for full details of plants available for sale on line, 2016 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 07946659661

Broad-Leaved Helleborines in Central Scotland.

Roy Sexton & Melissa Shaw

(Stirling Group of the Scottish Wildlife Trust)

Suzanne Burgess & Craig MacAdam

(Buglife)

Scotland only has about half as many species of native orchids as the rest of the UK however some of these flourish north of the border and one such example is the Broad-leaved Helleborine (BLH) (*Epipactis helleborine*). The distribution map of this species (Fig 1) shows it is particularly common in the West Central Belt indeed it has become known as the Glasgow Orchid since it is found right in the heart of the city (Dickson, 1991).

According to the 'Wild Orchids of Scotland' (Allan & Woods, 1993), BLHs are found in a wide variety of habitats from woodlands to sand dune slacks. BLH is an opportunist species and most of the large colonies that we visit are on sparsely wooded old weathered industrial sites like the spoil heaps associated with abandoned oil shale, coal and clay workings. These sites make quite a contrast to the stunning habitats that normally adorn the pages of the HOS Journal.



Fig 1: Distribution of Broad-leaved Helleborine.

New Atlas of the British and Irish Flora 2003

In 2011, during a Scottish Wildlife Trust walk round Stirling University's campus we noticed wasps visiting and pollinating the BLHs that had sprung up in one of the quadrangles. The wasps behaved just as Charles Darwin (1877) had described them, crawling into the labellum of the flower to sip nectar and then flying away with pollinia cemented to their foreheads (clypeus) (Fig 2). On subsequent sunny days we caught 12 wasps pollinating a woodland colony close by and took them to Craig MacAdam in the local Buglife office to get the species of wasp identified. Of the ten that had pollinia attached to their heads nine were tree wasps (*Dolichovespula sylvestris*) and another was a *Dolichovespula* whose species could not be defined. The two that visited the flowers but did not have pollinia were both common wasps (*Vespula vulgaris*) (Sexton, 2011). These associations intrigued us and we agreed to extend the study to a wider range of local BLH sites. Those chosen included the Almond Bing spoil

heap near Linlithgow (NS 96017615) which is one of the Scottish sites of Young’s Helleborine and the M9 J6 embankment near Falkirk (NS 91438117) both of which had hundreds of plants.

By the end of the 2015 season we had caught a total of 78 wasps that had been visiting inflorescences. Amazingly the hazardous process of getting very agitated wasps out of butterfly nets and into specimen tubes was accomplished without a single sting. The species and sex of the wasps were identified with the help of the Bug-life staff using George Else’s *Identification of Social Wasps* (1994) and the BWARS guide <http://www.bwars.com/>. The most common pollinator comprising 55% of the total catch was appropriately the common wasp (*Vespula vulgaris*) (Table 1) which was found at all the sites studied. The tree wasp (*Dolichovespula sylvestris*) which made up 37% was confined to two of the study sites. In both these cases all the wasps captured were females. Five median wasps (*Dolichovespula media*) were also caught of which only one was female and both sexes had pollinia. The vast majority of the wasps only had one pollinia cemented to their clypeus but in areas where there were far more plants than wasps several had collected 5 pollinia.

Wasp species	Total	% females	% pollinia	No. of sites
<i>Vespula vulgaris</i>	43 (55%)	100	76	4
<i>Vespula germanica</i>	1 (1%)	100	100	1
<i>Dolichovespula sylvestris</i>	28 (37%)	100	50	2
<i>Dolichovespula media</i>	5 (6%)	20	60	3
<i>Dolichovespula norwegica</i>	1 (1%)	?	0	1

Table 1: Number of different wasp species caught visiting *Epipactis helleborine* flowers at 4 different sites.

During the study we saw hundreds of wasps on the BLH flowers and like Darwin we were surprised to find how few other insects raided the easily accessible nectar in the flower’s labellum. Those we did see included common carder bumblebees (2), white-tailed bumblebees (1), buff-tailed bumblebees (2), marmalade hoverflies (5), ichneumon wasps (1) and common red soldier beetles (7). Of these only soldier beetles removed the pollinia (Fig 3) but there was no obvious indication that they were involved in the pollination process.

If you are used to waiting hours or sometimes seasons to observe orchid pollinators, working with BLHs will seem easy-peasy. At some of our sites on warm sunny days by early afternoon most of the pollinia would have been removed from the flowers that opened that day. To discover how quickly wasps could find the flowers we placed three inflorescences in a vase of water on a flower garden patio kilometres away from



any wild plants. On our first attempt we were taken by surprise when a wasp arrived in 54 seconds, before the camera was ready. In subsequent similar experiments the wasps usually took a bit longer from 3 to 6 mins, still very fast. Another indicator of the flower's attractiveness was the rate at which wasps visited small isolated groups of three to five flowers. During one to two hour periods of warm sunshine these counts averaged one wasp every 4-5 minutes.

The effectiveness of the pollination process was confirmed by a microscope study of 138 mid-inflorescence flowers gathered at 3pm on a sunny day. It revealed that 73% of the flowers had lost pollinia and 45% had visible pollen on their stigmas. The latter is almost certainly an underestimate of pollination success since it would be easy to miss small amounts of pollen even using a microscope.



Wasps are thought to be attracted to BLHs by the rusty-brown pigment of the inside of the labellum and a number of wasp pollinated flowers have evolved this petal colouration including snake's-head fritillary, figwort, and cotoneaster. We have also found local pitcher plants *Saracenia purpurea* (which grow wild in Glen Coe) full of wasps perhaps attracted by the same pigment which is found around the trap opening.

Fig 2 : A tree wasp removing pollinia from a *Epipactis helleborine*.
Fig 3: A common red soldier beetle carrying *Epipactis helleborine* pollinia.
Photos by Roy Sexton

It has been proposed that the BLH flowers produce an attractant scent. In a rather clumsy experiment we covered a group of inflorescences in a vase with a black conical net to see if the wasps would still be lured by the scent alone. The results were rather inconclusive. During a thirty minute period three wasps did approach the net and then backed away and zig zagged to within half a metre before making off again. Zig-zagging behaviour of this type is apparently typical of an insect following a scent laden current of air supplemented by visual cues (Brodmann *et al.* 2008). This observation superficially suggested the scent is important however the total numbers of wasps visiting the flowers were significantly reduced when the net was present and some wasps flew straight past without deviating. Jennifer Brodmann's (2008) more sophisticated field experiments indicate the primacy of olfactory cues though both visual and olfactory stimuli seemed to be involved.

Brodmann and her colleagues from the University of Ulm (Brodmann *et al.* 2008) have shown that the BLH flowers emit green-leaf volatiles (GLVs) such as hexenol and hexenal acetate which they showed are attractive to social as well as to parasitic wasps. These compounds are produced by distressed plants which for example are being set upon by caterpillar infestations. They lure predatory insects like social wasps that take the caterpillars to feed their young and similarly attract parasitic wasps that lay their eggs in the caterpillars. So by releasing the right chemicals the BLH has hijacked this means of luring wasps.

To test this 'GLV attraction hypothesis' Brodmann *et al.* (2008) carried out behavioural experiments involving introducing different components of the BLH scent into the short branch ends of Y-shaped tubes and placing social wasps into the shaft of the Y. They found the insects were drawn preferentially into the branch which contained BLH floral scent or a synthetic mixture of the GLV components found in it. They also showed that if you compared the attractiveness of flowers of *Epipactis helleborine* and *Epipactis atrorubens* the wasps moved preferentially towards the former (4 times out of 5). This result supports the 'GLV attraction hypothesis' because *E. atrorubens* produces virtually no GLVs and is pollinated by a broad spectrum of insects particularly bees. It has been pointed out if GLVs play a role in attracting wasps to *E. helleborine* it is likely that only females will be involved because they collect caterpillars to feed their young, not the males. This is consistent with our data where virtually all the visiting wasps were female (Table 1) however there are other studies where the opposite has been the case (Owens & Owens, 2015).

The nectar of BLHs is rich in sugars and drinking it has frequently been observed to make the wasps sluggish. This has been attributed to alcohol and other soporific substances in the nectar (Jakubska *et al.* 2005). If this is the case we wouldn't like to try and catch un-drugged wasps. In contrast to this popular observation we have seen some wasps displaying very agitated behaviour after finding a pollinium cemented to their forehead. The only really sleepy wasps we have come across are those carrying

lots of pollinia possibly because they are exhausted trying to remove them.

During the autumn we inspected the plants we had been studying to see how successful the pollination process had ultimately been. There was very little variation between sites and of the 1,322 flowers examined 95.5% had formed swollen capsules and appeared to have produced seed. One unexpected feature of this count was the large number of inflorescences that had succumbed to fungal infections. This infection seemed to have spread from the young buds at the top of the spike down through the maturing capsules sometimes leaving a few uninfected swollen capsules at the inflorescence base. Rather worryingly at one colony a count of 100 inflorescences revealed that 90 plants were infected. It would be interesting to know if this fungal infection is widespread.

Although not found in Central Scotland and perhaps not strictly within the remit of this paper we thought that readers of the *JHOS* might be interested in Ian Strachan's BSBI report in the April 2016 volume of the British Wildlife Magazine. He notes that another species of Helleborine the Green Flowered Helleborine *Epipactis phyllanthes* had been found in Morayshire, 200 miles from its most northerly site in Northumberland. John Richards the *Epipactis* referee confirmed the identification and considered the Moray plants were closer to the continental variety *confusa*. This in turn suggested that the seed might have been blown across the North Sea from Jutland. There are a number of other orchids spreading north including the Bee, Pyramidal and Green-veined orchids.

References

- Allan, B. & Woods, P. (1993) *Wild Orchids of Scotland*. HMSO, Edinburgh.
- Brodmann, J., Twele, R., Francke, W., Holzner, G., Quing-He Z. & Ayasse, M. (2008) Orchids mimic Green Leaf Volatiles to attract prey hunting wasps. *Current Biology* 18:740-744.
- Darwin, C. (1877) *The Various Contrivances by Which Orchids are Fertilized by Insects*. (2nd Edn) John Murray, London.
- Dickson, J. H. (1991) *Wild Plants of Glasgow*. Aberdeen University Press, Aberdeen.
- Else, G. (1994) Identification – Social Wasps. *British Wildlife* 5: 304 –311.
- Jakubská, A., Przado, D., Steininger, M., Antiol-Kwiatkowska Kadej, M. (2005) Why do pollinators become sluggish? Nectar chemical constituents from *Epipactis helleborine*. *Applied Ecology and Environmental Research* 3: 29-38.
- Owens, N. and Owens, F. (2015) Some observations of pollen vectors in two *Epipactis* orchids. *Journal of the Hardy Orchid Society* 12: 92 -99.
- Sexton, R. (2011) The Broad-leaved and Young's Helleborine. *The Forth Naturalist and Historian* 34: 63-67.

The Sibillini Mountains – Botanic and Gastronomic Wonderland **Sue Parker**

This was always going to be a good trip. It had been on my ‘bucket list’ since my first visit to the National Botanic Garden of Wales’s Principality House, where visitors are greeted by heart-stopping pictures of spring flowers on the Piano Grande in the Sibillini Mountains. The region isn’t just great for wild orchids; it is also famous for its food and wine. Paul Harcourt Davies (who arranged the trip) is well known to ‘HOSians’ not just for his orchid expertise but also because he is a brilliant botanical photographer. (Those pictures in Garden of Wales are his, it turns out.) What may be less widely known is that Paul and his partner Lois are also tremendously knowledgeable about the food and wine of Italy – a fact that penetrated my consciousness many years ago when I began corresponding with Paul by email. Cooking is my number one favourite pastime – yes, even ahead of wild orchids!

After an overnight stay in Rome, my husband Pat and I were collected by Paul, Lois and the other members of the party, who said they were, ‘photographers first but keen on wildlife’. As it turned out, their diverse interests contributed greatly to the group’s pool of knowledge. Lois drove our minibus northwards, through the Umbrian town of Spoleto and into a world of classic Italian agricultural landscape: terraces sculpted for growing olives, grapes and other crops. This trip really drove home to me just how much agri-chemical based farming has cost the UK and most of northern Europe in terms of biodiversity loss. (But I mustn’t get started on that!) Here the air was buzzing with life: colourful butterflies and other insects hotly pursued by Redstarts, Black Redstarts and other summer visiting birds seeking to feed their young. Most special of all, everywhere we stopped Cuckoos were calling – a sound now so rare in the UK that it almost brought me to tears.

Part of the Central Apennines, the Sibillini Mountains lie between eastern Umbria and the Marche region. Consisting largely of limestone rocks, these mountains were formed 50-100 million years ago at the bottom of a sea long since extinct. Monte Vettore, at 2476m the highest peak in the range, emerged a mere 20 million years ago. The landscape of U-shaped valleys and vast glacial depressions that we see today was formed during the Quaternary period. In 1993 the Parco Nazionale dei Monti Sibillini was designated to protect what is one of the most outstandingly beautiful parts of Europe and to promote its wildlife and cultural heritage.

The largely limestone nature of the Sibillini Mountains accounts for its world-famous flora with accompanying insect life, but the area is also renowned for bird watching. For those who enjoy their food and wine this is a place of many culinary delights, the production of which is centred on the walled town of Norcia.

After a two and a half hour drive we arrived at our base for the first part of our week, a small family-run hotel near Preci, in the Campi Valley. The rooms were comfortable and thankfully the restaurant's cuisine was as far removed from lasagne and 'spag. bol.' as could be.

After dumping our bags we set off for an initial ramble along roadside verges near the hotel. It wasn't long before the orchid nuts among us had found Bee Orchid *Ophrys apifera*, Late Spider-orchid *Ophrys fuciflora*, Early Spider-orchid *Ophrys sphegodes*, Fragrant Orchid *Gymnadenia conopsea* and Pyramidal Orchid *Anacamptis pyramidalis*. The Late Spider-orchids were very variable. Some were much smaller than any we had seen previously – notably in Gargano, where their dark-brown lips are large, square and velvety. Some of the lips of the Sibillini flowers were narrowly oval and had markings reminiscent of the Woodcock Orchid *Ophrys scolopax* commonly seen in other parts of southern Europe – the Algarve in particular. Familiar with the variability of Late Spider-orchid in Italy, Paul explained that *Ophrys fuciflora* in its most recognised form in the Sibillini and Abruzzo regions is joined by further distinctive plants called *Ophrys dinarica* with flowers characterised by relatively long petals, lips with pronounced forward-pointing apical protuberances and well-defined pointed side-lobes. Identification is further complicated by two or more 'forms' of *Ophrys dinarica* occurring within a hillside population along with a spectrum of intermediates.

The following day we set off for a short drive to a large area of meadow and woodland which is now being cared for to reinstate wildflowers that had all but disappeared due to previous poor management. The endeavour appears to have been successful. Among the thriving wildflower populations we found some very interesting orchids, including the only tongue orchid of the trip, Long-lipped Tongue Orchid *Serapias vomeracea*. Other orchids in flower included numerous *Ophrys apifera*, *Ophrys fuciflora*, *Anacamptis pyramidalis* and Green-winged Orchid *Anacamptis morio*. Particularly exciting for me, because I had never seen it before, was *Ophrys apifera* var. *bicolor*. There were a dozen or more of these enigmatic plants growing among 'normal' Bee Orchids and Late Spider-orchids.

After a most enjoyable couple of hours photographing orchids and trying to photograph butterflies and other skittish insects in the restored meadow, we ambled up an adjacent track to a viewing point overlooking the valley towards

Fig. 1 : The familiar face of *Ophrys fuciflora*.

Figs. 2-6: The many other faces of Late Spider-orchid, often found flowering together on a single hillside.

Photos by Sue Parker



our picturesque base of Preci. On the way we found several Violet Limodores *Limodorum abortivum* as well as some magnificent Lizard Orchids; these were *Himantoglossum adriaticum*, rather shorter and with comparatively finer and more delicate flowers than *Himantoglossum hircinum*, one of several other Lizard Orchids found in Europe. Towards the top of the track was a bank on which there would have been Fly Orchids *Ophrys insectifera* had not the local council contracted that UK disease which manifests itself in obsessive strimming. The rest of the day was spent investigating easily accessible meadows and roadside verges that were smothered in wildflowers including orchids.

We began our third day with a visit to the delightful little town of Scheggino, through which there runs a crystal clear chalk stream stuffed with wild Brown Trout. Since one of our other great interests is flyfishing, Pat and I regretted not bringing fly rods; but, as the saying goes, we know where they live. The tree-lined stream banks, which held yet more Violet Limodores and Lizard Orchids, were a magnet for butterflies.

Leaving Scheggino behind, we drove to a sloping meadow on Monte Mericone, and while Lois set up one of her magnificent picnic lunches the rest of us began exploring. That meadow was one of the best orchid sites I have ever seen. Beneath the trees, we found Red Helleborine *Cephalanthera rubra* and more Violet Limodores, while in the open area there were Monkey Orchid *Orchis simia*, Man Orchid *Orchis anthropophora*, Burnt-tip Orchid *Neotinea ustulata* and many others. Unfortunately, the weather was against us and black clouds that had been threatening all morning erupted into a spectacular thunder and lightning storm with torrential rain. After a damp but delicious lunch we abandoned that site and moved on. Paul and Lois are experts at ‘chasing the sun’, and they drove us to rain-free patches where we could continue botanising in warm and sunny spots, often just on the other side of a hill.

On day four, before moving base, we re-visited the meadow from which we had been rained-off the previous day. We all felt we had unfinished business. It seems the ancient pastureland of the Sibillini could qualify as World HQ for the Burnt-tip Orchid – they grow there in their thousands, but this meadow was exceptional. It is also home to numerous Man Orchids, Monkey Orchids and the Toothed Orchid *Neotinea tridentata*. Following a trend evident throughout the region, there were white forms of several species including the Bee Orchid and Late Spider-orchid.

Fig 7 : *Ophrys apifera* var. *bicolor*.

Fig 8: *Neotinea ustulata* – the Sibillini Mountains must be European HQ for this species.

Fig 9: *Himantoglossum adriaticum*.

Fig 10: *Ophrys insectifera* and, in the background, *Gymnadenia conopsea* on a roadside verge.

Photos by Sue Parker





Fig 11: White form of *Gymnadenia conopsea*
Photo by Sue Parker

Our next accommodation was in Casteluccio di Norcia, a picturesque village perched on a glacial spoil heap at the northern end of the Piano Grande. En route we explored meadows on the slopes of the Campi Valley, where the roadside verges also proved to be orchid hotspots. On one brief stop we found Fly Orchids growing beside Green-winged Orchids, countless Fragrant Orchids (including several pure white specimens) and, to our delight, one of the rarest British wildflowers, Field Cow-wheat *Melampyrum arvense*. Other stopping places revealed Narrow-leaved (Sword-leaved) Helleborines *Cephalanthera longifolia* and White Helleborines *Cephalanthera damasonium* in profusion and so close to each other that it was a great opportunity to study the differences between two species that some find confusing. Also in evidence on the verges, although not yet in flower, were Broad-leaved Helleborine *Epipactis helleborine*, Small-leaved Helleborine *Epipactis microphylla* and, on areas of limestone chippings, Dark Red Helleborine *Epipactis atrorubens*.

As the day drew to a close we made a brief stop in Norcia. Immediately apparent was the absence of any tall buildings; this is not due to uncharacteristic humility on the part of local dignitaries, who surely would have chosen to honour themselves with highly visible monuments, but the fact that Norcia lies on a major fault line and has been either partially or totally razed by earthquakes many times. Despite its shocking past, the town is very attractive – and, more importantly, it is the gastronomic centre of Umbria, famous for its truffles, pork and wild boar products as well as the highly esteemed pecorino cheese. This was a great opportunity to make shopping lists ahead of the visit to a special food shop on the way back to Rome at the end of our visit.

Nothing quite prepares you for your first glimpse of the Piano Grande. This vast plain, which was once a glacial lake, suddenly appears as you go over the mountain pass. Despite overcast skies when we first saw it, visibility was excellent and we had a magnificent view of the entire plain and its surrounding necklace of mountains. From a distance it looks like a green desert, and it is not until you descend onto the plain that you realise that the whole area is simply smothered in wildflowers. On our first stop at a viewing point we spent a couple of hours exploring the mountain

slopes, which would have been covered with spring bulbs earlier in the year. As it was we found just a few late-flowering wild tulips *Tulipa australis* and patches of wild narcissus *Narcissus poeticus*, but there were also lots of deep purple examples of Green-winged Orchids plus a scattering of Man Orchids and Burnt-tip Orchids.

Down on the plain the wildflower meadows were magnificent, but time was moving on and we drove towards Casteluccio di Norcia surrounded by its world-famous lentil-growing fields which continue to produce some of our most ancient and nutritious pulses. Our new base was a comfortable agri-turismo guest house nestling on one of the steep slopes in the village. The restaurant specialised in delicious dishes utilising crops grown in the surrounding fields.

Early each morning the plain was shrouded in a mist that swirled along the mountainsides, providing opportunities for spectacularly atmospheric photographs. By the time breakfast was over the sun had burned through the mist, revealing the full magnificence of our surroundings. Mountain weather is notoriously fickle and we had occasional heavy showers, but often the sun shines brighter on the far side of the hill, and we moved from place to place whenever the rain caught up with us.

Over the remaining three days of our visit we stopped on some of the high slopes used for skiing in the winter, where among now familiar orchids we encountered the Elder-flowered Orchid *Dactylorhiza sambucina* in vast numbers. I have loved this orchid ever since I first saw it many years ago on a small island off the east coast of Sweden (where it is called Adam och Eva), and so it was great to find it in greater abundance than anywhere else that I had seen this species in Europe. On the same Sibillini ski slope we also found another 'first for us' – Moonwort *Botrychium lunaria*. Extinct in lowland England but still found in Scotland and Wales, this fern is now very rare in Britain. This plant's name comes from the half-moon-shaped lower (sterile) lobes of the leaves. The fertile part of the plant grows above or behind the main leaf stem and consists of a cluster of rounded spores. Its diminutive size (it can reach the dizzying height of 7cm) is probably why I have failed to spot Moonwort in one of its known sites in West Wales – Cae Blaen Dyffryn, which is far more famous for its distractingly large colonies of Butterfly Orchids.

A further memorable stop was at a strip of upland woodland to see Greater Butterfly-orchids *Platanthera chlorantha* growing along with White Helleborines and Bird's-nest Orchids *Neottia nidus-avis*. Up the track we discovered Fragrant Orchids, more dark purple Green-winged Orchids and another very rare plant, Yellow Bird's-nest *Monotropa hypopitys*. Previously I had only seen one of these anaemic-looking plants, when it put in one of its occasional appearances at Kenfig National Nature Reserve near Port Talbot in South Wales. Here in the mountain woodland a sizeable group of these curious plants created quite a stir among our party.

Over the years many of my trips searching for and photographing orchids have been solitary, relying often on dumb luck to find what I am hoping for. There are still many hardy orchids that I would love to see, but as the years pass I am increasingly aware of how little time there is left to find these wonders. Others must feel likewise, for I am also often asked for GPS coordinates for specific plants; this saddens me. A walk in an orchid-rich area is so much more rewarding than parking the car in the nearest lay-by and heading straight for a known location. It may be time-saving but if, as often happens, the plant has failed to appear that year it can be a huge disappointment with no fallback position except to try again another year. An accompanied trip with local experts, such as ours with Paul and Lois, increases the chances of finding 'bucket list' species, and other new finds are likely when more pairs of eyes are focussed on the search. The bonus of meeting new people and renewing old friendships adds a great deal to the experience, too.

We joined renowned wildlife photographer Paul Harcourt Davies and his partner Lois. Having lived in Italy for many years they are fluent Italian speakers – invaluable in the remoter parts of the Sibillini region, where little English is spoken and you are unlikely to encounter many familiar dishes on menus. Lois, in particular, is a walking, talking culinary bible of the region's gastronomy. With her help we enjoyed many local dishes that we might otherwise have missed, and she was invaluable in advising us on our end-of-trip foodie purchases. For more information and links visit: www.first-nature.com/worldsites/it-sibillini.php

Sue Parker is author of Wild Orchids of the Algarve – how, when and where to find them. She can be contacted via www.algarvewildlife.com and www.first-nature.com.

HOS Photographic Competition 2016

Entry details for the competition at Kidlington, November 20th 2016

Email digital entries to Neil Evans at neilevans@hardyorchidsociety.org by 17th October 2016. To send large files use one of the free transfer services e.g. <https://www.wetransfer.com> or <https://www.dropbox.com>. If you would like instructions for using WeTransfer email hospnc@hardyorchidsociety.org. Send notification of entries for print classes to Steve Pickersgill by 7th November 2016 at hospnc@hardyorchidsociety.org. For entrants who are unable to attend the meeting Steve will accept postal entries by the same date, SAE if return of pictures is required. Steve's address for postal entries is inside the front cover of this issue of JHOS.

NOTE the Schedule of Classes and Rules have been amended and can be found in the new handbook and on the website.

More of the Same ... But Better Book Review by Richard Bateman



Orchidee d'Italia: guida alle orchidee spontanee, edition 2 by GIROS (P. Grünanger and 44 co-authors) (2016), Il Castello, Milan/GIROS. Softback. ISBN 978-88-6520-801-4. 368 pp. 24 × 17 cm. RRP €24.00.

The first (2009) edition of this fine orchid flora was thoroughly reviewed in *JHOS* by Paul Harcourt Davies (Davies, 2010), whose main criticism was the indifferent quality and reproduction of many of the photographs. It is possible that his critique helped to prompt the production of this newly minted second edition, as it would be a harsh judge who found fault with the quality of the heavily revised panoply of images. Admittedly, higher quality images require higher quality paper. This has in turn considerably increased the weight of the volume, to a point where I would agonise over its possible inclusion in my rucksack as a first-choice field guide.

The bulk of the volume is a systematic treatment of 158 species and a further 99 subspecies. The resulting average of one page per taxon necessitates strong condensation of available information. Perhaps the crudest aspect of each species treatment (at least, to the eyes of a Briton raised on maps based on hectad and tetrad grids) is the distribution map; the individual mapping units are provinces of Italy, such that even that great Mecca of Mediterranean orchidology, Sicily, is treated as a single unit. There is also the broader question of whether an average of approximately three images per species is sufficient to capture the variation encompassed by the many problematic species covered.

Nonetheless, the taxonomic treatments are well-presented and user-friendly. As noted by Davies (2010), for folk such as me whose grasp of the Italian language is limited, the identification keys use mainly botanical terms with recognisable Greco-Latin roots that should therefore require little translation. And when seeking to comprehend larger portions of text, I simply scan them into OCR software and then drop the resulting text-file into Google Translate, which has improved greatly in recent years.

The first 70 pages of the book consist of essays on morphology, biology, mycorrhizae, biogeography, systematics, cytology, hybridisation, conservation, and legal protection (which differs radically among provinces), all supported by a well-

chosen bibliography. Written by acknowledged experts on these specialist topics, the majority of these essays represent good summaries of current orchidological knowledge and so make interesting reading. But the best justification for including these essays in a book that also appears to aspire to be a field guide would be if the knowledge and concepts outlined in the technical essays were fully reflected in the subsequent taxonomic treatments. Here, as in most books concerned with the European orchid flora, those concepts have been applied piecemeal and without logical consistency.

Presumably, this deficiency at least partly reflects the fact that the genus treatments have been apportioned among different taxonomic experts who maintain contrasting worldviews. Although substantial, the glossary is of limited assistance in this context, defining species simply as “basic systematic units, comprising populations of similar individuals [how similar?], able to reproduce only among each other” [no hybrids allowed, then?], and not even attempting to define the ranks of subspecies or variety (or indeed genus). Thus, the rearrangement of the genus *Orchis* according to monophyly is accepted but this principle is not extended to other superannuated genera such as *Coeloglossum*, *Nigritella*, *Barlia* and *Listera*. A recent DNA-based classification is used to structure the (inevitably long) section on *Ophrys*, but within each of the nine well-founded taxonomic sections occurring in Italy, any reasoning underlying the recognition of 38 species and 76 subspecies is hard to fathom. Perhaps more perturbing to anyone already struggling to identify with confidence the myriad *Ophrys* microspecies are the decisions to accept as Italian natives as many as 26 species (but, in contrast, no subspecies) of *Epipactis* and 15 species of *Serapias*.

Otherwise there are few surprises in taxonomic coverage, though one controversial taxon judged to merit inclusion is the much-discussed *Liparis* recently discovered in the southeast foothills of the Alps and new to the European flora. This plant has so far been assigned (seemingly according to taste) to either *L. loeselii* subsp. *nemoralis* or the Japanese native *L. kumokiri* (cf. Perazza & Lorenz, 2013). A modest research project would be sufficient to clarify this intriguing conundrum.

Overall, this book is a significant improvement on its first edition, which in turn was a significant advance on earlier Italian orchid floras (e.g. Rossi & Maury, 2002). If we extend comparison beyond Italy, the GIROS book most closely resembles its decade-old French equivalent (Bournérias & Prat, 2005); it offers neither the compactness of the Europe-wide field guides of Buttler (1986) and Delforge (2006), nor the comprehensiveness that characterises not only coffee-table national floras such as that for the Netherlands (Kreutz & Dekker, 2000) but also some provincial orchid floras within Italy (e.g. Ferlinghetti & Grünanger, 2001; Perazza & Lorenz, 2013), nor the seamless integration of science and floristics that characterises the more recent Hungarian orchid flora (Molnár, 2011). But it does possess worthwhile elements of each.

Overall, the bar for European national orchid floras has in recent years been raised remarkably high in terms of presentation, but there remains some room for improvement in content. Despite its flaws and apparent uncertainty of its own identity, this is a useful volume, well presented and professional in content. In particular, at €24 it represents excellent value for money. I would argue that it belongs in the library of any serious European orchid enthusiast.

References

- Bournérias, M. & Prat, D., eds. (2005) *Les Orchidées de France, Belgique et Luxembourg* (2nd edn). Mezé, Biotope.
- Buttler, K. P. (1986) *Orchideen* (Steinbach's Naturführer). Mosaik, Munich.
- Davies, P. H. (2010) Book Review: *Orchidee d'Italia* (1st edn). *JHOS* 7(1): 33–34.
- Delforge, P. (2006) *Orchids of Europe, North Africa and the Middle East* (3rd edn). A. & C. Black, London.
- Ferlinghetti, R. & Grünanger, P. (2001) *Orchidee spontanee della provincia di Bergamo*. Gruppo Flora Alpina Bergamsca, Bergamo.
- Kreutz, C. A. J. & Dekker, H. (2000) *De Orchideeën van Nederland*. Den Haag: CIP.
- Molnár, A. V., ed. (2011) *Magyarország orchideáinak atlasza*. Kossuth Kiadó, Budapest.
- Perazza, G. & Lorenz, R. (2013). *Le orchidee dell'Italia nordorientale*. Osiride, Rovereto.
- Rossi, W. & Maury, A. E. (2002) *Orchidee d'Italia*. Quaderni di Conservazione della Natura 15.

Kefalonia 6th to 20th May 2015

David Morgan

On 6th May my wife, two friends and I arrived in Kefalonia and went to our base town of Skala. The weather was most interesting. In 2014, January was the coldest at only 9°C, by May it had risen to 18°C, July was the hottest month reaching an average of 26°C but come December they had a rainfall of 115mm, making it very cold and very wet at times. In 2015, from around 20th April the weather had been very warm and over the next two weeks dried the ground hard. The surrounding countryside had tall thistles and grasses which out competed the smaller plants. So how were we to fare?

At some of our known orchid sites the rocky areas and slopes, which had contained just enough soil for orchids to grow, had been washed away by the December rains. Now with temperatures rising small rock falls dislodged tubers, covering them as they broke off the face, or left them at the mercy of the sun or passing traffic. Ground water could be seen seeping (just) from the steep banks but this soon evaporated during the day and the surface on the tops was very dry.



Where we went between 6th and 19th May vegetation was lush in the more shaded parts but this had the effect of spurring on the locals to cut all verges back and clear under the olive trees to lessen the danger of fire. In doing so at this time of year they had sliced away any orchids preventing them from making seed.

Our visit to the National forest area was very disappointing. Whereas on previous visits we had found many orchids, this time we found few. The newly named *Ophrys hellenica*, *Orchis quadripunctata*, and *Orchis provincialis* were the main finds with sparse *Serapias*. The best place for us to find orchids was right where we were based in Skala and around its edges, out as far as 7 km. Having got sites to search from our previous visits we were soon among a patch of *Orchis italica* (all in seed) but showing they had been strong plants with many flowers, the same could be said of the *Himantoglossum robertianum* (formerly *Barlia robertiana*) plants we found. None of the early species were found in any of the sites visited. Whether this was due to the heavy rains, the snow in some high areas or the intense cold of the winter is difficult to say. On May 12th we had an enormous storm, described by our hotel owner as the worst she had seen in 16 years. It took large areas of soil from the banks right down to bare rock and muddy areas were created where orchids grew. The orchids we had hoped to see were gone, covered in mud and gravel.

Despite all of this we still made some interesting finds and we were lucky to see and photograph *Ophrys sphegodes* subsp. *epirotica*, *Ophrys gottfriediana* and *Ophrys cerastes*. Other finds not already mentioned were *Anacamptis coriophora* subsp. *fragrans*, *Anacamptis laxiflora*, *Ophrys apifera*, *Serapias bergonii*, *Serapias lingua*, *Serapias politisii* and *Limodorum abortivum*.

I would like to acknowledge the help of my two friends and my wife for their help in locating the orchids and to Leslie Lewis for his help in identification and giving me the push to write this small article.

Fig. 1 : *Ophrys cerastes*

Fig. 2: *Anacamptis coriophora* subsp. *fragrans* (f. *alba*)

Fig. 3: *Anacamptis coriophora* subsp. *fragrans*

Fig. 4: *Ophrys hellenica*

Next Page:

Fig. 5: *Orchis quadripunctata*

Fig. 6: *Ophrys sphegodes* subsp. *epirotica*

Fig. 7: *Limodorum abortivum*

Fig. 8: *Serapias lingua*

Photos by David Morgan

5



6



7



8



HOS Science Show at Autumn Meeting

The “Scientific Show” will take place at Kidlington as part of the Autumn meeting on 20th November 2016. It is hoped that this will become a regular part of the meeting but this year will be rather experimental, so changes may occur in subsequent years. The show will be a non-competitive event and members are encouraged to bring up to three separate displays. Contributions must be contained within an area equal to A2 and ideally should be mounted on a board, up to A2 size. Each contribution may consist of one, or more, photographs and up to 200 words of description/explanation. The text should be large enough for people to read easily but not so large that it dominates the display. Contributions will be displayed either on tables or on display boards in the main hall so they can be viewed throughout the day. The display format will be finalised when the number of contributions is known. For this reason please let Steve Pickersgill (steve_pickersgill@btinternet.com) know, by 30th October 2016, how many contributions you intend to bring. The contributions should be of a scientific nature and examples of such images may include, but are not restricted to:

- An ultra-close image showing features not readily seen by the human eye
- A pollinator visiting a flower
- A predator consuming a pollinator
- A herbivore consuming a plant
- Mycorrhizal fungi infecting orchid roots
- Seeds and seedlings; germinating pollen
- Anatomical sections
- Stained chromosomes

Please give some thought to what you might enter to make this an interesting exhibition and an additional attraction for the Kidlington meeting. If you wish to contribute to the show but are unable to attend the meeting at Kidlington please contact Steve Pickersgill (steve_pickersgill@btinternet.com) to discuss ways of getting your contribution to the meeting.

Chlorophyll free plants of White Helleborine Bill Temple

I had not seen a chlorophyll free version of the White Helleborine (*Cephalanthera damasonium*) before. However, this year was unusual in that I found my first on private land and not long after was sent a photograph of another in a person’s garden! The one that I found (see the back cover) had pale cream coloured stem and leaves rather than pure white.

