

**Journal
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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 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.

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Cover Photographs

Alan Parfitt's image of *Dactylorhiza maculata* with the Old Man of Hoy, Orkney in the background. This entry in Class 9 of the HOS Photographic Competition 2014 was judged to be the best image in the show and awarded the Maren Talbot Photographic Trophy.

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Editorial Note

This issue's main articles focus on particular species. We have the second part of Sean Cole's detailed account of the Ghost Orchid in England, this time dealing with the Chilterns. As with the first instalment this represents a comprehensive and detailed historical account based on Sean's painstaking research. Sean also draws attention to the Ghost Orchid Project, which we highlighted in an earlier *JHOS* – check out the details on their website at www.ghostorchidproject.co.uk. Jean Claessens has taken a break from pollination articles and provided an interesting and up to date account of *Himantoglossum metlesicsianum*, a rare, threatened and beautiful endemic from the Canary Islands. This is of added relevance as HOS has an ongoing conservation project for this species led by Bill Temple. I am especially pleased to have a new article from Tony Hughes. This time he shares some thoughts on *Ophrys* hybrids and highlights the discovery of a new site for *Ophrys x pietzschii*, the hybrid between the Fly and Bee Orchid.

I know from the Discussion Forum that several members contributed to the RSPB-led initiative to protect the East Anglian Fen Orchids. Whilst a few had rather dismissive replies from the Environment Agency their efforts will have added some valuable support. The formal representation by HOS and at least one other letter from a HOS member did produce serious replies with a commitment to respond to the various points that were raised. More information and a decision is expected in the New Year and I will put this on the website when it becomes available.

Chairman's Note

Celia Wright

I'm writing this just before Christmas, but 2015 will be well and truly here before you read this, so a happy New Year to you all.

We had another good meeting at Kidlington in November with well over 100 members present, more than ever before. Our next meeting is the AGM, Spring meeting and Plant Show on April 19th when Lourens Grobler from South Africa, co-author of Field Guide to the Orchids of Northern South Africa and Swaziland, will be our special guest speaker, following on from his talk at the European Orchid Council Conference in London the previous weekend. We should be able to learn a lot about how the hardiest South African orchids grow in the wild. I am particularly pleased that we will have a new class in the Plant Show for a plant or pan of plants raised from seed by the grower, with details provided of how the seeds were grown. We have also amended the scoring system so that winners of classes where three plants are shown will receive higher points. Full details are on page 29 and the website, or you can contact Mike Powell directly for more information.

The British Orchid Council will have a large stand at the EOC Conference and is inviting all member societies to offer specimen plants for the display. If you have one or more plants that may be suitable for this, please contact me in the first instance so that we can discuss requirements and how to get plants to London and back safely.

You will find the 2015 programme of field trips in this issue. Do come on one or more if you can; they are a very pleasant social occasion as well as providing an opportunity to see our native orchids in the wild. These trips are restricted to HOS members only, so if you want to bring your partner or a friend, get them joined up first.

I end with a plea for two volunteers to help our society. The first is for the role of secretary when Richard Robinson steps down after the AGM. This is not an arduous post as correspondence (in the formal sense) is now almost a thing of the past. The main tasks are around agendas and minutes for the AGM and the three committee meetings each year. The second is for a member to act as projectionist at our three meetings each year, a role filled by Iain Wright for several years now. Getting involved is fun – try it! Contact me, Richard (details are inside the front cover) or Iain (iaincwright@windmill.me.uk).

My best wishes to you all.

Results of Photographic Competition 2014

Class 1. A wide area view (landscape or habitat) showing orchids in their natural environment, print size up to 7x5 inches (14 entries)

- 1st Neville Henderson – *Serapias lingua*
- 2nd Steve Clements – *Dactylorhiza fuchsii*
- 3rd Eric Gendle – *Gymnadenia conopsea*

Class 2. A group of at least three orchid plants. These can be all the same species/hybrids or a mixed group, print size up to 7x5 inches (17 entries)

- 1st Alan Pearson – *Serapias cordigera*
- 2nd Colin Rainbow – *Serapias lingua*
- 3rd Eric Gendle – *Orchis anthropophora*

Class 3. A single orchid plant, usually the single stem arising from one tuber, print size up to 7x5 inches (18 entries)

- 1st Karen Gregory – *Neottia nidus-avis*
- 2nd Gillian Elsom – *Dactylorhiza viridis*
- 3rd Patrick Marks – *Orchis italica*

Class 4. A close-up of an orchid, print size up to 7x5 inches (23 entries)

- 1st Nigel Johnson – *Hammarbya paludosa*
- 2nd Tony Hughes – *Spiranthes spiralis*
- 3rd Alan Pearson – *Ophrys apifera*

Class 5. A wide area view (landscape or habitat) showing orchids in their natural environment, print size up to A4 (17 entries)

- 1st Steve Clements – *Dactylorhiza praetermissa*
- 2nd Tom Turner – *Dactylorhiza incarnata*
- 3rd Alan Blackman – *Anacamptis morio*

Class 6. A group of at least three orchid plants. These can be all the same species/hybrids or a mixed group, print size up to A4 (22 entries)

- 1st David Wain – *Anacamptis morio*
- 2nd Karen Gregory – *Orchis purpurea*, *O. militaris* & hybrids
- 3rd Tom Turner – *Anacamptis morio*

Class 7. A single orchid plant, usually the single stem arising from one tuber, print size up to A4 (see Rule 9) (20 entries)

- 1st Tony Hughes – *Dactylorhiza romana*
- 2nd Steve Clements – *Himantoglossum robertianum*
- 3rd David Pearce – *Epipactis purpurata*

Class 8. A close-up of an orchid, print size up to A4 (26 entries)

- 1st David Pearce – *Thelymitra nuda* (Best Print)
- 2nd Eleanor Coate – *Orchis purpurea*
- 3rd David Wain – *Platanthera chlorantha*

Class 9. A wide area view (landscape or habitat) showing orchids in their natural environment, maximum size 1400 pixels wide and 1050 pixels high (17 entries)

- 1st Alan Parfitt – *Dactylorhiza maculata* (Maren Talbot Photographic Trophy)
- 2nd Graham Giles – *Dactylorhiza maculata*
- 3rd Tarmo Pikner – *Orchis militaris*

Class 10. A group of at least three orchid plants. These can be all the same species/hybrids or a mixed group, maximum size 1400 pixels wide and 1050 pixels high (15 entries)

- 1st David Pearce – *Anacamptis morio*
- 2nd Colin Rainbow – *Dactylorhiza fuchsii*
- 3rd David Hughes – *Dactylorhiza purpurella*

Class 11. A single orchid plant, usually the single stem arising from one tuber, maximum size 1400 pixels wide and 1050 pixels high (17 entries)

- 1st David Pearce – *Serapias nurrica*
- 2nd Neil Evans – *Neotinea ustulata*
- 3rd Patrick Marks – *Dactylorhiza incarnata*

Class 12. A close-up of an orchid (see Rule 8), maximum size 1400 pixels wide and 1050 pixels high (23 entries)

- 1st David Pearce – *Pterostylis curta*
- 2nd Hilary Pickersgill – *Ophrys apifera*
- 3rd Richard Laurence – *Spiranthes spiralis*

Class 13. Novice Class, any hardy orchid print, size up to A4 (9 entries)

- 1st Eleanor Coate – *Ophrys apifera*
- 2nd Chris Hansen – *Dactylorhiza maculata*
- 3rd Samantha Hurley – *Dactylorhiza cordigera* ssp. *bosniaca*

Class 14. A hardy orchid subject that has been manipulated creatively using any advanced software technique to create an artistic image. Print maximum size A4 (8 entries)

- 1st Hilary Pickersgill – *Ophrys apifera* (Twirling Bee)
- 2nd Alan Blackman – *Dactylorhiza fuchsii* var. *rhodochila*
- 3rd David Pearce – *Ophrys apifera* (stained glass)

Maren Talbot Photographic Trophy: Alan Parfitt for projected image in Class 9

Best Print: David Pearce for his photograph in Class 8

Our thanks to the Competition Judge: Peter Gasson

The following pages display some of the winning images from the 2014 HOS Photographic Competition. Figure numbers indicate the Class followed by the position (e.g. 9-2 is second place in Class 9). The complete collection of winning entries is available on the website.



10-2



7-1



11-1



6-1



8-1



3-2



10-1



2-1



HOS Meetings 2015

Sunday 19th April

Spring Meeting, AGM & Plant Show at Kidlington

Sunday 16th August

Seed Sowing Workshop (contact Alan Leck alanleck@alanleck.plus.com)

Saturday 5th September

Northern Meeting at St. Chad's, Leeds

Sunday 15th November

Southern Meeting & Photographic Show at Kidlington

HOS Field Trips for 2015

Alan Bousfield

These Field Trips are for **Members Only**. Accompanying spouses/partners must also be members; it only costs £3 to upgrade to family membership. You may be asked to show your membership card so please take them with you. Unfortunately I have not received many offers to lead Field Trips during 2015, so there are fewer available this year, although more may be added to the website. If you are willing to organize one, it would be much appreciated.

Monday 4th May: Samphire Hoe, Kent. Leader: Alan Bousfield

It's May Day Bank Holiday and a trip to Samphire Hoe to see the Early Spider Orchid (*Ophrys speghodes*) and other orchid species. (alan.bousfield@ukgateway.net)

Monday 25th May: Folkestone, Kent. Leader: Alan Bousfield

It's Spring Bank Holiday and a trip to see the Late Spider Orchid (*Ophrys fuciflora*) and other orchid species. (alan.bousfield@ukgateway.net)

Wednesday 10th June: Kent. Co-ordinator: Alan Bousfield

Walk in Darwin's footsteps and visit the places that inspired him when writing Origin of Species. A guided tour round Down House & Gardens in the morning and in the afternoon a visit to two locations where he made a detailed study of the pollination of *A. pyramidalis* by butterflies and moths. Depending on the flowering season, there is the possibility of seeing Bee, Fly, Man, Fragrant, Bird's-nest, Common Spotted, Greater Butterfly & Pyramidal Orchids as well as White Helleborine. (alan.bousfield@ukgateway.net)

Friday 12th June: New Forest. Leader: David Hughes

This is the prime time to see the best of the New Forest orchids; Marsh orchids *Dactylorhiza incarnata* ssp. *pulchella* (pink and white), *Dactylorhiza praetermissa* (and hybrids with *D. maculata*), *Platanthera bifolia*, *Gymnadenia borealis* and *Epipactis palustris*. (davidcchughes@talktalk.net)

Saturday 13th June: Bedfordshire. Leaders: Geraldine and Richard Hogg

Some of the orchids that could be flowering at these sites are Man, Musk, Frog, Common Spotted, Southern Marsh, Twayblade, Bee, Chalk Fragrant and Burnt Orchids. (geraldine_dick@hoggie49.plus.com)

Saturday 13th June & Sunday 14th June: Norfolk Broads. Co-ordinator: Mike Gasson

RSPB Open Day for the fen form of Fen Orchid (*Liparis loeselii* var. *loeselii*) plus Swallowtail butterflies if the sun comes out. (moorend@globalnet.co.uk)

Monday 22nd June: Somerset. Leader: Richard Mielcarek

Make a visit to two sites on the Mendips, the first checking for Bee orchids with sepaloid petals and the second seeing Southern Marsh-orchids with unusual lip patterns. (avonbirds@hotmail.co.uk)

Sunday 28th June: Eastern Perthshire. Contact: Dave Trudgill

A field meeting led by Martin Robinson. Expect to see in flower Northern Marsh-orchid, Common and Heath Spotted-orchid, Common Twayblade, Greater and Lesser Butterfly-orchid and Early Marsh Orchids. Marsh Helleborine may also be seen, but will not yet be in flower. (davetrudgill@googlemail.com)

Sunday 4th July: Leeds, West Yorkshire. Leader: Charlie Philpotts

Ledstone Luck is an old pit site which has thousands of Common Spotted-orchids, Northern Marsh-orchid, numerous hybrids between them and Bee Orchids. Townclose Hills is a limestone outcrop with thousands of Common Spotted-orchids, Twayblades, Pyramidal and Bee Orchids in addition to a wealth of other wildflowers. Both sites are suitable for less mobile people, have easy access to motorways and good parking. (charlie.philpotts@btinternet.com)

Tuesday 14th July: Cumbria. Leader: Alan Gendle

I intend to go to Sandscale Haws near Barrow to see *Epipactis dunensis*, *E. phyllanthes* var. *pendula* and *E. palustris*. We will move on to the Hutton Roof crags near Burton in Kendal to see *E. helleborine* var. *purpurea*, *E. helleborine* var. *viridis*, *E. atrorubens*, *E. atrorubens* var. *pallens* and *Epipactis* × *schmalhauseni* (the *E. helleborine* × *atrorubens* hybrid). (alan@gendle.plus.com)

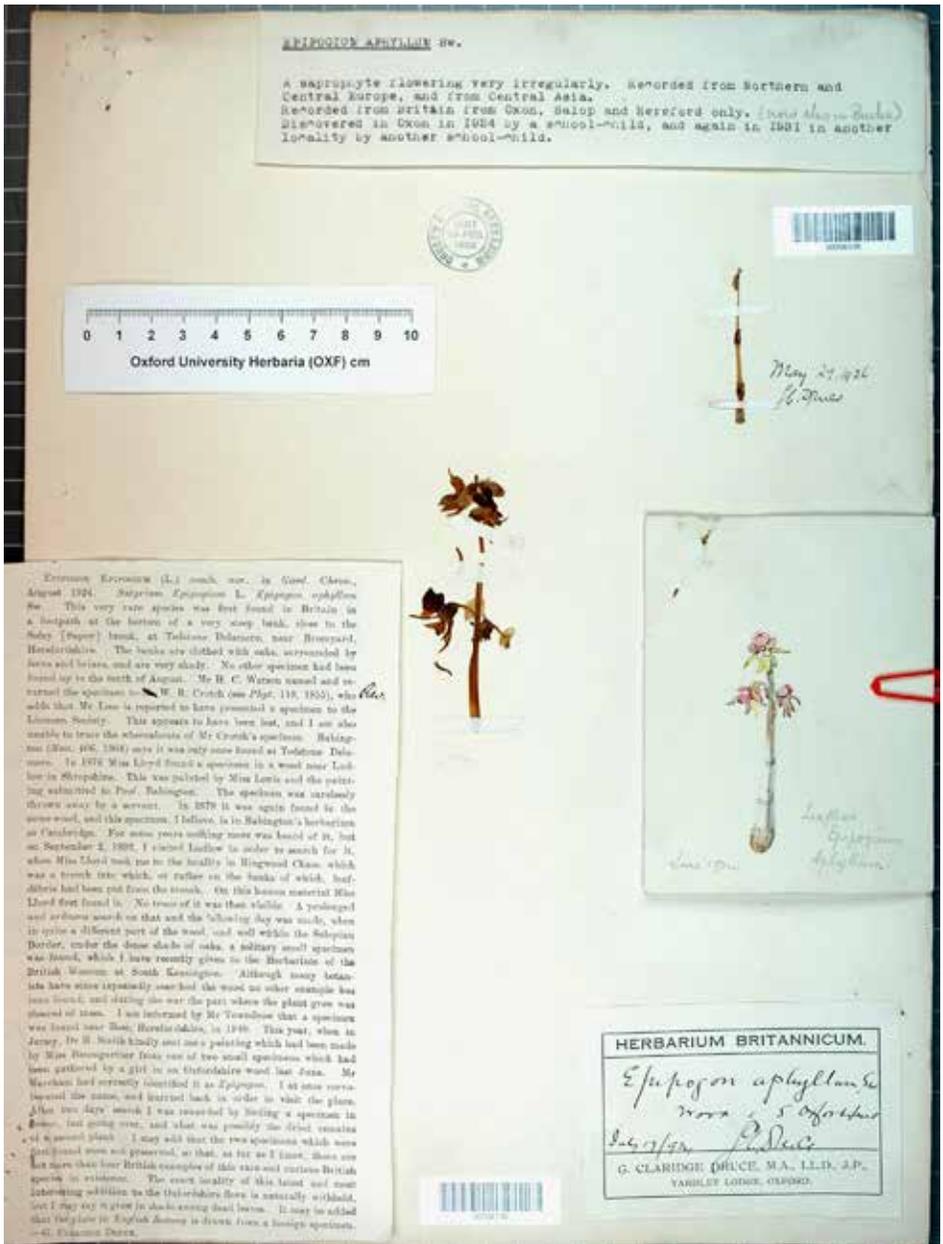
The Ghost Orchid in England – a History: Part 2 – the Chilterns **Sean Cole**

The occurrence of Ghost Orchid (*Epipogium aphyllum*) in England took an interesting turn in late June 1924 when Herbert Smith of Henley on Thames was sent a painting by experienced local botanist, Miss E. Baumgartner, of a three-flowered Ghost Orchid specimen gathered locally only a few days before. It was one of two specimens handed to Miss Baumgartner with approximately 20 Fly Orchids (*Ophrys insectifera*). She had already identified it but had sent it to Smith for corroboration. Smith wrote to G. C. Druce on 7th July informing him of the painting, in amongst other botanical information. Druce was in Jersey at the time, but was keen to visit the site to carry out a search. Unfortunately Miss Holly, the schoolgirl who found the plants, could not remember the exact spot at the location in Lambridge Wood from which she had taken the specimens. Nonetheless, Druce visited the Wood on 16th July and made an extensive, but unsuccessful search.

The day after, his persistence paid off when he found a single flowering spike, partly going over, and a possible second dried plant nearby. Druce's plant was nearly 10cm tall with four flowers, and can be found in Oxford University Herbarium. Miss Holly's's plants were unfortunately not preserved.

Two years later, Mr. Wilmott, of the British Museum (Natural History) in London, had co-incidentally discovered the location of the 1924 plants, and he informed eminent Orchid hunters of the day, Edith Vachell and Francis Druce. The three of them visited Lambridge Wood on 28th May, without success. Desperate, they tracked down Miss Holly in Henley. They were amazed to see a specimen of *Epipogium* in a vase at her house! This had been collected on the incredibly early date of May 27th. This tiny plant was only 5cm tall with a single bud. Miss Holly refused to give it up (it had ended up in Oxford on the same sheet as G. C. Druce's 1924 specimen, so was clearly promised to him, tacitly at least).

Miss Holly did, however, show the three collectors the spot where the latest plant had been collected, although nothing was to be seen. This was to be the downfall of the Ghost Orchid at Lambridge Wood, as on 2nd June Edith Vachell returned to the spot and parted the soil to discover the underground parts of the plant. Making a careful note of the exact location, and marking the spot, she sent the maps to Francis Druce. A few days later Vachell received a parcel containing a small box of earth, in amongst which were the underground parts of the *Epipogium*. This got divided between the two collectors, and the pathetic shriveled remains are still to be seen in the National Museum of Wales, along with Edith Vachell's gloating account of the event.



EPIPOGON APHYLLUS Sw.

A saprophyte flowering very irregularly. Recorded from Northern and Central Europe, and from Central Asia. Recorded from Britain from Oxon, Salop and Hereford only. (Now also in Bucks) Discovered in Oxon in 1824 by a school-child, and again in 1831 in another locality by another school-child.

0 1 2 3 4 5 6 7 8 9 10
Oxford University Herbaria (OXF) cm



May 27, 1926
G. Druce

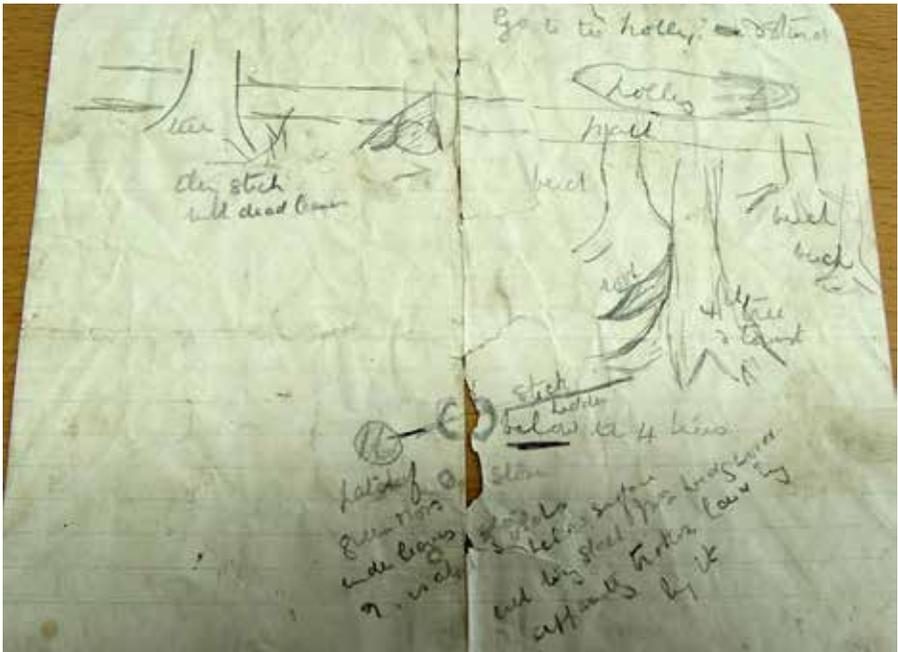


Epipogon aphyllus (L.) Sw., var. in *Good. Char.*, August 1824. *Saripogon Epipogon* L. *Epipogon aphyllus* Sw. This very rare species was first found in Britain in a hedgepath at the bottom of a very steep bank, close to the Selsby (Paper) Brook, at Tolstone, Delamere, near Broomfield, Hertfordshire. The banks are clothed with oaks, surrounded by ferns and bracken, and are very shady. No other specimen had been found up to the north of Avon. Mr. H. C. Watson named and returned the specimen to Mr. H. C. Crick (see *Plant.* 118, 1855), who adds that Mr. Lee is reported to have presented a specimen to the Linnean Society. This appears to have been lost, and I am unable to trace the whereabouts of Mr. Crick's specimen. Bellingham (*Man.* 106, 1861) says it was only once found at Tolstone, Delamere. In 1874 Miss Lloyd found a specimen in a wood near Ludlow in Shropshire. This was collected by Miss Lewis and the picture submitted to Prof. Bellingham. The specimen was carefully drawn away by a servant. In 1878 it was again found by the same wood, and this specimen, I believe, is in Bellingham's herbarium at Cambridge. For some years nothing more was heard of it, but on September 1, 1895, I started Ludlow in order to search for it, when Miss Lloyd took me to the locality in Ringwood Chase, which was a bench into which, or rather on the banks of which, leaf-stems had been cut from the brook. On this barren material Miss Lloyd first found it. No trace of it was then visible. A prolonged and arduous search on that and the following day was made, when I again a different part of the wood, and well within the Selwyn's Datchet, under the dense shade of oaks, a solitary small specimen was found, which I have recently given to the Herbarium of the British Museum at South Kensington. Although mossy botanists have since repeatedly searched the wood no other example has been found, and during the war the part where the plant grows was almost all trees. I was informed by Mr. Townshend that a specimen was found near Stone, Hertfordshire, in 1916. This year, when in Jersey, Dr. H. Smith kindly sent me a painting which had been made by Miss Baumgartner from one of two small specimens, which had been gathered by a girl in an Oxfordshire wood last June. Mr. Marchant had recently identified it as *Epipogon*. I at once reviewed the notes and hurried back in order to visit the place. After two days' search I was rewarded by finding a specimen in *Forest*, but going over, and what was probably the first specimen of a second plant. I may add that the two specimens which were collected were not preserved, so that, as far as I know, there are no more than two British examples of this rare and curious British species in existence. The exact locality of this forest and most interesting addition to the Oxfordshire flora is naturally withheld, but I may say it grew in the shade among dead bracken. It may be added that they grew in English *Forest* is drawn from a living specimen. — G. CLARIDGE Druce.

HERBARIUM BRITANNICUM.
Epipogon aphyllus Sw. s. Oxfordshire
2.9.1926 G. Druce
G. CLARIDGE (DRUCE, M.A., LL.D., J.P.)
YARLEY LODGE, OXFORD.



Herbarium sheet from G C Druce's collection, now at Oxford University Herbarium, with Miss Baumgartner's original painting of the first Ghost Orchid found at Lambridge Wood in 1924, along with Druce's plant from the same year, and Miss Holly's plant collected on the remarkably early date of 27th May 1926.



Now in the National Museum of Wales in Cardiff, this map was hand-drawn by Edith Vachell in June 1926 and was sent to Francis Druce to direct him to the location of the underground parts of the Ghost Orchid there. A few days later they arrived in a small box of earth, having been dug up for their collections in the absence of a flowering spike.

Management work was carried out in Lambridge Wood during the 1960s, and the area in which the plants had been found was cleared and replanted with alien conifers. This was done in ignorance of the (former) presence of *Epipogium* at the site. This combination of ruthless collection and secrecy has meant that the Ghost Orchid has never reappeared at this location. Parts of the wood still look quite suitable, and *Monotropa* (a key indicator species for the presence of *Epipogium*) is present by the road on the western section, although this is some way from the original sightings.

Luckily, it was only five years before the Ghost Orchid was found again, by another schoolgirl, Vera Smith, only 6km to the west of Lambridge Wood. Writing in the Reading Naturalist in 1964, Vera Paul as she became, describes her find: "On June 30th 1931, my father and I were looking for Fly and Butterfly Orchids when I saw an orchid which I did not recognise growing out of the middle of an old tree stump. Not realising how rare my find was, I picked it. On our way out of the wood we met Dr.Carling, the lady doctor who first opened the Peppard Chest Hospital. She was

also puzzled by our find and recommended me to go and see Dr. Somerville Hastings. Luckily Dr. Hastings was at home, and, after searching through his Sowerby's Botany we discovered the name and status of the plant. Our excitement was so great that we literally wrapped the plant in cotton wool and took it to the Reading Museum". At 9.5" high, this plant remains the tallest specimen ever recorded in Britain. A picture of it, hand-coloured, is to be found in the Summerhayes "New Naturalist" on British Orchids.

Vera found two Ghost Orchid spikes in July 1933 when showing her tutor Professor J. R. Matthews the spot where she had discovered it two years previously. They were close to the original tree stump. It was decided that the location should remain a secret, and so it did – until their find was announced at the BSBI conference in 1963! In the meantime, the species had been found at this site, known commonly as Satwell, but more accurately Great Bottom Wood, on a number of occasions prior to their announcement.

The discovery of the Marlow site in 1953 inspired Vera to search her locality in August 1953 with Miss Holly and a Mrs. Simmonds. Writing in the *Reading Naturalist* in 1964 she says: "As we were walking through the wood, I kept pointing out various dead bluebell capsules, to give my companions an idea of what to look for. At one stage they were walking well ahead of me, when I saw in the distance something which was an even better likeness to the plant. I called after them to say "Look - that is the sort of thing we are looking for". Then as I got nearer to the object I saw that it was indeed the sort of thing that we were looking for – it was a small spike of *Epipogium*, only 2½ inches high."

Unknown to Vera, J. E. Lousley found five flowering Ghost Orchid spikes near to her site, in the adjacent and contiguous Ovey's Wood, on 4th September 1954, and found the species



Exactly the sort of thing she was looking for - the single Ghost Orchid found at Great Bottom Wood in 1953, after the wood was searched following the finding of the Marlow plants earlier the same year. Courtesy Kew.

almost every year subsequently, up to 1963. These records were all much later in the season than previous ones from the wood, all in September. Dates and numbers remain unpublished, however, and there are no records from this part of the wood since. Following up on this information, Vera Paul found five spikes at Great Bottom Wood, very near to where the 1933 plants were found, on 17th September 1963. There was a further small group of plants coming out from underneath a stone. All of the plants were “barely in bud”. They were found in a ridge of humus pushed up by a tractor, and the underground stolons were visible, and extended several yards. By using slug pellets, the plants were kept alive until 8th of October. The name of the wood was published in the proceedings of the BSBI in July 1958, but not the actual location. This may have had an adverse effect on the plants, as Vera’s location was partially cleared in the early 1960’s, resulting in ground disturbance and ingression by Willowherb and Bramble. The slope is these days covered in Dog’s Mercury and other species, but there are still good areas of clear woodland floor with fruiting fungi. However, other nearby parts of the wood are now much more suitable for Ghost Orchids.



The first published photograph of the last proven record of Ghost Orchid from Oxfordshire, at Great Bottom/Ovey's Wood on 7th October 1979. Found by chance, and possibly the latest flowering time record of Ghost Orchid in the world.

Photo by Neville Desirens

On 7th October 1979, Neville Desirens and his wife Mary, from Reading, took their friends John and Valentine Roberts on a fungus foray to the woods they knew as “Satwell Woods”. They were completely unaware that Ghost Orchid had ever been found in these woods, although they knew it occurred somewhere west of Henley, and had seen it in Buckinghamshire the year before. Neville takes up the story: “A short distance into the wood we spread out to cover more ground. I was pleased to see ahead a Magpie fungus – a nice find although not a great rarity. As I settled down to photograph it I realised that close to it, only a foot or so away, was a fresh specimen of *E. aphyllum*. I quickly called the others over and as you can imagine we were all very excited to make such a find ourselves.” This single spike was shown to Vera Paul on 14th October, by which time the two flowers had been eaten off leaving just the leafless stem. This is surely the latest record of Ghost Orchid flowering time!

The story of “Satwell” then becomes a little more confused, as there are reports from

the wood in 1994, 1999 (two spikes) and 2003 but no specimens or photographic evidence. I have failed to track down the observers, apart from the 1994 record, when on 20th August Michael Thompson of Northants was searching the area, as he had for several years, looking for Ghost Orchids. He found a leafless stem that he initially took to be a fungus with no head, but then realised it had a sheathed leaf and might be a Ghost Orchid that had dropped its single flower. He carefully parted the leaf litter and soil, and saw the small branched rhizome that confirmed his suspicion. He put the soil back but because of the flowerless state of the plant, did not take any photographs. Subsequently he told some friends but did not submit the record officially, as he had not seen the flowers, and was aware of the magnitude of his find. Yellow Bird's-nest, Bird's-nest Orchid and Violet Helleborine all occur in the wood and it remains probably the most suitable known site in the Chilterns to find a Ghost Orchid. I've even photographed Magpie fungus in there myself in recent years! The site is searched every year by locals and others, so if one does come up, there is a good chance of it getting found.

The most famous and celebrated moment in the history of the Ghost Orchid in England came when Rex Graham sat down in woods west of Marlow on July 18th 1953 to light his pipe. He had searched these woods several times before, in previous years, specifically looking for Ghost Orchids. This was close to the place of his remarkable rediscovery of Military Orchid in the Chilterns, at Homefield Wood. The lighting of his pipe was a significant moment, because as he glanced ahead over the bowl of it, he saw a Ghost Orchid! Perhaps this is why he modestly describes his find in a later letter to a friend as "beginner's luck". His report of this momentous discovery, in *Watsonia* 3, page 33, is typically understated, too, but one can only guess at his excitement as he firstly examined the one he had found, then searched the wider area to discover another 12 plants, and by August 1st this number had risen to 25 flowering spikes from 22 plants.

Several national and local newspapers reported the finding, with the location given as "a hilly wood in the south of England", and one describes Rex's find as "ample compensation for a wet summer". Most of the plants found that year were less than three inches high, but two were five inches with three flowers each. Some were eaten off by slugs and two were cut for herbaria, including Rex's own. One of them was pollinated and set seed. This spike can still be seen in the herbarium at the Natural History Museum in London.

The Marlow site consists of two woods, one either side of the road, west of Marlow. Known sometimes as Ressler and Davenport Woods, they are more accurately named Hollowhill and Pullingshill Woods. Ghost Orchids have been found in these woods in 22 of the years subsequent to 1953, the last record being of a single plant in Pullingshill Wood in July 1987. There is a roughly equal number of records from both sides of the road, extending from the roadside banks and ditches right through



the woods. In several years there have been multiple records, notably in 1971, when there were nine, and 1979 and 1986, both with seven spikes. In 1971, two plants sharing a hollow were cross-pollinated by their finders (Simon Davey and Jerry Munday) on 22nd August, and a week later one of them had set and dispersed seed.

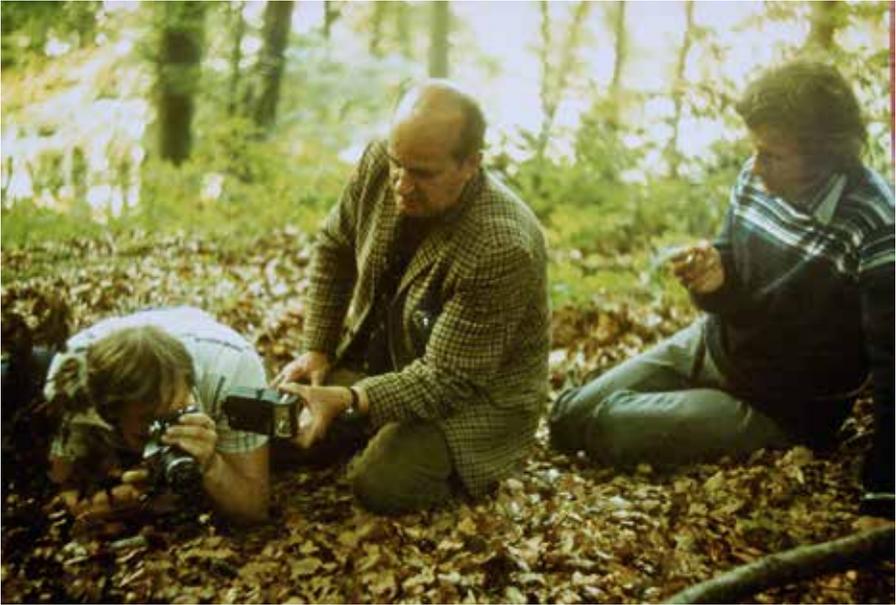
Many people, myself included, believe Ghost Orchids could be found again at this site, because it was so prolific. There is a story that the gales of 1987 caused the species' demise, due to light ingress from the opening up of the canopy by trees blown down in the winds. Whilst this is possibly true, and one of those blown down was one under which several plants flowered in 1979 and 1986, the wood still remains eminently suitable. The biggest change has been the gradual drying out of the habitat, perhaps as a result of increased underground water extraction due to extending conurbation in the area, but perhaps also to the maturing trees requiring more moisture. There is a developing theory that nitrate based air pollution is causing competition among fungi, possibly resulting in the demise of the Ghost's host *Inocybe* species to stronger, nitrate-loving ones. Whatever the truth, which is probably a combination of factors, observers who have seen the species at this location have all commented on how much drier it is now compared to when they saw Ghost Orchids there. I and many others continue to search, though, and maybe I will take up smoking a pipe to help increase my chances of finding one!



Left: A collection of photographs by Rex Graham of his original finds at Marlow in July 1953. The bottom picture now serves as inspiration for the author to find a Ghost Orchid, as it now graces his personalised Converse shoes! Courtesy NMW.

Above top: One of Rex Graham's original Ghost Orchids from Marlow on 18th July 1953, seen growing in the shadow of an *Epipactis*. Courtesy NMW.

Above bottom: Seeded capsule of one of the original Marlow "Ghosts", collected in early September 1953 and now in the NHM London.



Photographing a Ghost Orchid at Marlow, on 19th August 1979. This plant was one of seven found that year at this site, and this particular plant was in Hollowhill Wood, some way from the road. A W Jollands is holding the flash for the unknown photographer (and finder of this plant), while Steve Povey looks on.

Photo by Bill Lowe (copyright S. M. Povey)

There are reports from other sites in the Chilterns, all close to the two main recent ones. However, none of these come with any corroborative evidence such as photographs or even dates, numbers or descriptions of plants. Cross-referencing of names would indicate many of these undated records all refer to either Marlow or Satwell. Certainly the record published from August 1970 as being at High Heavens Wood is actually from the Marlow site, as the original photographs and observers confirm. There are, however, no doubt some other suitable woods in the Chilterns, so I would encourage anyone local with a thought for discovering a Ghost to search any old Beechwood which is known for having good numbers of fruiting fungi, especially in years where numbers of these are higher than average.

In 2014 the Ghost Orchid Project was started by Ghost Orchid fanatics Stephanie Leese, Mike Waller and myself. Its aim is to co-ordinate searches of known and potential sites by interested observers, and although conditions were particularly poor that season, with an especially dry summer and very low numbers of associated species, 37 volunteers put in many hours searching a number of sites during the season, and the Facebook page currently has over 160 followers. Another aim is to gather data on associated species, weather, and habitat conditions as well as the



Great Bottom Wood, Vera Paul's site as it is now. Although the wood can appear quite dry, it still holds other indicator species and is very good for fungi, both factors which indicate it is still a suitable location for Ghost Orchid.

obvious finding of a Ghost Orchid. In an effort to assist and widen the remit and therefore value of the Project, we are rolling it out to include European data in 2015. We would welcome help from interested HOS members who wish to search UK sites or who are visiting places in Europe during the flowering season. In particular, we hope that data on numbers of flowering Bird's-nest Orchid and Yellow bird's-nest will be gathered from the European sites, in order to see if there is a correlation between flowering success of these species and that of Ghost Orchid. GOP can be found at www.ghostorchidproject.co.uk .

The future of the Ghost Orchid in Britain is uncertain, but it always seems to have been that way, with such long gaps between occurrences. The long, late flowering period – when there is little other botanical interest – coupled with the difficulty of spotting the tiny spikes, and the apparent hopelessness of the task, may put off many potential observers. But history shows that Ghost Orchid will surprise everyone one day by turning up in a completely unexpected place, perhaps found even by someone lighting an E-cigarette!

I welcome all correspondence and information on British or European Ghost Orchids. Please contact me via email at seancole65@yahoo.co.uk.



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***Himantoglossum metlesicsianum* in Northern Tenerife:
An Endangered Orchid
Jean Claessens**

The island of Tenerife is part of Spain, although it lies quite far south, on the same latitude as the south of Morocco. Whilst it is not known for a high number of orchid species, it is frequently visited by orchid enthusiasts who come for species that can only be found here, namely *Habenaria tridactylites*, *Orchis canariensis* and *Himantoglossum metlesicsianum*. An additional benefit is that those orchids flower in our winter, so they offer a chance to combine the joy of the warm winter sun and orchid hunting.

H. tridactylites is the most common orchid on the Canary Islands and can be found in the regions where the climate is influenced by the trade winds, providing constant moisture. *O. canariensis* is an endemic of Tenerife, Gran Canaria, El Hierro, La Gomera and La Palma. It has similar climatic preferences as *H. tridactylites* but is rarer, although it can be locally abundant. *H. metlesicsianum* is an endemic of Tenerife and La Palma, where it was recently found. Most reports indicate that it is confined to the west of Tenerife. It can be found in the region between the communities of Santiago del Teide and Guia de Isora. It is a threatened orchid; estimates of the total population size vary from 1639 to more than 4000 plants. *H. metlesicsianum* is a tall plant which distinguishes it from *Himantoglossum robertianum*. The stem is longer than the flower spike (in *H. robertianum* it can be as long but not longer) and the leaves are distributed along the stem. The flowers are pinker, lacking the green tinge of *H. robertianum* and have only slightly wavy lip margins.

***H. metlesicsianum* in Northern Tenerife** – Spanish literature reports the existence of a population of about 70 plants in the hills above Icod de los Vinos, which is thought to have escaped from cultivation in a private garden. This mention is totally overlooked in all reports on *H. metlesicsianum* on Tenerife. To my great surprise I encountered in December 2013 two plants of this rare orchid in this part of the island, unaware of the existence of a possible population (Claessens 2014). The healthy appearance of the plants made me think that it could well be possible that there were other plants growing nearby. Unfortunately there was no chance to make further investigations. Mid November 2014 I returned to Tenerife. The first goal was of course to see if my suppositions were correct. I was unable to find any orchids in the region mentioned in Spanish literature. However, I was luckier at the spot where I found the initial two specimens. I found a total of 40 plants that were flowering or still in bud. Two main questions interested me: in what conditions does *H. metlesicsianum* grow in Northern Tenerife and what are the similarities or differences between this habitat and the well-known habitats in the west?

Habitats – The orchids were found in a small, north facing area with some scattered houses between small terraced fields. They were from 700 to 800 metres altitude, in a zone directly under the lower limit of the *Pinus canariensis* forests. Almost all specimens grow on old terrace walls, bordering the small fields that are still being used as vineyards or for growing potatoes. The steep hills of Tenerife make large scale agriculture impossible. Especially around the remote hamlets that lie high up on the volcano the little fields are still being tilled. They form a great contrast with the vast banana plantations, omnipresent near the coast.

The broad stone pile walls are old and contain enough humus for the orchids and for other plants as well. *Habenaria tridactylites*, *Centranthus ruber*, *Ranunculus cortusifolius*, *Aeonium species* (*A. canariense*, *A. undulatum*), *Polypodium macaronesicum* and *Davallia canariensis*, are present in almost all sites. Other plants, not found in all sites were: *Hypericum* sp., *Sonchus congestis*, *Oxalis pes-caprae*, *Trifolium* sp., *Aichryson laxum*, *Chamaecytisus proliferus*, *Rumex lunaria*, *Laurus* sp. and *Bituminaria bituminosa*. Most of those plants are indicators of a more or less humid environment and indicate the influence of the trade winds which force the air up the northern slopes. The air cools and starts condensing at an altitude of 500 to 600 metres, creating a layer of clouds that reaches up to 1700 meters in winter. Thus the orchids are supplied with enough moisture and protected against the powerful afternoon sun. That is also the reason why the orchids thrive in full sun, unprotected by plant cover or shade from the stone walls.

The West – The classical sites of *H. metlesicsianum* are all situated in the west and in order to compare this region with the sites in the north I studied three types of site: former almond orchards, abandoned Guanche fields and sites along the canals that run from the north to the south. The west is not under the influence of the trade winds and has a much more arid nature. The orchids grow in the block lava region where little humus is available. The influence of the sun is much larger and there is little rainfall; moisture is collected by the long needles of the indigenous pine, *Pinus canariensis*. The orchids respond to the harsh conditions in several ways: they grow at a higher altitude (900 to 1200 metres) and in the vicinity of a protective vegetative cover or in the shade of stone walls. Many sites along the road TF-38 from Chio to the Teide lie in valleys with small fields surrounded by stone walls. The fields were tilled by the ancient inhabitants of the island, the Guanches. Here the orchids find shelter under the shade of spreading and moisture retaining trees (Fig *Ficus carica* and Almond *Prunus dulcis*) and near stone walls.

Fig. 1: This single plant of *H. metlesicsianum* grew 1300 meters away from the main population on a stone wall. Icod de los Vinos, 26-11-2014.

Fig. 2: *H. metlesicsianum*, flower spike. Icod de los Vinos, 24-11-2014.

Fig. 3: *H. metlesicsianum* on a stone wall with *Aeonium undulatum*, *Polypodium macaronesicum*, *Davallia canariensis* and *Ranunculus cortusifolius*. Icod de los Vinos, 24-11-2014.

Photos by Jean Claessens



The accompanying plants reflect the different climatic circumstances, although there are several plants that can be found both in the north and the south. I recorded the following plants: *Asphodelus aestivus*, *Sonchus acaulis*, *Sonchus canariensis*, *Aeonium urbicum*, *Micromeria lachnophylla*, *Lavandula multifida*, *Opuntia ficus-indica*, *Kleinia neriifolia*, *Adenocarpus foliolosus*, *Rumex lunaria*, *Ranunculus cortusifolius*, *Davallia canariensis* and *Aeonium undulatum*. The last four species also were found in the north.

An Endangered Orchid – Although the climatic conditions in the north are much more suitable for most plants, as indicated by the lush vegetation, *H. metlesicsianum* favours more harsh conditions: it grows on stone walls with little humus and is not protected by plant cover or a stone wall. However, the water supply is much more constant than in the west, making it possible to survive in these conditions. The plants in the north are quite vigorous, showing that the growing conditions are suitable. Probably having escaped from cultivation in a garden, the plants have found an appropriate biotope. The region where the orchids grow is small and consists basically of two parallel valleys with a total surface of about 20 hectares. But the finding of one orchid in a valley 1300 metres away from the main population indicates that probably there are more sites. Searching for the orchids is a laborious job and even more difficult because most orchids grow on private property. In November the fields are not yet tilled, giving the opportunity to inspect the terrain.

This immediately indicates that the main threat to this small orchid population is that it is fully dependent on human activities. If the fields are no longer tilled the shrubs take over and completely cover the stone walls within a year, destroying the habitat for the orchid. Some farmers thoroughly “clean” the stone walls, stripping them of all vegetative cover, maybe including the orchids. There is a fine balance between human activities and retaining suitable growing places and conditions.

In 2004 members of a German botanical excursion found *H. metlesicsianum* in the Barranco de Bocaron, in the hills above Los Silos. Richard Bate reported with photographs on the website Flickr that he had found a site of 15 plants among the abandoned almond groves in the region of Adeje as well as a single specimen in the surroundings of Masca. There are older reports of plants that were found near Aguamansa (Northern Tenerife) and in the surroundings of Güimar (south Tenerife). Those findings indicate that *H. metlesicsianum* might be more widespread on Tenerife than expected.

Fig. 4: Stone walls surrounding tilled land are the main habitat of *H. metlesicsianum* in the north. Icod de los Vinos, 25-11-2014.

Fig. 5: A larger group of *H. metlesicsianum* with *Centranthus ruber* and *Polypodium macaronesicum*. Icod de los Vinos, 24-11-2014

Photos by Jean Claessens

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Nevertheless, *H. metlesicsianum* is an endangered orchid throughout the island. In the west it is threatened by overgrowth of old almond orchards and transport of the water from the north to the south in pipes instead of in the old canals, diminishing the supply of moisture for the plants growing along the canals. In the North it fully depends on human activities to preserve its growing places. Therefore it is important that any secondary growing place offering survival for this beautiful but highly endangered orchid should be protected. Let's hope this article can contribute to that. I want to thank Josef Stierli and Richard Bate for their valuable information on the presence of *H. metlesicsianum*. E-mail: jean.info@ziggo.nl

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HOS Plant Show – New Class and Scoring Changes

Mike Powell

A new class has been added to the HOS Plant Show for 2015. This recognises the growing interest in raising orchids from seed:

Class 15: One plant or pan of plants raised from seed by the grower. The grower to provide the name of the species or of both pod and pollen parents if a hybrid; details of fungus used (if any); details of sowing medium; dates sown, re-plated and weaned.

In the case of **Classes 1 through 4**, where three plants are entered, the scoring has been amended:

FIRST - 5 points; SECOND - 4 points; THIRD - 3 points

All other classes will be scored as follows:

FIRST - 3 points; SECOND - 2 points; THIRD - 1 point

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Hybrid Speculation Tony Hughes

It was early April 2010, and Diana and I were having a whale of a time exploring parts of Sardinia. For the mid-part of our stay we were based in Dorgali, a town perched high above the east coast on the northern slopes of the Genargentu Mountains. From Dorgali our favourite road headed northwards, descending gently past spectacular marble quarries and then following the coast at low level till eventually it started to climb the eastern slopes of Monte Albo. All along this road were scattered many excellent orchid sites, but we particularly enjoyed the roadside verges. Sadly, in places Paraquat or some such herbicide had been sprayed to save on the inconvenience of mowing. Some of the grotesque half-dead orchid spikes tempted us to invent a whole series of new ‘species’. Fortunately this carnage was not everywhere.

One emergency stop was prompted by a few yards of roadside bank where the most frequent plants were all *Ophrys*. The predominant species were *O. tenthredinifera* (Fig. 1) and *O. bombyliflora* (Fig. 2) – dozens of them! But there were also similar numbers of hybrids, known as *O. ×sommieri*, all with characteristics intermediate between the above two species. We were immediately struck by the fact that the hybrids seemed to fall into two readily distinguishable groups:

1. Those with larger flowers (though smaller than those of *O. tenthredinifera*), pale greenish-white sepals, pinkish-green upper petals, broad lip, covered in dense furry hairs, speculum restricted to the top third of the lip, with a prominent appendage set in a narrow notch (Fig. 3);
2. Those with smaller flowers (only slightly larger than *O. bombyliflora*), darker green sepals, brownish-green upper petals, rounded lip with prominent furry shoulders, few hairs in the centre of the lip, speculum larger, usually reaching the mid-point of the lip, small appendage set in a very wide notch (Fig. 4).

A possible interpretation of these two distinct sets of hybrids from a single pair of parents is that each set represents a particular flow of pollen. In one set the pollen comes from *O. bombyliflora* (Type 1 above). In the other set the pollen comes from *O. tenthredinifera* (Type 2). In each case the resulting hybrids have more characteristics of the seed parent than of the pollen parent. This is not a new suggestion. It has frequently been made within HOS circles for many years, but I have never seen any detailed evidence or arguments to substantiate it.

Fig. 1: *Ophrys tenthredinifera*

Fig. 2: *Ophrys bombyliflora*

Figs. 3 & 4: *Ophrys ×sommieri*

Photos by Diana Hughes (Fig.1) & Tony Hughes (Figs. 2-4)

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It is well-known that the chromosomes in the nucleus of a fertilised cell contain DNA that comes 50:50 from the two parents. However, this is not the whole story. Some 10 – 20% of the cell’s DNA resides outside the cell nucleus, principally in structures such as mitochondria and plastids. Interestingly, mitochondria and plastids that come from the pollen parent are only rarely able to survive in the fertilised cell, so the vast majority of the extra-nuclear DNA comes from the seed parent. Most of the genes in the mitochondria are concerned with plant respiration, but a few contribute to other functions handled mainly by the nuclear DNA. Similarly, a type of plastid known as a chloroplast has DNA mainly concerned with chlorophyll production and photosynthesis, though a few genes do other things. However, another type of plastid, known as a chromoplast, is principally concerned with pigment production. Might this be significant? The upshot of the argument is that, when considering the total DNA of the cell, some 55% comes from the seed parent, whereas only some 45% comes from the pollen parent. It is therefore quite plausible (though by no means proven by this rather superficial treatment) that the seed parent should have more influence than the pollen parent on the appearance of the hybrid offspring.

Jumping forward to June 2014, I was both surprised and delighted to be told by Alan Dash that one of our favourite Cotswold orchid sites had several examples of some very interesting hybrids. I have visited this site many times over the past twenty or so years, particularly to keep an eye on a tiny colony of Fly Orchids (*O. insectifera* – Fig. 5) growing on a very dry, open slope. In the early days there were maybe only a dozen flowering spikes, and rarely was there any evidence of pollination or of swelling seed capsules. The colony was clearly struggling, and I convinced myself that an occasional bit of hand-pollination might be highly beneficial and carry little risk. Hand-pollination was quite tedious, and my patience soon ran out, and I regret to say I never returned to see if my efforts had been rewarded by increased seed production. However, as the years passed, the colony slowly strengthened and started to spread further over the bank. Indeed, following Alan’s revelation I went hot-foot to the site to find that there were now well over 100 flowering plants, and they had spread at least 100yds from the original cluster.

But the real interest was in the hybrids! There was no mistaking one robust pair of flower spikes (Fig. 7) as being virtually identical to the *O. apifera* × *insectifera* hybrids (known correctly as *O. ×pietzschii*) that Simon Andrew had shown to several HOS members in Somerset a few years ago (see JHOS Vol. 1 No. 4, pp111-113). As an aside, this hybrid had been reported in southern England at only two locations prior to Simon’s discovery, but his was thought to be the only extant site for this great rarity.

Fig. 5: *Ophrys insectifera*

Fig. 6: *Ophrys apifera*

Figs. 7 & 8: *Ophrys ×pietzschii*

Photos by Tony Hughes

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However, the Cotswolds had a further surprise in store! Despite the trappings and nibblings of the cattle that graze this area, one slightly battered specimen of a hybrid of very different appearance remained fit to be photographed (see Fig. 8). While the structure and markings of the labellum were somewhat similar to those of the ‘normal’ hybrid, the sepals were totally different, closely resembling those of a Bee Orchid (Fig. 6). A further couple of more dilapidated specimens were of similar appearance.

In line with the above arguments, it is tempting to suggest that the seed parent of the previously seen Bee × Fly hybrids with opaque ‘green flushed brown’ sepals is the Fly Orchid, while the seed parent of the new hybrids with translucent pinkish-white sepals is the Bee Orchid. But it must be remembered that this is pure conjecture with no direct evidence to confirm the suggestion. It would be wonderful to know if any of the Society’s ‘laboratory hybridists’ have ever confirmed these possibilities with controlled experiments involving ‘both ways’ pollen transfer. If this hasn’t been done already, then I would encourage our experts to do so as soon as possible, and put some decent experimental science behind these field observations and wild conjectures!

A brief aside on nomenclature of hybrids: the internationally agreed rules for botanical nomenclature were revised and updated at a meeting in Melbourne (2011). Two distinct conventions are permitted for the naming of inter-specific hybrids (i.e. hybrids between two species in the same genus).

In the first case, the names of the two parents are combined as ‘*Ophrys apifera* × *insectifera*’, with the added proviso that, if the seed parent (female) is known, her specific name should be placed first. By this convention, one might refer to the Bee × Fly hybrids with pink sepals as *O. apifera* × *insectifera*, whereas those with the opaque green sepals would be *O. insectifera* × *apifera*. In the second case, where the hybrid has been correctly described and published, a hybrid name such as ‘*Ophrys* × *pietzschii*’ may be used. However, since only one such name is permitted for all hybrids between a particular pair of species, it is then not possible to indicate which is the seed parent.



Fig. 9: *Ophrys insectifera* with *Argogorytes mystaceus*
Photo by Tony Hughes

Finally, this Cotswold colony had one further treat in store for me. Since I first heard the word ‘pseudocopulation’ several decades ago, it has been one of my major ambitions to witness it in any sort of *Ophrys* species. In spite of

spending many holidays around the Mediterranean, frequently surrounded by huge numbers of *Ophrys*, the best I had managed was a fleeting glimpse of a bee on an *O. fusca*, which gave up and flew off before I could even remove the lens cap. My frustration was intense, and my jealousy of those people who have taken wonderful pictures of such happenings was indescribable. But at last my luck was in. Not a yard in front of me was a diminutive wasp (*Argogorytes mystaceus*), attempting to have his way with a Fly Orchid. He was a most obliging fellow, posing for several minutes and not objecting to having a macro lens pushed ever closer (Fig. 9). Finally he moved off, but only to flutter gently to the next flower spike for another attempt. This time he gave up quite quickly and settled in the grass for a quick 'wash and brush-up'. So perhaps my attempts at hand-pollination were not really necessary; maybe the expansion of the Fly Orchid colony was nothing to do with me, but entirely thanks to the efforts of his ancestors. I shall never know!

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