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HARDY ORCHID SOCIETY



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Front Cover Photograph

Barry Tattersall's *Ophrys speculum*, winner of Class 2 in HOS Plant Show 2019

Back Cover Photograph

Barry Tattersall's *Ophrys cretensis*, winner of Class 10 in HOS Plant Show 2019 and "Best in Show" Trophy

Photos by Jon Evans

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 Members' Handbook, website www.hardyorchidsociety.org.uk, 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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Editorial Note

Mike Gasson

First, apologies for the late production of this issue due primarily to unusual pressures on my time this spring and early summer. I have a major commitment to conservation work with several organisations as well as HOS and a series of critical deadlines have had to take priority on this occasion. Anyway, we have another interesting collection of members' contributions this time with two distant travel pieces, one from our Chairman on Helmet Orchids and one from Mike Parsons on Newfoundland. Home base is well covered by an update on David Trudgill's orchid meadow in Scotland and information from Bill Temple on his experiences with Bee Orchids. I have included a review of a very welcome new book from HOS member David Johnson on the orchids of Kent. One sad piece of related news is that Irene Palmer lost her fight with illness earlier this year but had contributed a typically bright chapter to this book on her special interest in the life of Charles Darwin. As always do keep articles coming in so that we can continue to produce an interesting journal.

Chairman's Note
Colin Scruton

We had a very good Spring meeting at Kidlington in March this year. Over 100 members were registered, the largest audience I think since I took over as Chairman. Our President, Richard Bateman, was the judge for the Plant Show and as last year, Steve Pickersgill followed him round with a hand held camera so that the audience could see the winners in each category on the screen. It's quite a job for Steve to move quickly from pot to pot to get a sharp image on the screen whilst the judging proceeds. Richard suggested to me a way in which we could make Steve's job easier in future and we will certainly try it at the meeting next April.

What a difference a year makes. The Early-purple Orchids locally flowered two weeks earlier this year than in 2018 when the "beast from the east" made its presence felt. Although most are going over as I write, we saw a spike still in perfect condition the other day in late May. Most of the rest of the flowering this year seems to be much as usual so far, with magnificent displays of Green-winged Orchids locally in mid-May, although the Bird's-nest Orchids are sparse and late, perhaps because of the lack of rain. Localities rich in this species in late May in previous years had only produced a handful of rather poor spikes by early June. In addition, *Dactylorhiza* hybrids were beginning to show around then, although the parent species were still at the rosette stage. In my rather limited experience, the hybrids always seem to flower before the parent species.

At the AGM we elected a new Publicity and Outreach Officer, Sue Parker. Sue has been busy revising our publicity leaflet and the new edition will be available shortly. She promoted the Society at the National Botanic Garden of Wales at their Wildflowers of Wales Weekend on 22nd and 23rd June. Members of the Society were also on hand to identify orchids in the orchid-rich National Nature Reserve within the Garden. She gave two talks at the meeting on the wild orchids of Wales and where to find them. Also Sue, together with her husband Pat, and Mike Gasson are putting together a completely revised illustrated species list for the website.

We also elected a new Field Meetings Co-ordinator, Richard Kulczycki, at the AGM. He is planning to attend all our field meetings this year and to compile, with the help of leaders, an article on all the field meetings for the journal. Richard has also been trawling past issues of the journal to come up with ideas for future field meetings and hopefully we will see the benefits of his initiative in our programme of field meetings next year.

Despite the atrocious weather, we had nine members at our Stroud commons field meeting. All of us looked rather like drowned rats by the end of the day with the

intermittent heavy rain showers. Still, all seemed to enjoy the meeting and appreciated the generous hospitality of Maureen and Nigel Denman who opened their house for us to enjoy our lunch in their conservatory. Just as we reviewed the orchid flora a couple of days before the meeting, we had a report of a single Lizard Orchid, very rare and seldom seen on the commons. We searched but couldn't find the spike. The day after the meeting, one of the members on the trip tracked it down, although it was not yet in flower. The wardens decided not to protect it and a couple of days later the top of the spike had been removed! Do cows eat Lizard Orchids, or was it a golfer searching for his ball? We just hope it reappears next year.

There are a couple of items I mentioned in my last Chairman's Note which I raise again here. First the Video Competition, which will be held at the Leeds meeting on 7th September. Steve Pickersgill posted details on page 61 of the April issue of the journal. We are hoping for a good crop of videos for the meeting, where they will be judged by the members present. The Tony Hughes Trophy will be presented to the winner. Secondly, we still have had no expressions of interest in either of the posts we need to fill in the near future, that is as Plant Show Secretary and secondly as operator of our PA system at meetings. Do please give some thought as to whether you could take on either of these roles. Contact details were set out in the last issue.

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Please visit my website www.heritageorchids.co.uk. It contains a plant list, descriptions, detailed growing instructions and an order form.

Results of HOS Plant Show 2019

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

1st Barry Tattersall: *Ophrys speculum* (front cover); *Neotinea lactea* var. *alba*; *Orchis italica*

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

1st Neil Hubbard: *Ophrys ferrum-equinum* (Fig. 1); *Ophrys lutea* (Fig. 2); *Orchis italica*

2nd Barry Tattersall: *Ophrys grigoriana*, *Orchis sitiaca*, *Orchis anthropophora*

Class 5: One pot native British orchid

1st Barry Tattersall: *Anacamptis laxiflora* (Fig. 5)
2nd Neil Hubbard: *Orchis anthropophora*

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

1st Mike Powell: *Gennaria diphyllea* (Fig. 4)
2nd Barry Tattersall: *Orchis brancifortii*
3rd Neil Hubbard: *Ophrys bombyliflora*

Class 7: One pot non-European orchid

1st Barry Tattersall: *Satyrium bicorne*
2nd Mike Powell: *Cymbidium goeringii*
3rd Nick Fry: *Diuris corymbosa*

Class 8: One pot *Dactylorhiza*

1st Barry Tattersall: *Dactylorhiza romana*

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

1st Barry Tattersall: *Orchis italica* var. *albiflora* (Fig. 7)
2nd Neil Hubbard: *Orchis anthropophora*

Class 10: One pot *Ophrys*

1st Barry Tattersall: *Ophrys cretensis* (back cover)
2nd Neil Hubbard: *Ophrys tenthredinifera*
3rd Neil Evans: *Ophrys lutea*

Class 11: One pot *Serapias*

1st Mike Powell: *Serapias neglecta* × *orientalis* × *neglecta* (Fig. 8)

Class 12: One pot *Cypripedium*

1st Malcolm Brownsword: *Cypripedium formosanum* (Fig. 6)
2nd Mike Powell: *Cypripedium formosanum*

Class 13: One pot *Calanthe*

1st Malcolm Brownsword: *Calanthe striata* var. *sieboldii* (Fig. 3)

Class 15: One plant or pan of plants raised from seed by the grower

1st Neil Evans: *Ophrys speculum*

Class 16: One pot of any hardy orchid (Beginners' Class open to members who have never won a first prize in a Hardy Orchid Society Plant Show)

1st Mary Pharoah: *Ophrys lutea*

Winner of Best in Show Trophy:

Barry Tattersall for *Ophrys cretensis* in Class 10

Winner of Chairman's Trophy:

Barry Tattersall for *Satyrium bicorne* in Class 7

Most Points & Winner of RHS Banksian Medal:

Barry Tattersall

Thanks to Richard Bateman for judging the Plant Show

Fig. 1: *Ophrys ferrum-equinum* (Neil Hubbard in Class 4)

Fig. 2: *Ophrys lutea* (Neil Hubbard in Class 4)

Fig. 3: *Calanthe striata* var. *sieboldii* (Malcolm Brownsword in Class 13)

Fig. 4: *Gennaria diphyllea* (Mike Powell in Class 6)

Fig. 5: *Anacamptis laxiflora* (Barry Tattersall in Class 5)

Fig. 6: *Cypripedium formosanum* (Malcolm Brownsword in Class 12)

Fig. 7: *Orchis italica* var. *albiflora* (Barry Tattersall in Class 9)

Fig. 8: *Serapias neglecta* × *orientalis* × *neglecta* (Mike Powell in Class 11)

Photos by Jon Evans





A selection of our botanical tours

Autumn flora of the Peloponnese
Crete in Autumn
Drakensberg in South Africa
Cyprus in Spring
Orchids of Rhodes
Flowers of Western Crete
Greek island of Chios
Taurus Mountains in Turkey
The Pontic Alps in Turkey
Kent: Orchid Garden of England
Eastern French Pyrenees

22 - 29 Oct
3 - 10 Nov
14 - 28 Jan
4 - 12 Mar
4 - 11 Apr
12 - 19 Apr
12 - 19 Apr
5 - 12 May
12 - 21 May
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The Helmet Orchids, Orchid Minimalists Colin & Angela Scrutton

Species of the genus *Corybas*, the Helmet Orchids, are tiny, ground-hugging orchids favouring damp conditions under shade. Most grow on or among the leaf litter. They have a single flower, resting on or held slightly above a round to oval or heart-shaped leaf. They are found in south-east Asia, Australia and New Zealand, and associated islands. There are about 135 species altogether, but only 24 in Australia and around 22 in New Zealand on which this article is based. Australian Helmet Orchids are predominately winter flowering whereas those in New Zealand flower later in spring.

Corybas leaves may be quite common in suitable localities but the number bearing a flower varies significantly from species to species and in many cases, large areas of non-flowering leaves can be found (Fig.1), although this is less evident among New Zealand's "Spider Orchids" (not to be confused with the Spider Orchids of the genus *Caladenia* in Australia).



Fig. 1: Non-flowering leaves of *Corybas fimbriata*. North Sydney, NSW, Australia. (Bar 1cm).

Photo by Colin Scrutton

The fascination with this group of orchids lies in the reduction of their structure to the minimum required for pollination. The flower consists of a dorsal sepal capping and often largely covering a well-developed labellum which in most cases almost completely encloses the column. The effect is rather like the fruiting body of a fungus, and the pollinators, at least in Australia and New Zealand, appear to be fungus gnats.

In most species, the lateral petals and sepals are reduced to tiny threads, although they are present as elongated spines in the New Zealand “Spider Orchids”. The group has been split up into several different genera in Eastern Australia and New Zealand but these have not generally been recognised (Chase *et al.* 2015). We have selected a small group of species here to illustrate the range of features in these orchids.



Figs. 2-4: *Corybas aconitiflorus*. Figs. 5, 6: *Corybas fimbriata*.

Both North Sydney, NSW, Australia. Bars on figures 1cm.

Photos by Colin Scrutton

Corybas aconitiflorus (Cradle Orchid) is a good example of the core group of Helmet Orchids which have a wide distribution across the range of the genus (Figs. 2-4). There are six species in eastern Australia and one in New Zealand. The dorsal sepal is curved over to the extent that it is difficult to see the internal features without manipulation. When visible, the labellum is a pinky-white inflated structure with a central depression and a textured surface with very short bristles. It has a pair of auricles extended as basal spurs. The sepals and petals are very short and hidden at

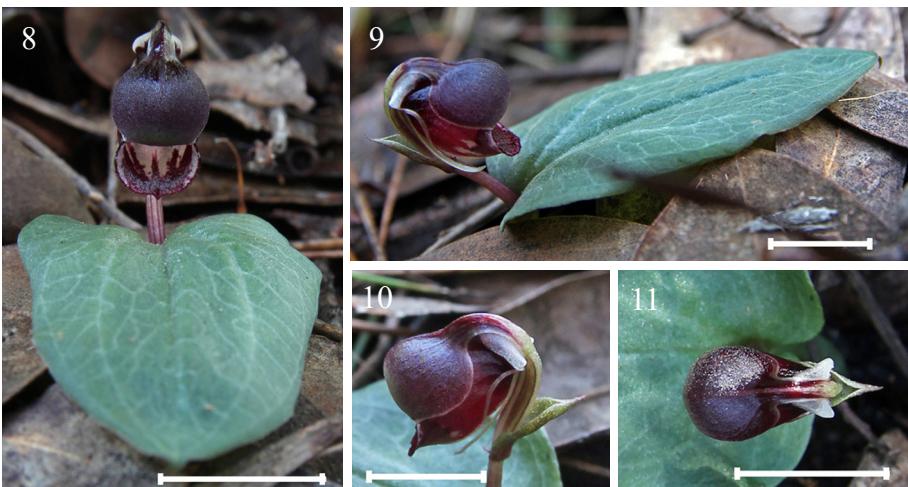
the base of the labellum. The Cradle Orchid is widespread and common in Eastern Australia.



Fig. 7: *Corybas recurvas*. Margaret River, Western Australia. Bar 1cm.

Photo by Colin Scrutton

Species with a spiny or digitate edge to the labellum and strongly reduced lateral sepals and petals appear to be absent from New Zealand but are common and fairly widespread in Australia, with about 13 species in the east and two in the west. Most have many non-flowering leaves. *Corybas fimbriata* (Fringed Helmet Orchid), present from Queensland to Tasmania across eastern Australia, has particularly long, narrow spines rimming the labellum, which is domed in the centre and bears distinctive scattered purple spots (Fig. 5). The much reduced lateral sepals and petals are hidden behind the labellum, but are clearly visible at the base of the flower as fine, white threads in *Corybas recurvas* (Western Helmet Orchid, Fig. 7). {In one location this species has colonised the trunk of a grass tree (Fig. 16) where around half the leaves support flowers}. This species generally seems to have a higher percentage leaves with flowers based on our experience. Both have a similar appearance in side view, showing the labellum expanding from a tubular base near the top of the flower, leaving narrow side openings between it and the dorsal sepal (Fig. 6).



Figs. 8-11: *Corybas unguiculatus*. Shoalhaven area, NSW, Australia.
Bars on figures 1cm.
Photos by Colin Scruton

A third, smaller group of Helmet Orchids, with just six species in Australia and two in New Zealand, have a particularly distinctive morphology. *Corybas unguiculatus* (Small Helmet Orchid or Pelicans) is widespread and sometimes common in south-eastern Australia (Figs. 8-11). It has a reduced, bulbous, dorsal sepal from which the labellum extends below as a tubular structure, rimmed by fine spines. The flower is held somewhat higher above the greyish-green elongated leaf than in the previous species. There is a row of fine, dark, reddish-brown spines in the centre of the inner lower wall of the labellum, with two rows of finer calli on either side. The labellum extends backwards in a pair of triangular auricles which project sideways from the narrow basal tongue of the dorsal sepal (Fig. 11). The latter rests on a slightly curved ovary above a triangular bract. The reduced sepals and petals are clearly visible more or less parallel to the lower margin of the labellum, with the shorter lateral petal above and the lateral sepal about twice the length below (Fig. 10).

There are about 16 species of Spider Orchids in New Zealand, represented first by *Corybas oblongus*, a species found on the damp margins of forest tracks (Figs. 12-13). Here, the flower is held well above the leaf, with an elongated ovary clearly visible above the stalk. The leaf is elongate oval, green, and varying from virtually unmarked to heavily ornamented with purple spots and lines. The dorsal sepal is a curved, narrow translucent plate arching over the labellum, which is slightly shorter, tubular and rimmed with fine spines. The lateral petals extend sub-horizontally as elongate fine spines, whilst the lateral sepals, just slightly longer, extend diverging

forwards and raised about 45 degrees. In *Corybas rivulare*, in contrast, the labellum is tapering and trough-shaped, with the narrow dorsal sepal only loosely arched above (Fig. 14). It grows on river banks under light bush and is significantly larger than the other species considered here.



Figs 12-13: *Corybas oblongus*. Wairakau, North Island, New Zealand. Bars on figures 1cm.
Photos by Colin Scruton

Finally, after fertilisation and the decay of the flower, species of *Corybas* maximise seed dispersal by rapidly extending the stem, raising the seed capsule up to 30 cm above the ground. *Corybas cheesemanii* (Fig. 15) manages an extension of 20cm. An impressive sight!

Acknowledgements:

We thank Andrew Brown (Perth, WA) and Alan Stephenson (Nowra, NSW) for valuable locality information, and our Sydney friends, John Pickett and Ross Donald for many happy days hunting orchids in the bush.

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Fig. 14: *Corybas rivulare*. Mangamuka Gorge, North Island, New Zealand.

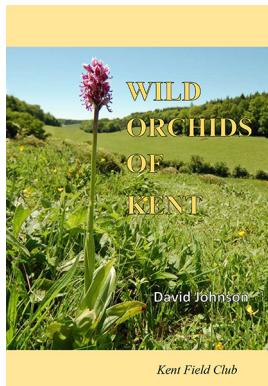
Fig. 15: *Corybas cheesemanii*. Cape Maria van Diemen, North Island, New Zealand.

Fig. 16: *Corybas recurvas* colonising the trunk of a grass tree. Margaret River, Western Australia. Grass tree 2m high. Bars on figures 1cm.
Photos by Colin Scruton



Book Review: *Wild Orchids of Kent*

Mike Gasson



Wild Orchids of Kent by David Johnson

Published by Kent Field Club

ISBN: 978-0-956-1926-77

225pages with colour illustrations and distribution maps

Available for £17 from Kent Field Club online shop:

kentfieldclub.org.uk

This new county orchid flora written by David Johnson fills an important gap in the available detailed guides dedicated to specific orchid-rich areas of the UK. In terms of interest and rare species Kent represents one of the very best orchid counties, arguably only challenged by the Chilterns in terms of its broad appeal. Indeed it has been a pilgrimage destination for me and doubtless many other orchid enthusiasts. David is a locally-based HOS member with a deep and extensive knowledge of Kent orchids. Some will remember his authoritative article on Lady Orchids that was published in *JHOS* back in 2012.

The book begins with an interesting illustrated chapter that reviews the orchid-relevant botanical history of the county featuring some noteworthy characters. One of these, Charles Darwin, merits his own following chapter contributed by Irene Palmer, an acknowledged expert on the great man and this is a typically beautifully written contribution. Chapters on the main orchid-rich sites, variation in Kent orchids and distribution mapping precede a checklist and sections on individual orchid species. The latter include detailed distribution maps that draw on the work of Geoffrey Kitchener and the Kent Botanical Recording Club for recent data (2010-2016) but also include comparative historical records all presented at the tetrad level. Each orchid species has a detailed and informative text that is supported with multiple photographs. Bringing up the rear is a detailed bibliography and glossary.

Stealing a Charles Darwin quote from the book's back cover "Kent appears to be the most favourable county in England for the order [Orchidales]" and it now has a long overdue orchid county flora. This is an invaluable publication for orchid enthusiasts and a must for those visiting the county. It is a nicely produced soft-back with comprehensive and well-researched information as well as a wealth of illustrations. My only mildly critical observation is that by today's best examples a few of the photographs appear a little dark and soft-focussed but this does not detract from an excellent guide that is thoroughly recommended.

Establishment of Pyramidal Orchid and Broad-leaved Helleborine in Our Meadow in Scotland

David Trudgill

I have written about the orchids in our meadow in a previous article (Trudgill 2015). Here, I consider the time taken for the development from seed to flowering plant for two recently established species – *Anacamptis pyramidalis* (Pyramidal Orchid) and *Epipactis helleborine* (Broad-leaved Helleborine). It is possible to establish a timeline for their development because both species have been grown from seed spread over the meadow. Our meadow (area < 0.2 ha) is near Blairgowrie (lat. 56.6N) and is situated on the north bank of the Lunan Burn between lochs Clunie and Marlee. It is about 40km inland from the east coast of Scotland at an altitude of about 50m. The soil is mainly a light loam with a pH of around 5.7. Prior to the late 1990's it was in an arable-grass rotation, but since then it has been developed as a wild-flower meadow. Since 2002 we have grown twelve orchid species to flowering, ten from seed broadcast across the meadow, usually in the autumn. One further species, *Dactylorhiza purpurella* (Northern Marsh-orchid), was already present before 2002 and another, *Neottia ovata* (Twayblade), recently arrived naturally. Management mainly consists of cutting the meadow in late August or early September to make hay which is then removed. Additionally, in August 2015 the turf was stripped from a small area (10m × 5m) to the north side of a Birch tree (*Betula utilis* var. *jacquemontii*) and dolomitic limestone and limestone chips (approximately 10kg/m²) spread across the surface. Establishment of Pyramidal Orchid and Broad-leaved Helleborine in this area gave a time-line for their development. Plants of *D. purpurella* and *D. fuchsii* (Common Spotted-orchid) also appeared in this area.

Pyramidal Orchid is a 'winter-green' species that in Scotland is mostly found along the coast (see BSBI maps). In western Scotland it is distributed throughout the Western Isles as far north as Lewis (lat. 58.3N), but on the mainland it is now found only as far north as Ayrshire (lat. 55.3N). However, in the period 1987-1999 it was recorded from just south of Cape Wrath (lat. 58.4N). In eastern Scotland it was recorded in the same period from the coast just north of Montrose (lat. 56.7N) but in recent years the most northerly record is from the south of Arbroath (lat. 56.5N). Prior to its establishment in our meadow the most northerly inland site was near Hawick (lat. 55.5N).

A small amount of seed of Pyramidal Orchid (from 2-4 capsules), supplied by Tony Heys of 'Orchid Meadow' was first spread in December 2014. More was spread in 2015 and 2016, all from sources in England. In late February 2017 I discovered a group of eight small orchid plants to the north-west of a large Willow tree. These were tentatively identified as Pyramidal Orchids and this was confirmed in late June 2017 when one of these plants flowered. In the spring of 2018, in the same area to

1



2



the north-west of the Willow, I found 21 plants of Pyramidal Orchid. The same plant flowered again in 2018 and was joined by two others.

A search of the meadow in February and March in 2019 revealed a substantial increase in the numbers and distribution of Pyramidal Orchids. In addition to the group by the Willow, four additional, widely spaced groups of small plants with characteristic leaf rosettes comprising 2 to 4 narrow, often twisted leaves were found (Fig. 1). One group comprised only 3 plants, but the others had twenty to thirty plants packed together in a small area (from 0.5m² to 2.0m²; Fig. 2). The group by the Willow had increased to around 50 plants and expanded to occupy an area of some 30m². One of the new groups was in the area from which the turf had been removed in August 2015. In June 2019 fifteen plants flowered (Figs. 3 & 4), twelve in the group by the Willow (including the plant that flowered in 2017) and three in one of the new groups (not where the turf had been removed). As the Pyramidal Orchid seed had been spread widely across the whole meadow the over-riding impression is one of there being a few, small areas that are highly favourable to Pyramidal Orchid in a much larger area that is not favourable.

The success of Pyramidal Orchid in our meadow was a surprise. It clearly demonstrates that it will grow in our part of Scotland and its absence is unlikely to be because the climate is unfavourable as in 2018 a cold winter and spring ('beast from the east') was followed by a summer that was unusually warm and dry. The most logical conclusion is that its absence from north-eastern Scotland is due to a lack of seed reaching sites where the management and soil environment (including mycorrhizal fungi) are favourable to its establishment and growth (Trudgill 2015). Its apparent absence in western Scotland from most of the mainland is more of a puzzle as some coastal areas appear similar to those on the islands where it is present.



Fig.1: Pyramidal Orchid leaf rosettes in spring of 2019.

Fig. 2: White labels mark the positions of Pyramidal Orchids in one of the aggregated groups in the spring of 2019. The next group is about 10m away.

Fig. 3: Pyramidal Orchid July 2019.

Photos by Dave Trudgill (Figs. 1 & 2) and Ian Galbraith (Fig. 3).

4



5



Broad-leaved Helleborine (BLH) is dormant in the winter, the shoots only emerging in the spring and, although locally scarce, it is widespread in central Scotland. Seeds of BLH were first broadcast in the autumn of 2016 when seed from about 10 capsules was spread, concentrating on the areas close to the Willow and the area beside the Birch tree from which the turf had been removed in 2015. No BLH were observed in 2017 or 2018 but in the spring of 2019 ten plants appeared, four on one side and six on the other of the Birch tree, all in the area from which the turf had previously been removed. The plants that emerged were between 2 and 3 metres from the Birch tree and four were large, very much larger than those of the Pyramidal Orchid. Seven of these plants flowered in 2019 (Figs. 5 & 6) and this, and the large size they achieved in less than 3 years, indicates a major contribution of nutrients from their associated mycorrhizal fungi, presumably acquired from the adjacent Birch tree?

In 2019, in addition to the BLH, one plant of Common Spotted-orchid, one of Northern Marsh-orchid, and a *Dactylorhiza* hybrid also flowered in the area from which the turf had been removed in August 2015.

In conclusion, we have now grown twelve orchid species from seed in our meadow, and it is producing interesting insights into orchid biology. Nothing was planned, other than to explore what species we could grow from seed broadcast across the meadow. In retrospect, it was a ‘good’ idea to remove the turf from the area by the Birch tree, but I did not do this because I wanted to establish a time-line for orchid development. Rather, I did it because this was a part of the meadow that had never been mown and I wanted a ‘clean’ start. I also hoped it would decrease the fertility of the soil. It was, therefore, a bonus that it gave me such a clear insight into rates of orchid establishment and development. In hindsight, even more could have been achieved if we had taken a more planned approach from the start. With this in mind, I can supply seed of several species to any members of the HOS who are planning a wild flower/orchid meadow.

Reference

Trudgill, D.L. (2015) Orchid spread – Is it OK to give a helping hand, and is it needed? *JHOS* 12(4): 124-131.



Fig. 4: Pyramidal Orchids, July 2019.

Figs. 5 & 6: Broad-leaved Helleborine, July 2019.

Photos by Ian Galbraith (Fig. 4) & Dave Trudgill (Figs. 5-6)

***Ophrys apifera* - the Bee Orchid**
Bill Temple

Apart from seeing it in the wild, my introduction to this plant was the purchase of a flask of seedlings from a member of the society. Weaning these more than twenty years ago was a bit of a challenge and only one survived. I grew it in a pot on the windowsill of a north facing window. After a few years it was producing spikes of 12-15 flowers every year until I decided to plant it in the garden. In its first year in the garden it gave every impression of going to continue to produce its normal number of flowers until the first flower started to open, at which point a rat decided to make itself a hole in the garden and tunnelled straight through the tuber.

During its time on the windowsill I learned that if not manually pollinated the plant did not set seed, I also learned that it is possible to obtain a single flower on a spike that is of the variety *belgarum* one year and have all normal flowers on the spike in subsequent years. The existence of relatively stable populations of plants that are variety *belgarum* in the site that I study suggests that if a mutated flower produces seed the offspring may be permanently mutated. Some years ago I obtained seed of varieties *trollii* and *bicolor* from a colony on private land. Ted Weeks propagated that seed and found that the offspring were of the same variety as the mother.

If you have one in a pot you will rarely ever obtain more than one replacement tuber unless you give it a little fertiliser; in a garden this would encourage the surrounding vegetation to produce rank growth to the detriment of photosynthesis in the orchid so it is not a good idea.



1

I have been involved with a site for Bee Orchids in Oxfordshire for twelve years and before that I was involved with another site for Bee orchids. The site that I am currently involved in contains more than a hundred colonies of orchids and currently totals more than 9000 plants. These orchids start to appear from early September and others in the same colony may not appear until February.

Fig. 1: *Ophrys apifera* var. *bicolor* Fig. 2: *Ophrys apifera*
Fig. 3: *Ophrys apifera* var. *trollii* Fig. 4: *Ophrys apifera* var. *belgarum*
Photos by Bill Temple

Over the years I have learned a number of things about these orchids. Perhaps the most important is that the best estimate of the number of orchids is obtained by counting the number of plants visible in February. At that time of year the leaves are silvery in appearance and therefore easier to distinguish from Plantains. This silvery colour starts to diminish in March at this site so that February is the best compromise between visibility, late emergence and rabbit predation. Naturally this conclusion only applies at sites that contain one species of *Ophrys* unless you have individual plants permanently labelled. It would of course be difficult and possibly dangerous to do this at sites accessible to the public with several species of *Ophrys* present.

In order to obtain a more accurate estimate of the actual number of plants I mark each



Fig. 5: Marked Bee Orchids ready for counting.

Photo by Bill Temple

orchid that I find with a white plant label (Fig. 5). This prevents double counting and allows me to take a photograph that I can use the next year to allow me to look for the individual plants in some colonies. I actually do the counting when I remove the labels rather than when I put them in as removal is the quicker process of the two. These orchids require a symbiotic fungus in nature in order for the seed to germinate so the long-term viability of the colony depends on the continued presence of the fungus. That however does not appear to be the only requirement as water availability

during the growing season is critical. If there is a drought in the first third of the year, as has been the case in this part of the country in recent years, many of the plants will turn yellow, brown, then black and vanish. When this happens a proportion of the plants become pseudo-dormant and do not reappear for a year or two. On rare occasions, they may not appear for five or more years. When I say water availability I mean water that is available to the plant. This is influenced by rainfall, the water holding capacity of the growing media, shade and the topography. In practice this means that one colony can produce a high percentage of flowers while another only 5m away can have no orchids visible at flowering time.

If drought occurs when the plants are about to flower the consequences may be more permanent. It is possible that the orchid uses all its reserves from both the current and the replacement tuber to produce seeds. This seems to result in the death of the plants, or at the very least, pseudo-dormancy that lasts longer than I have been able to follow the colony.

Although I do actually count the number of flowering spikes, most years it is very clear that it gives no indication of the actual size of the colony, only an "at least x" figure. While it is interesting to track the number of flowering spikes in order to see how much seed could be produced it is usually more an indicator of water availability than colony size.

Another thing that I have learned about this species is that with its basal rosette of leaves it cannot compete with rank vegetation so it is most at home in lawns or meadows grazed by rabbits or sheep. There is a tendency for members of the public who find that they have these orchids on their property to ignore my advice to keep the area mown until the flower spike starts to appear and to re-start mowing as soon as the seed pods turn brown. Instead, they decide that it is a wild flower so it must be grown in a wild garden and remain un-mown. A single year of that treatment can result in a colony of over 300 flowering plants being reduced to fewer than 30. Cutting the long grass after flowering and leaving it *in situ* after the leaves have emerged is an effective method of destroying a colony too.

In situ multiplication can be attempted by making a shallow V-shaped groove with a pocket knife near the parent plant and sprinkling the seed in that before closing up the groove again.

HOS Photographic Competition 2019

Entry details for the competition at Kidlington, November 17th 2019

E-mail notification of entries for print classes to Neil Evans by 6th November 2019 at neilevans@hardyorchidsociety.org. E-mail digital entries to Neil by 16th October 2019. For entrants who are unable to attend the meeting Neil will accept postal entries by the same date, with SAE if return of pictures is required. Please email Neil for the address for postal entries.

There has been a change in rule 13 to the following:

"Techniques that enhance the presentation of the photograph, without changing the story of the picture, are permitted including HDR, focus stacking, dodging/burning, and limited manipulation to remove distracting items. Techniques that remove elements added by the camera, such as dust spots, digital noise, and film scratches, are allowed. All allowed adjustments must appear natural. Stitched images are not permitted. Colour images can be converted to greyscale monochrome. Infrared images, either direct-captures or derivations, are not allowed."

Two new classes have been added:

19: A hardy orchid subject that has been manipulated creatively using any advanced software technique to create an artistic image, in JPEG form.

17: Novice Class, any hardy orchid, in JPEG form (see Rule 12).

The full Schedule of Classes and Rules can be found on the website:

<http://www.hardyorchidsociety.org.uk/HOS%201012/PhotoCompIntro.html>

Newfoundland 3-13th July 2017

Mike Parsons

For many years my wife Carol and I have been planning to go to Newfoundland so when our relatives in Toronto invited us to join in Canada's 150th anniversary celebrations we thought it was a good time to arrange a multi trip holiday to enable us to do both. We enjoyed the celebrations in Toronto where we ended up on a boat around Lake Ontario with a firework display and a large rubber duck lingering in the port. Newfoundland was originally discovered by the Vikings who had a settlement on the northern tip of the island called L'Anse aux Meadows and then John Cabot claimed the island for the UK in 1497.

After leaving our relatives we headed for Deer Lake airport, on the west side of the island, and then Corner Brook, the second largest town. We met our friends Rita & Eric who had arrived from Toronto earlier to book the van and the accommodation. We had been collecting notes on the orchids of Newfoundland for many years and had found that the best sites were on the west side of the island where there were many different environments. Over 40 species of orchid have been found on the

island and we hoped to find as many of the species as we could. We arranged our trip for the first week in July which is normally the best time to see the swathes of orchids, but it did not go to plan as they had had the worst winter for some time and all the flowers were roughly two weeks behind. Accommodation was hard to find as there are few hotels and many are booked up early as the fishing season is active at this time. Restaurants en route were few and far between but they were very friendly and the fish was the best we had ever tasted.

Our friends were keen to get going so we loaded our luggage into the van and set off for the River Lomond Reserve. Following the boardwalks we found many showy Lady's-slipper Orchids, *Cypripedium reginae*, many of them just emerging. Further down were some Spotted Coralroot Orchids, *Corallorrhiza maculata*. In a camp site nearby, we were enraptured by many Striped Coralroot Orchids, *Corallorrhiza striata* var. *vreelandii*, in an albino form and next to them, behind some camper vans, were Western Coralroot Orchids, *Corallorrhiza occidentalis*, a long way from the Rocky Mountains where they normally belong. In the far corner were some early Coralroot Orchids, *Corallorrhiza trifida*, but they were a strange greeny colour. In the evening we headed to the far corner of the inlet to Discovery Bay and found some Pink Lady's-slipper Orchids, *Cypripedium acaule*, in the woodland area.

So, a good start for the first day. We decided to head north to find the early species and hoped that the later ones would be in bloom on our return. On the way we found lots of bogs covered in Dragon's-mouth Orchid, *Arethusa bulbosa*, a very pretty and normally rare orchid, but not here. As there were so many there were

several variations of the dragon-like orchid including *Arethusa bulbosa* var. *albiflora* and *Arethusa bulbosa* var. *subcaerulea*. Other orchids just coming into flower in these areas were Pine Pink, *Calopogon tuberosus*, Rose Pogonia, *Pogonia ophioglossoides*, and Club Spur Orchid, *Platanthera clavellata* which are all quite common on the mainland. Also in these areas were White Fringed Orchid, *Platanthera blephariglottis*, a very striking orchid with a fringe-like an eye lash as its Linnaean name suggests.



Fig. 1: *Arethusa bulbosa* var.
albiflora

Photo by Mike Parsons

Our route took us north through Gros Morne National Park and on to Port au Choix where we visited the welcome centre for information on their parks. Although early we did find many of the woodland species. These were

mainly the large butterfly type orchids Pad-leaved Orchid, *Platanthera orbiculata*, and its big brother Goldie's Pad-leaved Orchid, *Platanthera macrophylla*, which we managed to see with an open flower on our return. En route, often beside the road, were the very common green orchids *Platanthera aquilonis* and *Platanthera huronensis*. *P. huronensis* seemed to be just larger than *P. aquilonis*. These orchids often mix with the very common White Northern Bog Orchid, *Platanthera dilatata*, with which they often hybridise.

At Port au Choix we were in for a treat as it was the main area for the Yellow Lady's -slipper Orchid, *Cypripedium parviflorum* var. *pubescens*, often with the small Northern species of *Cypripedium parviflorum* var. *makasin*. They were found in clumps all over the place. It was here we found about ten species of orchid including the extremely rare Newfoundland Orchid, *Pseudorchis straminea*, very similar to our own *Pseudorchis albida* but just a shade more yellow. In the woods was another green orchid, the Blunt-leaved Orchid, *Platanthera obtusata*, with Heart-leaved Twayblade, *Neottia cordata*, and lots more *C. trifida*. Further on was Hooker's Orchid, *Platanthera hookeri*, another tall green orchid with a hook on its lip but the orchid was named after a well-known botanist rather than the hook on its lip. This orchid is quite rare but wide spread and often found with White Adder's-mouth Orchid, *Malaxis brachypoda*, a very small orchid similar to the European version.

Further north we stayed at Plum Point and met up with some more friends on a similar mission. The weather had worsened but we did manage to get out and see the basal leaves of the Rattlesnake Orchid, *Goodyera repens* var. *ophiooides*, another orchid similar to ours but with lovely chequered leaves. We used this area as our base for a few days as we wanted to head further north to Burnt Cape, a small peninsula near Rayleigh, which was limestone and rich in orchids. We had a good day there and the weather turned in our favour. It wasn't long before we found a new set of orchids including the very pretty Round-leaved Orchid, *Amerorchis rotundiflora*, on the beach and the cliff tops with both types of frog orchid, *Dactylorhiza viridis* and the long bracted frog orchid *Dactylorhiza viridis* var. *virescens*. We found basal leaves which could have been the Broad-lipped Twayblade, *Neottia convallarioides*, or perhaps the Northern Twayblade, *Neottia borealis*.

The speciality on this peninsula are the Calypso Orchids, *Calypso bulbosa* but this year the only ones we could find were by the beach in open areas whereas I am used

Fig. 2: *Platanthera blephariglottis*

Fig. 3: *Cypripedium reginae*

Fig. 4: *Cypripedium acaule*

Fig. 5: *Corallorrhiza striata* var. *vreelandii*

Photos by Mike Parsons



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to seeing them in woodland conditions. Even though the orchids were out in the open only one showed any sign of blooming within a day or two. This orchid is normally one of the early bloomers so to find them in this condition was a surprise but I suppose with icebergs still flowing past the tip of the peninsula it was to be expected. En route to our hotel we stopped to look at the stones known as thrombolites by the coast. Apparently, this area is the only place, apart from one site in Australia, that has these unusual rocks. It felt strange to walk on such once living creatures.

It was now time to head south passing through the raised bog at Table Point and the beautiful area around Arches Provincial Park, re-visiting some of the sites and finding the orchids previously mentioned making spectacular swathes of colours over areas which were looking bleak earlier.

We reached Corner Brook and made it our base for the next few days so we could get off to a good start on the south western areas. The southern tip was our first choice, J T Cheesman Provincial Park, but although the weather became very warm and sunny we were still too early for most of the orchids. We did find a rare form of *Platanthera*, *Platanthera orbiculata* forma *lehorsii* in bloom with *P. dilatata*. Our next stop was in the Conroy Valley where we were in luck and did find the first blooms of the very pretty Small Purple Fringed Orchid *Platanthera psycodes* near the beach where arctic terns were guarding their nests. We explored other areas near Kippens but the only new find was the Green Adder's-mouth Orchid, *Malaxis uniflora*, which we found quite often but they are so small that you really need to get your eye in to spot them. The next day we visited the Barachois Pond Provincial Park on another nice day. We walked by the lake and found the buds of the Large Purple Fringed Orchid, *Platanthera grandiflora*, and the Ragged Fringed Orchid, *Platanthera lacera*, with Rose Pogonia.

It was now time to head to the capital, St John's, for our flight home to London. It would be a long journey as it takes at least seven hours to cross the island. There was one more stop I wanted to make so I persuaded our friends to go off route to Tilt Cove, an old copper town on the Baie Verte peninsula, well known for having *Dactylorhiza praetermissa* in the district. These orchids have been recorded here for over 100 years but the suspicion has been that they arrived from the UK with grain. It was a good experience to find this site and we were lucky to find one of the orchids with its first flower.

Fig. 6: *Amerorchis rotundiflora*

Fig. 7: *Neottia cordata*

Fig. 8: *Cypripedium parviflorum* var. *pubescens*

Fig. 9: *Dactylorhiza praetermissa* var. *pardalina*

Photos by Mike Parsons

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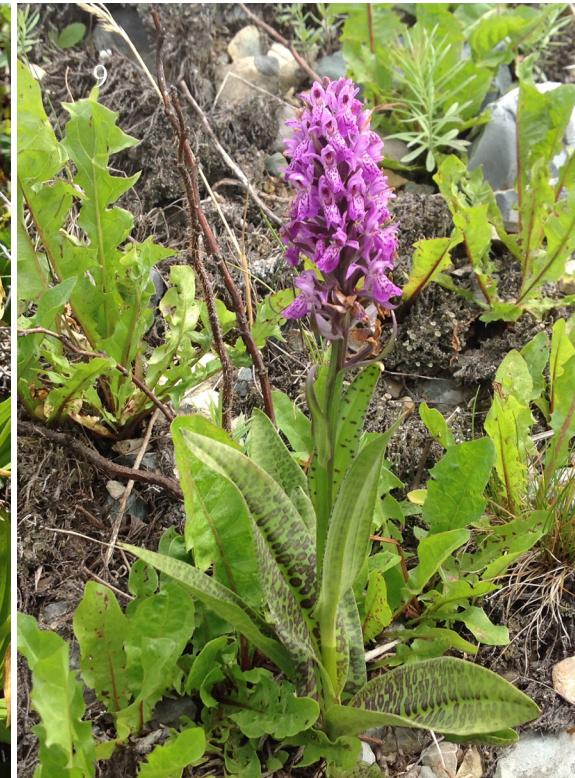
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There were icebergs in the harbour next to the old mining wharfs. This mining town now has only four inhabitants, one of whom greeted us with coffee and treated us to a look around his man cave which consisted of many tourist items. They also have a museum with lots of information about the town's mining era. We reached St John's but there was still one orchid that we wanted to find which had been recorded in Pitty Park in the central part of town. The orchid is known here as the Leopard Marsh Orchid, *Dactylorhiza praetermissa* var. *pardalina*, but it looks like a hybrid to me. These orchids have been known here for some time and have spread rapidly. We didn't find any in Pitty Park but by the roadside, so it was difficult to take pictures while traffic was whizzing around.

We eventually reached the airport and said goodbye to our friends. We felt that we had a great holiday but should have made it longer. It was ample time for our trip but with the weather against us it was always a rush to keep to a schedule.

HOS Scientific Show 2019

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 on 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. Please let Neil Evans know, by 5th November 2019, 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 include your name on the display. If you wish to contribute to the show but are unable to attend the meeting at Kidlington please contact Neil Evans to discuss ways of getting your contribution to the meeting.

New Conservation Project with Green-winged Orchids Bill Temple

I have started a HOS conservation project for the Northumberland Wildlife Trust to re-introduce Green-winged Orchids to one of their former sites (they are currently extinct in Northumberland). The National Trust has kindly provided seed from a colony of Green-winged Orchids growing in the area of Silverdale. There are five society members trying to germinate the seed plus Writlington School.

Green-winged Orchid
Anacamptis morio
Photo by Mike Gasson



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