

**Journal
of the
HARDY ORCHID SOCIETY**

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Front Cover Photograph

Yellow form of *Ophrys apifera* growing close to Sizewell Nuclear Power Station photographed by Johan Hermans. See page 96 for the article by Clare Hermans on East Anglian orchids.

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

I have included something a little different in this issue in the form of some artwork from Ingrid Katarina Karlsson. Ingrid is a talented mixed media artist who I have followed for some time and indeed my house is lifted by the presence of several of her prints. When her recent interest in endangered species was extended to include orchids it seemed a good opportunity for *JHOS* to include an example of her work. Ingrid has many memorable achievements that include featuring on BBC’s Country File as a narrative artist; being the Buxton Festival cover artist; and exhibiting in her home town, Umeå, for the European Capital of Culture year.

Elsewhere we have several more typical *JHOS* contributions, including a major article on the orchids of East Anglia from Clare Hermans, an analysis of the colour forms of Marsh Helleborine from Richard Mielcarek and thoughts on the impact of altitude from Steve Tandy. Overseas orchids are covered in an optimistic piece from Phillip Cribb on how orchid sites in Delphi are recovering from past unsympathetic management.

Chairman's Note

Carol Armstrong

Welcome to a summer that has almost given us a return to normal. The HOS Committee successfully prepared online versions of our activities during the lockdown and they are now providing a more familiar programme to engage with our membership. Though sometimes it has seemed very challenging as we emerge from the tight restrictions that had governed our every move (literally), we have been able to plan cheerfully to travel both at home and abroad. At home, we have seen live plants shows return to the calendar as well as our field trips and indoor meetings.

Congratulations to Steven Clements, the overall winner of our plant show and to all who exhibited plants. Thanks to Neil Hubbard for organising his first show for HOS and Diane Clement for judging. It was inspiring to see the plants that come into flower later in the season.

At the AGM I thanked Committee members who had originally expected to step down in 2020/21 but volunteered to stay in post. I am happy to announce that Christopher Snelson joins the committee as our Treasurer. Christopher has also stepped into the Sound Technician role for the Kidlington Southern Meetings. Charlie Philpotts is co-ordinating our use of the equipment available at St Chad's, Leeds for the Northern Meeting. At the AGM it was proposed that a deputy to the Conservation Officer be appointed and Mike Waller was confirmed in the new post. However, I still need a member to offer to become our society's indoor meetings projectionist and also a co-ordinator for the Video Competition presentation. These roles can be combined. Steve Pickersgill has lent his skills to our meetings for several years now and will seek to step-down this year. If you are interested please contact Steve or any member of the Committee. We cannot run our indoor meetings without a projectionist, so please consider offering to undertake these positions.

The Hardy Orchid Society Conservation Grant applications closed on July 31st so I am looking forward to hearing from our expert assessors about the conservation project that is going to be given a grant so that they can start or advance a scheme to benefit native wild orchids. In the area of conservation we have the expertise within the membership to advise on raising plants for re-introduction and also a voice to express dismay about the futility of thefts of orchids from the wild. Bill Temple provided comment to a national newspaper last month after members expressed concerns about an increase in the disappearance of wild plants. There are laws that protect certain vulnerable species, making their theft a criminal offence. If appropriate, HOS will offer a reward where information leads to a conviction. Enjoy the rest of the summer. I hope I will see you in Leeds or Kidlington, ready to enjoy the indoor meetings and each other's company.

The Many Colour Forms of Marsh Helleborine
(*Epipactis palustris*)
Richard Mielcarek

Epipactis palustris, Marsh Helleborine, is one of our more widespread *Epipactis*; the BSBI distribution maps show records from 517 hectads across the UK. It is also one of the more colourful species. The normal form has a brownish purple ovary, greenish-yellow sepals flecked with purple on the outer surface and more solid purple on the inner surface, white petals flushed pinkish purple at the base and a white hypochile with bright purple veining on the inside. These colours can vary considerably, both between and within colonies (see Figures 1 and 2).



Figs. 1 & 2: North Somerset, showing how plants at a site can vary in colour.
Photos by Richard Mielcarek

Over the years a number of different forms have been named. For example, Höppner (1925) lists 14, at varying ranks from *lusus* through *forma* to *variant* but most of these are no longer in use today. Those that are in use are often used incorrectly, particularly here in the UK. Lewis and Mielcarek (2021) seeks to clarify the situation and the aim of this article is to provide a simplified overview of six, all at the rank of

3



4



forma, from a UK perspective. Of course, with colours being dependent on pigment levels, in practice there is a whole cline of differently coloured plants and it is hard to categorise boundaries.

f. *ochroleuca*

This is the most well-known, and probably the most widespread, of the named forms. It was first described in Barla (1868) as having ‘sepals and petals yellowish-white. Labellum white; epichile stained yellowish at base. Ovary of a very clear yellowish-green’. There are similar descriptions in Höppner (1925) and Camus (1929) and all consistently suggest the flowers are essentially yellow with no mention of any red or violet, in fact Höppner (1925) specifically says ‘all red or violet is lacking’. Plants matching this strict description are scarce but can be found (see Figures 3-5). Similar photographs can be found on a number of websites, some labelled as *ochroleuca*, others ‘green-white form’ or ‘without red’. Such plants are probably restricted to a small number of sites in the UK.



Figs. 3 & 4: *f. ochroleuca* from South Wales. A few pale plants at this site fit the original strict description, either lacking the veining inside the hypochile completely (Fig. 3) or it is golden rather than purple (Fig. 4).

Fig. 5: *f. ochroleuca* from South Wales, showing how the whole plant is yellowish.
Photos by Richard Mielcarek

However, more recent field guides often treat any plant with yellow sepals as *ochroleuca*, irrespective of the presence of purple veining inside the hypochile. So how did this change come about? Landwehr (1977) possibly started the trend – although he listed *ochroleuca* Barla (1868) as one of his colour forms, and said the flowers were ‘yellowish’, his plate captioned as this form shows traces of purple in the ovary, inner sepals, petals and bright purple veining inside the hypochile, well outside the original description. Conversely, Nilsson (1977), Lang (1980) and Davies & Huxley (1983) are all in the no red camp, although the latter includes a photograph showing faint purple veining on the hypochile and petals.

More recently, although both Lang (2004) and Foley and Clarke (2005) say it lacks the red-brown colours, the photographs in both show purple veining on the inside of the hypochile. Jenkinson (1995), Ettliger (1997) and Harrap (2005) all specifically mention the purple veining being retained.



Fig. 6: South Wales, f. *ochroleuca*, an example with the purple veining inside the hypochile
Photo by Richard Mielcarek

Although Barla (1868) did not specifically mention the veining in his written description, the accompanying plate shows it being retained but the colour is unclear in the illustration. Given this, and the current confusion as to what actually constitutes this variant, *ochroleuca* has recently been redescribed to include the veining (Lewis & Mielcarek 2021). However red tones must be limited to the flower and not in the sepals or ovary. Intermediate pale forms, still with small amounts of dark pigment in the ovaries and sepals, and so outside this form, do occur.

It is unclear how common this form is but many authors suggest that where it does occur it is present in large numbers. The BSBI distribution map shows records from only four hectads across the UK (SD17, SJ67, SU65 and SU75) but this is clearly incomplete, there are no records from South Wales for example.

f. *albiflora*

This is another form surrounded by confusion; a number of UK field guides mention it, often incorrectly, but it is highly unlikely that the form has ever occurred in the UK. Although earlier authors had mentioned the plants without naming them it was first named in Lüscher (1910) who says ‘Flowers white, ovaries green’ and again in Höppner (1925) who called it ‘the completely white flowering form from Laach’ and distinguishes it from *ochroleuca*. It seems to have occurred at two sites in Germany: Laach, as mentioned in both Schulze (1894) and Wirtgen (1857), and Möllensee, as mentioned in Rohmer, Hunger *et al.* (1884). They all mention it being white flowered.

Although Landwehr (1977) lists *albiflora* Lüscher as white flowered and distinct from *ochroleuca*, Davies and Huxley (1983) incorrectly say ‘the name var. *albiflora* Lüscher refers to *ochroleuca*’, while Ettlinger (1997) goes further and suggests it is similar to *ochroleuca* but ‘without even purple veins’. This is contradicted by Foley and Clarke (2005) who again say *albiflora* Lüscher is the same as *ochroleuca* while Harrap (2005) follows Ettlinger and says it is ‘similar [to *ochroleuca*] but lacks the purple veins’.

I cannot find any basis for these assertions and, although I have not been able to find any images or illustrations, it seems to have been a distinct white flowered form with a limited range and is now most probably extinct.

That said, Harrap (2005) does include a photograph labelled as being *albiflora* which is captioned ‘this rare variety lacks anthocyanin pigments and has a green stem, ovary and sepals and unmarked white petals and lip, lacking even purple banding’. This is hardly the white flowered form mentioned by earlier authors but it does actually match another named form, *tricolor*, whose usage has fallen out of favour – (see below).

f. *tricolor*

This was described in Höppner (1925) and, as he also describes both *ochroleuca* and *albiflora* in the same article, this is clearly different again. He says ‘The petals and lip are pure white except for the yellow bosses of the lip; the sepals and ovaries are bright green without any trace of red or violet. It was even more striking than *ochroleuca*, and I am calling it *tricolor* (because of the three-coloured flowers)’.

This is effectively a green equivalent of the yellow *ochroleuca* although intermediate plants occur. You again get the problem as to whether or not the veining inside the hypochile is acceptable and it seems sensible to allow this given that plants without the veining are rare (as well as the photograph in Harrap (2005) there is also a plant illustrated on page 9 of Kent Botany 2010). Plants with green sepals and ovaries that retain the purple veining are common (see Figures 7 & 8).



f. *purpurea*

Landwehr (1977) lists two names for heavily pigmented plants, *purpurea* Sipkes (flower reddish violet, purple-coloured) and *violacea* Höppner (flower violet). Given it is almost impossible to distinguish between violet and purple it is sensible to combine these forms, under the name *purpurea* (see Lewis and Mielcarek 2021).

The description of *purpurea* in Sipkes (1919) merely says ‘dark purple flowers’ while the description of *violacea* in Höppner (1925) says ‘The normal basic colour is reddish-violet which is more or less strongly mixed with green on the sepals. However, in some cases all the perianth segments are violet, the petals somewhat paler than the sepals, apart from the lip which is always white with yellow bosses and mostly purple veined hypochile. Transitions with normal colouring are common = *violacea*’. Höppner’s description suggests the main difference is that the sepals are solidly coloured rather than mixed with green, or other tones, as in normal plants.

The only images that I am able to find of a plant fully fitting that description were taken in Cumbria by John Devries. An image of the whole plant is shown at Figure 9 while a close up of the inflorescence is reproduced as Figure 9 in Lewis and Mielcarek (2021). Transitional plants which are heavily pigmented but still retain flecks of pale colour on the sepals occur (see Figure 10).

f. *ericetorum* and f. *sylvatica*

These two forms, described in Ascherson and Graebner (1907), relate to forms that are differently coloured due to the environment in which they grow.

Form *ericetorum* covers plants that grow in dune slacks and poor heathland which are small (about 10cms high) with few flowers that are often a darker red. This form has been recorded in the UK from Southport dunes (see page 32 of the 1911 report of the Botanical Society and Exchange Club of the British Isles).

Form *sylvatica* covers plants that grow in shaded woody places, are tall and the whole inflorescence is pale greenish.

Fig. 7: f. *tricolor* from Hampshire.

Fig. 8: f. *tricolor* from South Wales.

Fig. 9: Heavily pigmented f. *purpurea* from Cumbria, a close up of this plant is in Lewis and Mielcarek (2021).

Fig. 10: An extremely heavily pigmented plant approaching f. *purpurea*, South Essex.

Photos by Vincent Blood (Fig. 7), Leslie Lewis (Fig. 8), John Devries (Fig. 9) & Mike Parsons (Fig. 10)

Acknowledgements

Thanks to Les Lewis for his help, particularly with translations, and Vincent Blood, John Devries, Les Lewis & Mike Parsons for use of their photographs.

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Hardy Orchids for Sale

John Haggar

As many members are aware I have for many years sold my excess stock both at plant shows and using Ebay. It is my intention to reduce my reliance on Ebay and will instead send out E-mails to interested parties when I have stock for sale. This is usually at repotting time whenever that might be.

All orchids offered will comply fully with current UK legislation as it relates to mail-order plants. All are grown from the seed of cultivated plants obtained from reliable British or EU (pre-Brexit) sources or from wild seed collected with the landowner's written permission or with appropriate licence where necessary.

Propagation begins in a laboratory setting and subsequently seedlings are grown on to flowering size in appropriate composts in pots. None are grown on, nor dug up from soil. Sometimes divisions of cultivated stock may be offered. All will be provided with the legally required Plant Passports and are inspected for quality and freedom from disease prior to packing.

If you are a grower of hardy orchids and would be interested in being included on my mailing list, please send your email address to me at johnsorchids57@gmail.com and I will keep you updated. Limited stock will mean first come, first served. The first mailshot will be in the autumn when I begin my yearly repottings.

HOS Video Competition 2022

The HOS Video Competition will be held during the HOS Northern Meeting in September. Full details, including the Video Show Rules, are available on the HOS website. The Tony Hughes Trophy will be awarded to the best video. The trophy may be held for one year, and must then be returned. Judging will be by audience vote. In the event of too many entries for a 30 minute session, committee members will view the material and reduce the entry to the required number. If time permits, all entries will be shown at the Autumn Northern Meeting. The winning video will also be shown at the Autumn Southern Meeting.

For 2022 entries must be sent in advance by August 17th to the Video Competition Organiser, Steve Pickersgill, either by email (hosvc@hardyorchidsociety.org) or for larger files, using one of the free transfer services such as WeTransfer or Dropbox. The Video Competition Organiser will supply instructions for using WeTransfer on request.

Altitude and Orchids

Steve Tandy

We orchid enthusiasts in Britain know well that if a species is reported to be in flower in the south coast counties it will be another couple of weeks before that happens in Cumbria or Yorkshire; even later for Scotland. However, is there a similar local effect due to the altitude at which they grow? Where I live in North Wales there are three sites within six or seven miles of each other, with large numbers of Broad-leaved Helleborines (*Epipactis helleborine*), that are situated at different altitudes. This year I decided to put this question to a semi-scientific test.

The first site (site A) is in the overgrown woodlands of a long demolished large house lying 40 metres above sea-level. The orchids grow in a once cleared area that is now invaded by silver birch and surrounded by other broad-leaved trees.

Site B is along a disused mineral railway line used formerly for transporting lead ore. Again, silver birch predominates along the route. This lies at 220 metres above sea-level.

Site C is more unusual. It is along a track that led into a steep valley towards another long demolished large house. As well as silver birch, the orchids grow under rhododendron and conifers. The latter are both obviously deliberately planted there. This site is at 280-300 metres altitude. It is definitely more shaded than the other two sites.





Site B



Site C

The three sites: Site A in the overgrown woodlands of a long demolished large house; Site B along a disused mineral railway line; Site C along a track at 280-300 metres altitude.

Photos by Steve Tandy

The three sites were visited on the same day, four times, a week apart, on 19th July, 26th July, 2nd August and 9th August. A rough (and I stress rough) census was taken on each visit of what percentage of the *E. helleborines* were at varying stages of flowering, rounded to a convenient 5%:

- Stage i: No flowers open, top of spike still ‘flopped over’.
- Stage ii: Spike erect and buds beginning to open at the base of the spike.
- Stage iii: Many of the lower flowers now open.
- Stage iv: Flowering at its peak.
- Stage v: Lower flowers going over.
- Stage vi: Flowering largely finished and ovaries swelling.

Additionally, the air temperature at the three sites was noted using the car thermometer. Site B was always between 1 and 2°C cooler than site A, while site C was another 2°C cooler still. There is a local joke that there is a snow line between sites B and C. During winter, mists and snow can be found above the line while it can be a fine day below, all within a half mile.

	Site A				Site B				Site C			
	1	2	3	4	1	2	3	4	1	2	3	4
i	0	0	0	0	5	0	0	0	30	10	5	0
ii	10	0	0	0	25	10	0	0	70	60	25	10
iii	40	10	5	0	35	40	25	10	0	25	50	15
iv	45	30	20	20	35	40	70	35	0	5	20	40
v	5	35	50	35	0	10	5	30	0	0	0	25
vi	0	15	25	45	0	0	0	25	0	0	0	10

The results of the census with peak flowering week for each site in red.

The results suggest that flowering times are affected by altitude with the 180-metre difference between sites A and B delaying flowering by two weeks, and the 60-80 metres between sites B and C delaying it by an extra week. The temperature differences, though small, were consistent and are probably the major factor in the flowering times differences. Thus, a mere 80 metres of altitude, with resulting weather differences, can delay flowering time by as much as a week. This is worth bearing in mind when planning trips out, especially if travelling some distance. Yes, this is but one species, and there may be other confounding factors influencing flowering time between sites, but these sites lie very close together so I feel that they are directly comparable. What this means to me is that I can get to see Broad-leaved Helleborines in large numbers over a six-week period, all within a 15-minute drive.

HOS Photographic Competition 2022

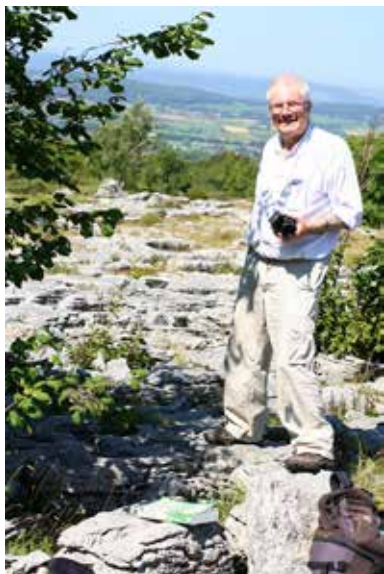
Here are the entry details for the competition at Kidlington, November 20th 2022:

Please note that rule 6 will be enforced this year:- All entries for any class must be photographed within the current or preceding calendar year. Digital entries are to be emailed to Neil Evans, or use a file transfer service for larger files, by the end of 23rd October 2022. For print entries email Neil by the end of 23rd October 2022 with the classes to be entered and a digital copy of the image. For entrants who are unable to attend the meeting Neil will accept prints by post and will take them to the meeting for you. Enclose an SAE if return of the prints is required. Neil's postal address is inside the front cover of the Journal.

Please name your files in the following format: Your Name, Class, Name of Orchid, Location. The full Schedule of Classes and Rules can be found on the HOS website.

Remembering Bryan Yorke Carol Armstrong

It was with great sadness that I heard the news that Bryan Yorke passed away on 28th May. Bryan was a Natural History Blogger taking great delight in acquainting himself with the flora of Hutton Roof in Cumbria, particularly the Ferns and *Epipactis*. He was also an active recorder of bird migration and he humorously caricatured the species that he saw in his illustrations and wrote witty poems for his blog.



His monitoring of the *Epipactis* hybrid *E. ×schmalhauseni* was the topic for which we at HOS knew him best for. For years he had numbered and noted the plants, both parents and hybrid as they returned (or not), keeping meticulous records, photos and sketches. Bryan gave advice, guided walks and talks to us and made events that he was involved in a very joyful experience. He is missed by many, including myself and Alan Gendle who has shared this photo of Bryan “in his element” on Hutton Roof.

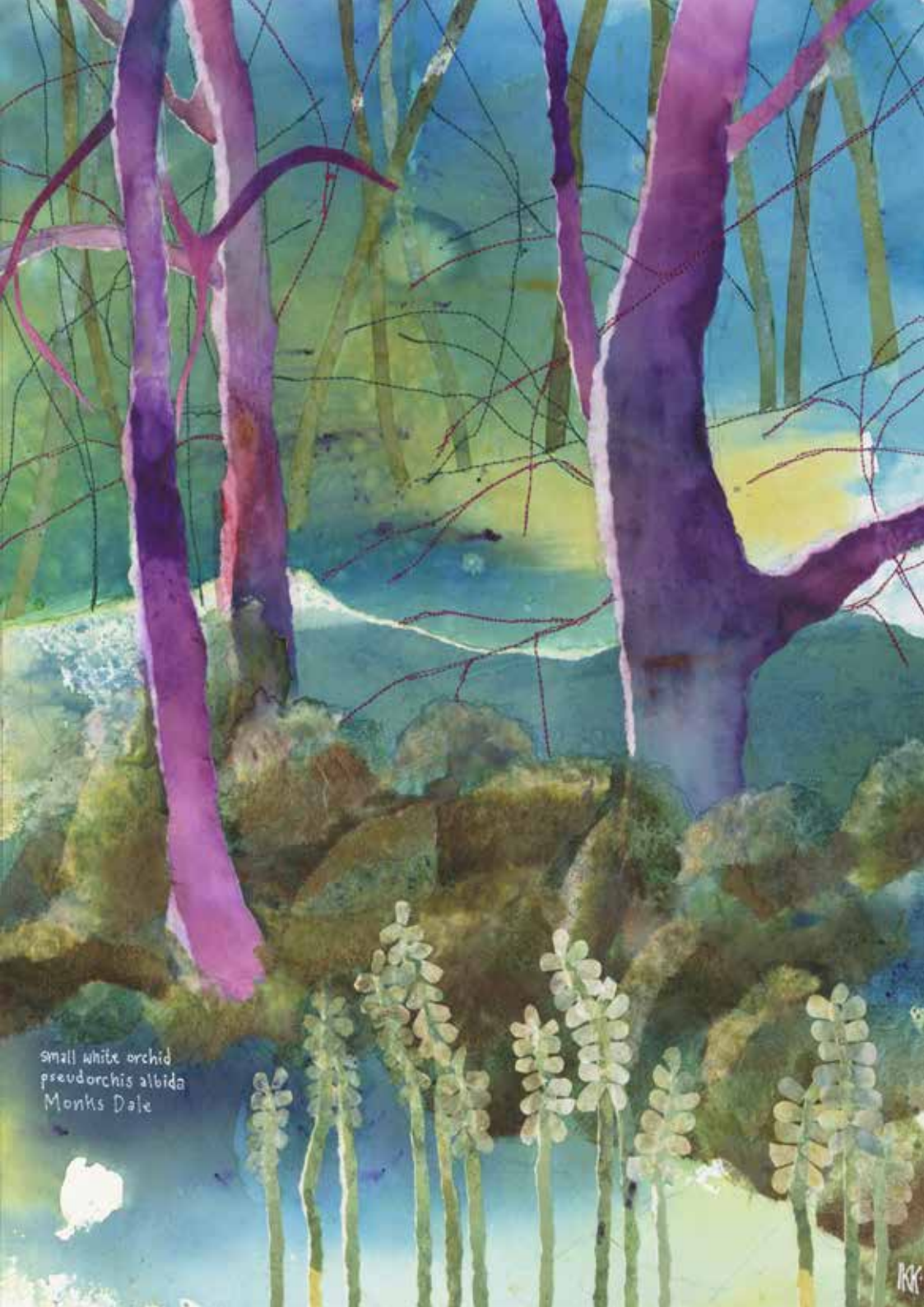
Small White Orchid Ingrid Katarina Karlsson

Having seen a recent newsletter, the HOS Editor asked if he could include this recent work featuring the Small-white Orchid, *Pseudorchis albida*. I am a mixed media artist, widely known for a narrative style inspired by experiences, places and journeys. My roots are in Northern Sweden and these can be traced in my work. However, for some 20 years now I have been based in Derbyshire. The ever-changing colours and landscapes of the Peak District keep providing ideas for subject matter and my work approach creates rich, colourful textures developed through mono-printing, overlaying, and stitching on a beloved old Husqvarna sewing machine. One favourite medium, crystalline water colour, enhances the work with a luminous quality, whilst allowing storytelling through the insertion of words.

Birds have featured in my work for years but more recently this interest has taken on a deeper focus by looking at the plight of endangered species both in Scandinavia and here in the Peak District. During the pandemic, research into the effects of climate change in the circumpolar north led to a triptych featuring the most acutely threatened birds in the Scandinavian Arctic; the Snowy Owl, the Lesser White-fronted Goose, and the Gyrfalcon. From there more work has developed around wildlife in Derbyshire, highlighting birds, mammals, plants and butterflies, collected in an ongoing series on the theme of 'Habitat'. Many of our precious species are now in decline often due to loss and degradation of natural habitats caused by human use of land and water as well as environmental and climate change.

This work on the Small-white Orchid is a first venture into the world of orchids and I hope to find inspiration in some other vulnerable species. An endangered species, *Pseudorchis albida* is found in upland heathland requiring habitat with bare ground or cliff edge and calcareous or moderately acidic soil. In Derbyshire this orchid has typically thrived in limestone dales such as Lathkilldale, Miller's Dale or Monk's Dale. In the artwork, Monk's Dale, a nature reserve, is chosen as a location where the orchid would have been found. It is now extremely rare and in steep decline throughout the UK. As an artist I am passionate about telling a story and carrying a message in my work. We are now at a stage where the decline in biodiversity is of great concern, so here is a great source of subject matter where the medium of art can lend its voice.

Mixed media artwork featuring Monk's Dale Nature Reserve and the Small-white Orchid, *Pseudorchis albida*. To explore more of Ingrid Katarina Karlsson's artwork see: <http://ingridkarlsson.co.uk/> or www.facebook.com/IngridKarlssonKempMixedMediaArt.



small white orchid
pseudorchis albida
Monks Dale

The Recovering Orchids of Delphi Phillip Cribb

“Visitors to the famous sites of Greek antiquity can hardly fail to be impressed by the great wealth of flowers on and around most of them. ----- The ancient Greeks with their innate perception often set their religious centres in places of great natural beauty, sometimes quiet and peaceful as at Epidaurus, sometimes majestic and awe-inspiring as at Delphi, and it is to these perfect settings that the wild flowers, which were there before man, have returned, persist, and now decorate these sites with their beauty”. (from *Flowers of Greece and the Aegean* by Huxley, A & Taylor, W. - 1977 Chatto & Windus).

Enchanted by these words, I could hardly wait to visit Greece when I was first invited to lecture on plants on a Swan Hellenic cruise in April 1979. I visited many sites over the fortnight both in Greece and in Aegean Turkey and I was not disappointed. Scrambling around on the slopes above the stadium at Delphi, for example, I saw some ten species of orchid, including the enigmatic *Ophrys* \times *delphinensis*. Over the



Fig. 1: The stadium at Delphi.
Fig. 2: Giant orchid (*Himantoglossum robertianum*).
Fig. 3: *Ophrys* \times *delphinensis*.
Fig. 4: *Ophrys sphegodes* subsp. *spruneri*.
Fig. 5: Yellow Bee-orchid (*O. lutea* subsp. *galilaea*).

All photos by Phillip Cribb



succeeding years, I revisited Greece many times both privately and as a lecturer on cruise ships. You can imagine my reaction when, in the late 1980s, sites that were previously full of botanical treasures, had been sprayed with weed-killer and had turned into botanical waste-lands. At the time, I wrote to the Greek authority responsible for the ancient sites to express my disquiet, only to be assured that the archaeologists had demanded the removal of vegetation so that the base of pillars and other monuments could be examined. I replied that their action ensured the rapid erosion of the sites as the vegetation held the soil in place and was also a major draw for tourists.

The fashion for spraying sites with weed-killer rapidly spread from mainland Greece to the islands and then to Turkey. It was no longer possible to watch the False Apollo butterfly laying its eggs on *Aristolochia* leaves at Troy. Even the birds seemed to have fled the sites as their cover, nest-sites and feeding places were destroyed. Well, it seems as if there is a change of heart for which we can all be grateful. In April, I visited Delphi for the first time in five years and was delighted to see flowers everywhere among the ruins.

Below the stadium, which crowns the site, we found large colonies of Giant Orchid (*Himantoglossum robertianum*) and *Ophrys sphegodes* subsp. *spruneri*. The variation in flower colour of the first and lip shape and markings of the second were notable. Growing beside these were small clumps of Yellow Bee Orchid (*Ophrys lutea* subsp. *galilaea*), single specimens of *Ophrys sphegodes* subsp. *mammosa* and *O. ×delphinensis* as well as a magnificent clump of Mirror of Venus Orchid (*Ophrys speculum*).

Just west of Delphi village after a picnic lunch, our small group searched the scrub, which is overgrazed by goats. Nevertheless, it produced a remarkable array of orchids, amazing since goats love orchids and are the botanist's 'public enemy number one'. Imagine my delight when we found a rich orchid flora on the slopes (the lower slopes of Mount Parnassos). The Horseshoe Orchid (*Ophrys ferrum-equinum*) was everywhere, another species that is a remarkably variable both in lip and speculum shape. Here we also found Yellow Bee-orchid, Dinky Bee-orchid (*O. fusca* subsp. *cinereophila*), another subspecies of the Early Spider-orchid (*O. sphegodes* subsp. *aesculapii*), Argolid Bee-orchid (*Ophrys argolica*), Mirror of Venus Orchid, Delphi Bee-orchid, Four-spotted Orchid (*Orchis quadripunctata*) and Mediterranean Butterfly-orchid (*Anacamptis papilionacea*). Of these, the Delphi Bee-orchid set my

Fig. 6: Horseshoe Orchid (*Ophrys ferrum-equinum*).

Fig. 7: Dinky Bee-orchid (*O. fusca* subsp. *cinereophila*).

Figs. 8 & 9: Mirror of Venus Orchid (*Ophrys speculum*).



pulse running. We found a group of about 30 plants growing amongst sparse scrub on rocky limestone. It is a beautiful orchid with bright pink sepals and petals and a rich velvety lip with a white hairy base, two hairy brown arms and a blue speculum of variable shape ringed with white but often reduced to just a couple of small dots. It is a partially stabilised hybrid of the Argolid Bee-orchid (*O. argolica*) and the Woodcock Orchid (*Ophrys scolopax*).

I do not know whether the recovery of Delphi is down to Covid-19 or to an enlightened new policy. I hope it is the latter in this age where biodiversity has an increasing profile. Anyway, the enhancement of this wonderful site delivered by its flora cannot be denied.

Hardy Orchids of the Far East **Clare Hermans**

East Anglia, the Far East of the UK, is famous for its amazing skies, soaring church towers, crabs and fens but its native orchid populations are less renowned than those of ‘chalky’ counties like Kent. Once retired, I promised myself that we would explore the native orchids of the UK; we had travelled the world to see orchids but had never got around to those on our doorstep. Local trips were an unexpected bonus of being confined to Suffolk during 2020-2021. Surprisingly, the Far East of the UK has some rarities, including *Orchis militaris*, *Liparis loeselii*, *Dactylorhiza incarnata* subsp. *ochroleuca* and *Goodyera repens*. The search involved hummock jumping to see the *Liparis* and wading ankle deep through boggy ground to hunt for the elusive Pugsley’s Marsh-orchid.

As in most other counties, the number of Suffolk species has shrunk considerably over time. Rev. Henslow (1860) mentions 14 out of 22 occurring in his parish of Hitcham compared to just four recorded after 1980. He commented that *Hammarbya paludosa* “is probably not so rare as is generally supposed.” Today it only occurs in one place in Norfolk and is still on our To-See list. Even in Henslow’s day *L. loeselii* was “very scarce” and became extinct in Suffolk. By the time Rev. Hind (1889) wrote his Suffolk Flora 29 species were known. Now the total recorded is 32 with 9 extinct, just reduced by the successful partnership between Plantlife and Suffolk Wildlife Trust translocating *L. loeselii*, and another 10 are classified as very rare. Habitat loss with intensive agriculture in particular has taken its toll. Fortunately many localities nowadays are better preserved and those mentioned are mostly Wildlife Trust Nature Reserves or Sites of Special Scientific Interest.

Figs. 1 & 2: *Anacamptis morio* at Martins’ Meadows
Figs. 3 & 4: *Orchis mascula* at Martins’ Meadows
All Photos by Johan Hermans

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One of the important habitats for the earliest flowering species in Suffolk are the few remaining damp, old, wild flower meadows and common grazing land. They include Chippenhall Green, Winks Meadows and Martins' Meadows where *Anacamptis morio* grows in profusion. Martins' Meadows, tucked away down pretty lanes, consists of three inter-connecting meadows each resplendent with orchids. In late May this year there were still several *Orchis mascula* at the edge hidden in the hedgerow's shade. They appeared to be larger than usual perhaps benefitting from the wetter weather. Generally they are found in ancient woods such as Reydon Wood often with bluebells and in small groups. A fruitless search on the first May Bank Holiday at Reydon together with the world and his wife plus dog had not been a great start to the season. Though it did provide one lesson, flowering times were going to be difficult to predict and would probably be later than usual.

Some sites have limited access; an example is the Rex Graham Reserve where *O. militaris* grows. For a time in the early 1900s it was thought to be extinct until small colonies were found in Buckinghamshire in 1947, Oxfordshire in 1970 and a larger one in 1955 near Mildenhall Suffolk, now the reserve. Interestingly the three colonies are genetically distinct and are thought to have arisen independently. Brooke (1948) in his semi-autobiographical book describes his fruitless childhood quest for the species in Kent during the 1st WW and the confusion with *Orchis simia* and *Orchis purpurea*. The Rex Graham Reserve was originally a chalk pit and is open for just one day a year at the end of May, the last time was 2019. It is a locked and fenced site with access down steep steps to a board walk above the orchids. The number of plants fluctuated from 2,000 in the 1950s when the fencing kept the deer and rabbits out, to 200 in the 1970s when the site became shadier due to numerous Privet and Sycamore saplings. Recently after more active management numbers are over 1,000. Unsurprisingly it is rated one of the most beautiful UK native orchids and a highlight of Suffolk orchids.

One of my nearest localities is also particularly vulnerable; a colony of yellow *Ophrys apifera* grows close to Sizewell Nuclear Power Station. It occurs in the sandy coastal strip between the perimeter of the electricity plant and the sea together with common ones. The habitat part of Sizewell Belts is threatened by development. EDF hopes to build two more reactors and the project includes a sea landing site for large freight. The final decision to go ahead or not is expected next year; whether the orchid colony can survive the disruption only time will tell. Another site within walking distance is Darsham Marshes where swathes of *Dactylorhiza praetermissa* in every imaginable shade of mauve appear in June whilst Marsh Harriers hunt from the skies above. It is a tranquil site with few visitors in the valley of the Minsmere River a short distance from RSPB Minsmere and Sizewell.

Figs. 5 & 6: *Orchis militaris* at the Rex Graham Reserve.

Fig. 7: *Gymnadenia densiflora* at Market Weston Fen.

Fig. 8: *Ophrys apifera* close to Sizewell Nuclear Power Station.



D. incarnata and its rarer subspecies *ochroleuca* which only occurs in Suffolk and Cambridgeshire have similar flowering times to *praetermissa*. Early July 2020 was the first trip to Market Weston Fen in the valley of a tributary of the Little Ouse near the border with Norfolk. Unfortunately it was too late to see the *ochroleuca*. Instead *Gymnadenia densiflora* was flowering with *Epipactis palustris*. Two visits in early and mid June 2021 were more successful when the small colony was in full flower together with *D. praetermissa* and *Dactylorhiza maculata*. The fen is fed by a number of calcareous springs and keeps very wet. To reduce competition the meadow is cut annually and the sedge harvested every 3-5 years for thatching. There was a multitude of dragonflies and interesting flora, including a carpet of *Pinguicula vulgaris* in flower in early June. The nearby sandy hillock provided a good viewpoint for Cuckoo and Harrier watching and a great place for the essential picnic.

The return journey was past Winks Meadow, the site of one of two colonies of *Dactylorhiza viridis* in East Anglia, first discovered in 1990. The eminent Suffolk naturalist and conservationist Francis Simpson (1982) comments that he had not seen it in thirty years and that it used to inhabit old horse pastures. The meadow is three and a half acres on chalky boulder clay and had never had any chemicals applied nor had been ploughed. It is a botanically rich 'island' surrounded by high hedges, located near an old 2nd WW airfield in the arable flat lands of Suffolk. The last visit was ten years ago leaving only a vague impression of where they were; the note "right of the gate" on the old photos was not much help. By now the vegetation had grown quite tall and the hunt was on for the submerged 5-15cm tall spikes with small pale green flowers. It took time but the reward was ten scattered spikes in full flower. Certainly one for the connoisseur and probably best appreciated from photos. Much prettier were the *Anacamptis pyramidalis* just starting.

Another location with limited access is the RSPB's Sutton Fen, in the Norfolk Broads, one of the few places in East Anglia for *L. loeselii*. It is occasionally open for a HOS Field Trip or on one pre-booked day in mid-June. Norfolk is a relative stronghold for the species, the rest are in South Wales; in Norfolk they are under threat from water extraction and tend to be where peat has been removed. A recent Environment Agency proposal plans to review, reduce and cease extraction from the River Ant close to Sutton Fen, a great victory for environmental campaigners. Access to the Fen is across private land and on arrival the diminutive plants with their yellow-green flowers were hard to spot amongst the reeds and sedges. The plants grew on tussocks on raft-like vegetation; one's body weight needed careful distribution to

Fig. 9: *Dactylorhiza incarnata* subspecies *ochroleuca* at Market Weston Fen.

Fig. 10: *Dactylorhiza viridis* at Winks Meadow.

Figs. 11 & 12: *Liparis loeselii* at Sutton Fen.



avoid a rubber-boot full of brackish water though the matting laid around some plants was a god-send for photographers. In addition there were scattered *D. incarnata* and *D. praetermissa* in flower. To complete the scene they were joined by Swallowtail butterflies floating above and several pleasure craft travelling seemingly 6ft higher along the neighbouring channel. It all added to the weird almost underwater sensation and brought home how difficult it would be to find the plants on one's own.

Nearby Buxton Heath, just north of Norwich, is a well known habitat of the Silver-studded Blue butterfly which likes its heather-clad areas. Running through is a small stream with associated boggy ground, the habitat of *Dactylorhiza traunsteinerioides* or Pugsley's Marsh-orchid or *Dactylorhiza praetermissa* subsp. *schoenophila* the False Pugsley's Marsh-orchid depending on which author is used. The first visit on the hunt for the so-called Pugsley's in early June 2021 was unsuccessful; just many *D. praetermissa* starting to flower nestled amongst Sphagnum moss in very wet conditions. The return a month later better equipped with rubber-boots had more luck. Most of the *D. praetermissa* were nearly finished but the *D. maculata* were in full bloom exhibiting a wide range of patterning and colour combinations. In addition were swathes of *E. palustris* and the occasional *G. densiflora* just starting and a few scattered *Neottia ovata* almost over. It was clearly an orchid rich habitat. Then, the tough job commenced; the hunt for those *D. praetermissa* still open with fewer and narrower leaves and spikes that looked different from the rest. Just a handful fitted the bill with shorter spikes and fewer and laxer flowers occurring in one plane. Probably not enough features to convince the experts nonetheless it was a happy hour getting up-close and carefully examining each spike. Though it did show how extremely hard it was to differentiate between them. Spectacles came in very handy as long as a keen look out was kept to prevent them falling out of one's top pocket into the bog.

Late July into August is the time for *Epipactis*. *Epipactis purpurata* is uncommon in East Anglia; one of its sites in Suffolk is Grunton Wood, ancient woodland consisting of small-leaved lime coppice and more recent oak, hazel, ash and wild cherry. The 30 cm tall spikes were scattered in leaf litter in deep shade and were difficult to spot. Many spikes were still in bud at the end of July yet those open had more than 30 flowers. They are known to be long lasting plants; some can be over thirty years old. Hence it was unsurprising to find them in the same area following a six year interval and on the second occasion there were even a few variegated ones.

Fig. 13: *Dactylorhiza praetermissa* at Sutton Fen.

Fig. 14: *Dactylorhiza incarnata* at Sutton Fen.

Fig. 15: *Dactylorhiza praetermissa* subsp. *schoenophila* at Buxton Heath.

Fig. 16: *Dactylorhiza maculata* at Buxton Heath.

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Epipactis helleborine is the commonest and most widespread Helleborine in the UK but is not particularly frequent in Suffolk or Norfolk. Interestingly its first UK record came from Suffolk in 1562. One good site on the Norfolk-Suffolk border is Santon Downham, Forestry Commission land on the edge of Thetford Forest. The Little Ouse River, the county boundary, flows through it and on a hot sunny mid-August 2020 day the banks and water were thronged with people; in contrast the woods were quiet. The orchids were growing abundantly in dappled shade although the majority were over due to the heatwave. Nearby and slightly more shaded were a handful of *Epipactis phyllanthes* plants. The generally pendant flowers never fully open and were finished, just the short stature of 10 cm, swollen ovaries and smaller leaves distinguished them from the *E. helleborine*. It is a scarce self-fertile species in the UK, first recorded in Norfolk in 1969 and very elusive in Suffolk. A return visit a few weeks earlier was pencilled in for the following year. Unfortunately, on the first in late July 2021 they were still in bud, the second two weeks later was more successful with a couple in flower. However, the *E. helleborine* were at their peak exhibiting a broad range of colours. One magnificent dark specimen was especially attractive to a wasp (*Dolichovespula* sp.) that still retained the ability to fly despite the multiple pollinia attached to its head and had obviously not partaken enough of the fermented nectar to make it drunk!

Another August flowerer is one of England's rarest orchids *Goodyera repens*. The large Holkham Estate, owned by the Earl of Leicester, in north Norfolk, extends to the sea and is an unlikely site for the species as the others are in Cumbria, Northumberland and County Durham. The estate manages the Holkham National Nature Reserve which in summer is a popular attraction with miles of sandy beaches, confirmed by the full car park at 11 am on a weekday. In the nineteenth century the third Earl planted a belt of Scots Pines on the dunes to protect his re-claimed land, former salt marsh, from the wind blown sand. It is here on the seaward edge the orchid is located hidden amongst the trees in a thin mossy layer over the pine needles. The origin of the two small colonies is unclear, seed may have arrived on the roots when the trees were first planted or found its way naturally. Interestingly, the species was also discovered at other places nearby, including heathland in the 1880s to 1900s long before the Holkham plants were found in the 1950s. It was first described by Linnaeus as *Satyrium repens* in 1753 and the type specimen, now housed at the Linnean Society, London was originally purchased by Norfolk born James Smith the society's founder and first President.

Figs. 17: *Epipactis palustris* at Market Weston Fen.
 Fig. 18: *Epipactis helleborine* at Santon Downham.
 Figs. 19 & 20: *Epipactis purpurata* at Grunton Wood.

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The plant is perennial with a rosette of small leaves lying flat on the ground making them challenging to spot. As it was, a fruitless hour was spent on the hunt before a change in direction by 180° resulted in their discovery. The flower spikes were short, only 5-7 cm, whilst literature cites they can be up to 25 cm. Four separate groups of plants were in a 10m² area with a dozen spikes in dappled shade. The tiny white flowers were remarkably hairy, best appreciated in the photos.

Spiranthes spiralis is the last of the native orchids to flower appearing from early August to late September in localities often near the sea. It is one of the two earliest British recorded orchid species, the other being *Neottia ovata*, which was mentioned by William Turner growing at Syon, Middlesex in 1548. In Suffolk the last record was in a tennis court in the 1980s and in Norfolk it occurs in a lawn at a school, now tricky to access and declining in numbers. Therefore, a two hour trip to Tydd Gote just over the border in south Lincolnshire was required. The location was a bank of one of the waterways associated with the River Nene. Those closest to the water were already over at the end of August 2020 but the ones slightly shaded by a large oak tree were in peak condition and numbered around a hundred. They were well worth the effort to locate and brightened up a dull late August day.

In total 11 species were seen for the first time and five re-visited during 2020-2021, a modest tally that fails to reflect the happy hours looking for them. Finally, I would like to thank Roger Jones for his invaluable assistance.

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Fig. 21 *Epipactis phyllanthes* at Santon Downham.
 Figs. 22 & 23: *Goodyera repens* at Holkham.
 Fig. 24: *Spiranthes spiralis* at Tydd Gote.

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