Journal of the HARDY ORCHID SOCIETY

Vol. 21 No. 2 (113) Spring 2024

The Hardy Orchid Society Committee

President: Prof. Richard Bateman, Jodrell Laboratory, Royal Botanic Gardens Kew, Richmond, Surrey, TW9 3DS
Chairman: Celia Wright, The Windmill, Vennington, Westbury, Shrewsbury, Shropshire, SY5 9RG celia.wright@windmill.me.uk
Vice-Chairman: Simon Tarrant, Bumbys, Fox Road, Mashbury, Chelmsford, CM1 4TJ tarrant.simon@outlook.com
Treasurer: Colin Rainbow, The Old Post Office, Somerton Road, North Aston, Bicester, Oxfordshire, OX25 6HX car.northaston@btopenworld.com
Secretary: Hilary Pickersgill, Sissinghurst, Warrendene Road, Hughenden Valley, High Wycombe, Buckinghamshire, HP14 4LY hilaryp52@btinternet.com
Membership Secretary: Moira Tarrant, Bumbys, Fox Road, Mashbury, Chelmsford, CM1 4TJ moira.tarrant@outlook.com
Publicity & Outreach Officer: Moira Tarrant, as above
Journal Editor and Website: Mike Gasson, Moor End Cottage, Moor End, Stibbard, Norfolk, NR21 0EJ moorend@globalnet.co.uk
Conservation Officer: Bill Temple, Primrose Cottage, Hanney Road, Steventon, Oxon., OX13 6AP bill@billtemple.f9.co.uk
Field Trips Co-ordinator: Richard Kulczycki, 206 Blythe Road, London, W14 0HH richardkulczycki@gmail.com
Northern Field Trips Co-ordinator: charlie.philpotts@btinternet.com
Plant Show Secretary: Neil Hubbard: 30 Thirlmere Road, Barrow upon Soar, Leicestershire, LE12 8QQ neilhubbard@talktalk.net
Photographic Competition Secretary: Neil Evans, 48 Friars Avenue, Peacehaven, Sussex, BN10 8SB neilfevans@btinternet.com
Video Competition Organiser: Steve Pickersgill, Sissinghurst, Warrendene Road, Hughenden Valley, High Wycombe, Buckinghamshire, HP14 4LY steve_pickersgill@btinternet.com
Speakers Secretary: Celia Wright, The Windmill, Vennington, Westbury, Shrewsbury, Shropshire, SY5 9RG celia.wright@windmill.me.uk
Southern Meetings Organiser: Simon Tarrant, Bumbys, Fox Road, Mashbury, Chelmsford, CM1 4TJ tarrant.simon@outlook.com
Northern Meeting Organiser: Philip Smith, Rantree Cottage, Birkwith Lane, Low Bentham, Lancaster, LA2 7DG philandelismith@gmail.com
Seed Bank Manager: John Haggar, 16 Cross Street, Hove, East Sussex, BN3 1AJ johnsorchids57@gmail.com
Journal Distributor: Nigel Johnson, Cassandene, Station Road, Soberton, Hampshire, S032 3QU cassandene@outlook.com

Cover Photographs: Front cover features Neil Hubbard's *Ophrys tenthredinifera,* a winner in Class 2 of the 2024 Plant Show. Rear cover shows Moira Tarrant's *Orchis italica* which won Class 9 and the 'Best in Show' trophy. Photography by Jon Evans

Journal of the Hardy Orchid Society ISSN 2977-0513

Password for Members' Area of HOS Website: lady24

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.

Contents

Editorial Note

Mike Gasson

Details of the 2024 field trip programme and results from the recent Plant Show are included in this *JHOS*. Articles include a discussion of unusual versions of *Platanthera* species and a profile of Monkton Nature Reserve with a first report on their rabbit deterrent research; something supported by one of the first HOSCG grants. A major part of this issue is the inclusion of articles from Richard Bateman and Bill Temple on the growing interest in creating and maintaining orchid meadows and how this relates to 'rewilding'. The profile of the latter is also growing but its original or modified definitions would not embrace a focus on single species or a group of related species as envisaged by orchid enthusiasts. Rewilding as a term has massively drifted in meaning but its core drivers to let nature take control and minimise human intervention are at odds with the introduction and protection of orchids. Hopefully these articles from Richard and Bill will provide a useful perspective.

Chair's Note
Celia Wright

Welcome to a new year of HOS activities following the AGM at Kidlington two weeks ago. A special welcome to Colin Rainbow who returns to the role of HOS Treasurer following Christopher Snelson's decision to stand down. Christopher will support Colin with some involvement until the necessary changes in banking arrangements are complete. The updated Constitution was passed by an overwhelming majority. Thank you to all who voted in favour of it, either at the meeting or by email.

Talks at the meeting were varied and interesting as usual. A special thank you to our President, Richard Bateman, who stood in at the last moment with a fascinating talk entitled "One Frog or Two?" when David Pearce was unable to travel to Kidlington. We will welcome David instead to the Autumn meeting to tell us about his experiences during "16 years with the Butterfly Orchid".

Thanks to Richard Kulczycki – with help from Charlie Philpotts in the north of England – we have more Field Trips this year than ever before. We know that these trips are a major reason why many of our members join HOS. The Forum also plays an important role from this month onwards as members help each other with details of the location of wild orchid populations and flowering times in the current season.

For many years now, June has brought the Malvern Orchid Show with many orchid society stands, including the one that I have managed for HOS. This year will be different as circumstances at the Three Counties Showground have resulted in a change of location to the NEC in Birmingham as part of Gardeners World Live. We expect this to bring many more visitors to the Orchid Show than we had at Malvern and hope to be able to recruit more new HOS members as a result. There will be orchids for sale as well as displays. Reduced price tickets to Gardeners World Live are available through orchid societies. Iain Wright (who manages this for HOS) posted the details of how to obtain these on the Forum on 28th March, so do take advantage of the offer if you can.

As well as the role of HOS Chair, I also manage the speaker programmes for our three meetings each year. This must be done well in advance as the booking forms with the programmes are sent out with the previous Journal. I'm always looking for members or others with orchid knowledge or experience who are willing to speak. Can you help with this? If so, please get in touch. I wish you all a happy summer with hardy orchids, whether at home, across the UK or overseas and look forward to seeing many of you, whether at a meeting, on a field trip or maybe unexpectedly in a field of orchids.

Field Trips March 2024

A key part of belonging to our HOS community is to be able to join our trip programme, either as a leader or as a participant. As a member you are welcome to join any trip, although bear in mind you must register with the leader and many trips fill up. This year sees our largest programme ever with trips all over the country (well, very nearly!). Thank you to all the leaders who have volunteered their time.

Many members have intimate knowledge of orchid sites – many of you volunteer for work parties, participate in orchid counts, look over and protect orchids, or have visited favourite sites for many years. At the same time many leaders and members have multiple natural history interests, so you will meet other members on our trips who have knowledge of, for example, birds, butterflies, dragonflies and other plants – and perhaps even slime moulds or snails too. Thanks to your involvement in so many voluntary organisations, we are increasingly welcomed by reserve wardens. Indeed this year two wardens will lead walks for us on nationally important sites.

You must make your decision whether you are fit and healthy enough to participate in any particular walk. General indications of difficulty are below, but on the day weather and underfoot conditions may make the trip more difficult. You should prepare as for a remote country walk and expect uneven ground. The general principle is: participants are responsible for their own safety. Prepare as if you were going hill walking with friends. Do communicate any concerns you have to the leader and your fellow participants as early as possible on the day or, better still, beforehand. The leader does not carry any first-aid or emergency equipment. The leader's role is to help you find your way around the area and help you to see more orchids than you would if you went on your own. It is not to ensure your safety – you are solely responsible for that. Areas visited often have no mobile signal.

We normally collect a voluntary donation to any non-government organisation, such as a Wildlife Trust, that maintains a site visited. Every year recently we have collected several hundred pounds for conservation – thank you. Our insurance only covers our own members, so it is not normally possible to take a non-member friend with you. Family membership can include children too. You cannot bring a dog unless the trip leader explicitly agrees to this. With this number of trips, some trips will have to be rescheduled, or perhaps even cancelled, if the orchids do not flower or are affected by the season. Please be sympathetic. It seems every season throws some weather-related surprise.

To register on a trip, please email the individual contact given and include your membership number (or perhaps a small apology if you have lost it!). Any enquiries, ideas, problems, queries, please write to one of the Field Trip Co-ordinators – fieldtrips@hardyorchidsociety.org.

Saturday 16th March: Oxfordshire, near Didcot
Leader: Hamza Nobes

To see the Giant Orchids (*Himantoglossum robertianum*) discovered two years ago. One or two orchids should be near the path but most are a few metres down a very steep and slippery grass bank. Stiff soled shoes are preferable and the short descent requires extreme care.

Saturday 11th May: Thames Valley, Oxfordshire
Leader: Keith Boseley Email: richardkulczycki@gmail.com

To see the Lady and Monkey Orchids at Hartslock, plus the famous hybrids. We will meet by Goring Station and walk a mile to the reserve (and back), which no longer allows parking on site. It is possible to be dropped off at the reserve, but the driver must return the vehicle to Goring. There are frequent trains to Goring on the main line. There are some short steep slopes on the reserve.

Thursday 16th May:East Chilterns, South Beds
Leader: Alec Latham Email: aleclatham@yahoo.co.uk

This walk is three miles connecting the Hoo Bit, the Pegsdon Hills and Knocking Hoe reserves in south Beds. We should see White Helleborine, Fly Orchid and Burnt Orchid (other plants include Hound's-tongue and Pasqueflower). Some rough walking including potential forest mud, rough chalk pasture, steep hills with 'landscaped' steps and slopes with rabbit holes. Could also be driving wind on the tops. Sturdy footwear is required, though not wellies.

Tuesday 28th May: East Kent
Leader: Colin Sillence Email: colin@sillence.co.uk

Parkgate and Denge Wood to see Monkey Orchid, Lady Orchid, Fly Orchid and Greater Butterfly-orchids. Up to twelve orchid species are possible. Less than two miles of easy walking. This trip requires car sharing as only limited parking is possible at the reserves. A great day out in England's "orchid garden" and there are many other sites you may wish to visit later in the afternoon, or on an adjacent day.

Wednesday 5th June: East Kent
Leader: Colin Sillence Email: colin@sillence.co.uk

Monkton Nature Reserve – the first ever recipient of our conservation grant. Nine orchids should be in flower with impressive numbers of Man Orchid. In the afternoon we will go to Sandwich to see Britain's best site for Lizard Orchid and other botanical rarities.

Friday 7th June: Braunton Burrows, North Devon
Leader: Roger Harding Email: roger.diver@btinternet.com

Walk will be about three hours - not strenuous. Mostly firm and dry, but some damp slacks may need waterproof footwear. A chance to be guided by legendary local botanist Mary Breeds on one of the finest and most extensive sand dune systems in the country. Possible orchid species in early summer include Early and Southern Marsh-orchids (including hybrids and ssp. *coccinea)*, Bee Orchid, Pyramidal Orchid, and Twayblade. There will be plenty of other rare and interesting plants, butterflies, bugs and birds at this nationally-important site for nature.

Saturday 8th June: Exmoor (Lynton), North Devon
Leader: Elliott Hails Email: elliotthails01@hotmail.co.uk

A trip to Exmoor to see Lesser Twayblade. Up to four miles of walking on hilly, uneven terrain with limited foot paths. Numerous plants have been recorded in recent years. Can be combined with the previous day's trip to make a long weekend trip.

Tuesday 18th June: Arkengarthdale, Swaledale, North Yorks
Leader: Alan Gendle Email: alan@gendle.plus.com
Unfortunately trip full after Forum announcement

Visit to SSSI on private land. Numbers strictly limited. Expected orchids include *Dactylorhiza purpurella*, *D. maculata*, *Pseudorchis*, *Gymnadenia borealis* and possibly *Dactylodenia* hybrids.

Thursday 20th June: Windsor Hill, near Princes Risborough, Chilterns
Registrations to richardkulczycki@gmail.com

To see Red Helleborine. The orchids are in an enclosure so we can only get within a few metres of them. The total walking is about a mile. While successful flowering cannot be guaranteed, the last few years have always produced flowering stems. The exact timing does vary, so the date may need to be moved. This is our earliest visit to Windsor Hill – let's hope we can finally see the lower plants again. BBOWT (the local Wildlife Trust) always has a fee per individual for guided reserve walks and indeed the warden will be on site to explain the history and current conservation policies. We need to collect donations to match these fees and to contribute to the extensive conservation efforts here.

Saturday 22nd June: Martin Down, North Hampshire
Leader: Vinny Blood Email: vincentblood79@gmail.com

Main species will be Chalk Fragrant-orchid (many thousands and some interesting variations), Common Spotted-orchid and Pyramidal Orchid. Also a reasonable chance of Bee Orchid - and an outside chance of Frog Orchid. And with it being

such a wonderful reserve, there are other downland flowers plus butterflies (e.g. Dark Green Fritillary) and birds to see. A famous completely natural orchid site that is very hard to navigate on your own.

Sunday 23rd June: Kenfig Dunes, Glamorgan
Leader: Steve Parsons Email: steve.c.parsons@gsk.com

While the primary focus of our visit will be the Fen Orchid but we also hope the timing of our visit will be good for high summer and late summer species too. This is a unique site which we have not visited for many years. All being well the warden will be present to show us round.

Sunday 23rd June: near Leeds
Leader: Charlie Philpotts Email: charlie.philpotts@btinternet.com

Three varied sites around the east Leeds area, a limestone outcrop, a former mining site and an old meadow. Orchids to be seen should include Northern Marsh-orchid, Southern Marsh-orchid, Common Spotted-orchid, Twayblade, Bee Orchid and *Dactylorhiza* hybrids.A good opportunity to see various Dactylorhizas.

Saturday 29th June: Cloud Wood, Leicestershire
Leader: Neil Hubbard Email: neilhubbard@talktalk.net

An SSSI and the best Leicestershire and Rutland Wildlife Trust reserve for orchids and much else. Expect to see Common Spotted-orchid, Bee Orchid, Twayblade, Pyramidal Orchid, Greater Butterfly-orchid, plus non-flowering Early-purple Orchid, Broad-leaved Helleborine and Violet Helleborine. Plenty of other interesting plants, plus birds. For butterflies, Silver-washed Fritillary, White letter Hairstreak, Purple Hairsteaks, Dingy Skippers and Purple Emperors all possible. Later we will go on to see Lizard Orchids growing a short distance away.

Sunday 30th June: Perthshire
Leader: Dave Trudgill Email: davetrudgill@googlemail.com

An opportunity to visit Dave Trudgill's orchid meadow. Species at Newmill include both Butterfly-orchids, Marsh-orchids, Broad-leaved Helleborine and White Helleborine (but past flowering). There are also Common and Heath Spotted-orchids, Early, Northern and Southern Marsh-orchids, Bee Orchids and Pyramidal Orchids. Bird's-nest Orchid is close by. We expect to go on to see one or more Fragrant-orchid species and Small-white Orchid.

Friday 5th July: Braunton Burrows, North Devon
Leader: Roger Harding Email: roger.diver@btinternet.com

Our second trip of the season here, walking over a different route and with other orchids at their peak. The walk will be about three hours and not strenuous. Mostly firm and dry, but some damp slacks may need waterproof footwear. Once again we will be guided by Mary Breeds. Possible orchid species include Early and Southern Marsh-orchid (better on earlier trip), including hybrids and ssp. *coccinea*. Pyramidal Orchid, Twayblade, Marsh Helleborine by the thousand and Marsh Fragrant-orchid. There will be plenty of other interesting plants, butterflies, bugs and birds to maintain interest.

Saturday 6th July: Noar Hill, Hampshire
Leaders: Ken & Gillian Elsom Email: elsom@hardyorchidsociety.org

Noar Hill has fascinating medieval chalk workings, now with a hugely diverse range of species including many orchids. The site is managed by the Hampshire & Isle of Wight Wildlife Trust. Expect to see Musk Orchid, Common Spotted-orchid, Pyramidal Orchid, Chalk Fragrant-orchid, Fly Orchid, Twayblade and possibly Violet Helleborine depending on the season. There are also many butterflies and bird species. The site has some steep paths which can be slippery if wet.

Tuesday 9th July: Cliburn Moss, Penrith, Cumbria
Leader: Alan Gendle Email: alan@gendle.plus.com

For Creeping Lady's-tresses. Depending on season Northern Marsh-orchid and Broad-leaved Helleborine may also be seen. We will participate in the annual count. Meet at the Cliburn Moss NNR car park at 10.00am (uniquely registration is not required for this trip). Wellies or waterproof walking boots are essential.

Sunday 14th July: Kirkby Stephen, Cumbria
Leader: Charlie Philpotts Email: charlie.philpotts@btinternet.com

Waitby Greenriggs and Augill pasture in Cumbria, meeting in Kirkby Stephen. Orchids should include Northern Marsh-orchid, Common Spotted-orchid, Heath Spotted-orchid, Greater and Lesser Butterfly-orchid, Marsh Helleborine, Twayblade, Frog Orchid and three Fragrant-orchids. If time permits and the season works in our favour there may also be a visit to see Lesser Twayblades on another nearby site.

Sunday 28th July (afternoon): South of Newbury, North Hampshire
Leader: Simon Melville Email: simonandsue0@gmail.com

A trip for helleborines. A quiet lane with *Epipactis helleborine*, *E. helleborine* var. *chlorantha*, *E. purpurata*, *E.* × *schultzei* and *E. phyllanthes* (var. *pendula*) all possible along a 100 metre stretch.

Results of HOS Plant Show 2024

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

1st Neil Hubbard: *Ophrys lutea* (a), *Ophrys tenthredinifera* (b), *Ophrys fusca* (c)

2nd Moira Tarrant: *Ophrys oestrifera* (a), *Ophrys mammosa* (b), *Ophrys fusca* var. *calocaerina* (c)

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

1st Moira Tarrant: *Ophrys bombyliflora* (a), *Ophrys lutea* var. *melena* (b), *Ophrys tenthredinifera* (c)

Class 5: One pot native British orchid.

1st Neil Hubbard: *Anacamptis morio*

2nd Neil Hubbard: *Orchis anthropophora*

Class 7: One pot non-European orchid.

1st Mike Powell: *Pterostylis curta*

2nd Moira Tarrant: *Pterostylis* 'Dusky Duke'

3rd Mike Powell: *Cymbidium cyperifolium*

Class 8: One pot *Dactylorhiza.*
1st Neil Hubbard: *Dactylorhiza romana*

Class 9: One pot Orchis, Anacamptis or Neotinea.
1st Moira Tarrant: *Orchis italica*
2nd Neil Evans: *Neotinea lactea*
3rd Neil Hubbard: *Orchis anthropophora*

Class 10: One pot *Ophrys.*
1st Neil Hubbard: *Ophrys speculum*

Class 16: One plant or pan of plants raised from seed by the grower.
1st Moira Tarrant: *Ophrys lutea*

Winner of Best in Show Trophy:
Moira Tarrant for *Orchis italica* in Class 9

Chairman's Award
Neil Hubbard for *Orchis anthropophora* in Class 10

Grower's Trophy
Moira Tarrant for *Ophrys lutea* in Class 16

Banksian Medal
Moira Tarrant

Thanks to Nick Fry for judging the Plant Show

Some of the winning entries are featured on the following pages. Numbers match the Class entered and the position (e.g. 2-1 is the first placed entry in Class 2, 9-2 is the second placed entry in Class 9). For Classes 1 and 4 the entries involve three plants are these are identified by a letter (a-c) as indicated in the results.

The front cover features Neil Hubbard's *Ophrys tenthredinifera,* a winner in Class 2. The rear cover shows Moira Tarrant's *Orchis italica* which won Class 9 and the 'Best in Show Trophy'. Photographs of all winning plants will be added to the HOS website.

Photography by Jon Evans


2-1c


2-1a


4-1c


4-1a


5-2


5-1


9-2


10-1

Rewilding and Other Modes of Ecological Restoration, as Viewed From the Perspective of a Hardy Orchid

Richard Bateman

Many countries, including the UK, have recently experienced an upsurge of interest in various aspects of ecological restoration. This enthusiasm is epitomised by Target 2 of the Global Biodiversity Framework, which commits to ensuring that 30% of degraded habitats will be under effective restoration by 2030. This is no mean task – for example, the excellent recent report by State of Nature (Burns *et al.* 2023) notes that only 25% of the UK's peatlands and a startlingly low 7% of woodlands are formally categorised as being in "good condition." If our more modest community of orchid enthusiasts is also to address this challenge, we need to begin by identifying realistic goals, and deciding what kind and scale of projects are needed to achieve them. In particular, we should determine exactly which roles hardy orchids are best qualified to play in restoration, and distinguish them from roles that orchids are, by their very nature, obliged to leave to other, better suited groups of plants.

What is restoration ecology?

Ecological restoration is an umbrella term that covers a multitude of sins. It is defined by Wikipedia as "the practice of renewing and restoring degraded, damaged, or destroyed ecosystems and habitats in the environment by active human interruption and action". For the Society for Ecological Restoration it is "an intentional activity that initiates or accelerates the recovery of an ecosystem with respect to its health, integrity and sustainability", ecosystems being "dynamic communities of plants, animals, and microorganisms interacting with their physical environment as a functional unit."

Missing from these definitions, but nonetheless implicit in most texts addressing restoration, is the idea that the aspects of degradation, damage and/or destruction in question are the result of mankind's activities, rather than being a purely natural phenomenon (this is actually a deceptively challenging distinction, as we will see). Also missing from these definitions, but this time deliberately, is a sense of scale – both the scale of the damage already done (summarised in Fig. 1) and the scale of the area of landscape that has been affected are relevant. The concept of ecological restoration can seemingly encompass anything from massive landscape-scale interventions through to introducing a square metre of wildflowers into a previously pristine garden. The conceptual breadth of restoration ecology, encompassing a myriad of activities, means that it is important that categories of activity within the discipline should be defined more precisely. Also, we should consider the parallel distinction between conservation and gardening; in practice, this is another continuum – one that depends on relative degrees of naturalness (Bateman 2010).

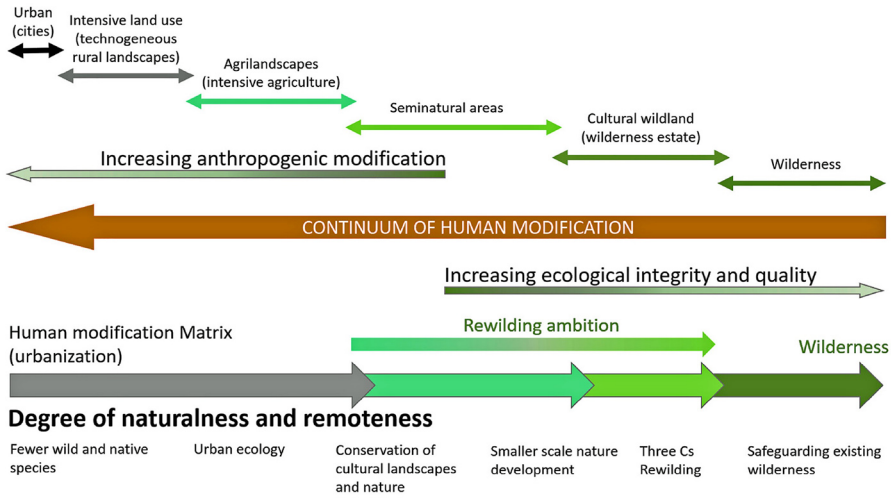


Fig. 1: Diagram summarising what was termed "the wilderness continuum" by Carver *et al*. (2021; their Fig. 2). As human-induced modification of the landscape intensifies (above the red arrow, toward the left), the task of reversing the degradation becomes more complex and intimidating (below the red arrow, toward the right).

What is rewilding?

Unfortunately, some commentators (including the Royal Horticultural Society, and many media outlets) have chosen to lazily synonymise 'ecological restoration' with 'rewilding', perhaps because rewilding is a more appealingly dynamic and dramatic term. In fact, no less than 33 global experts recently collaborated to develop an agreed definition of rewilding, and to establish a set of ten principles to underpin the concept. According to them, "rewilding is the process of rebuilding, following major human disturbance, a natural ecosystem by restoring natural processes and the complete or near-complete food web at all trophic levels as a self-sustaining and resilient ecosystem with biota that would have been present had the disturbance not occurred … The ultimate goal of rewilding is the restoration of functioning native ecosystems containing the full range of species at all trophic levels while reducing human control and pressures. Rewilded ecosystems should – where possible – be self-sustaining, … requiring no or minimal management" (Carver *et al*. 2021: 1888). The organisation Rewilding Britain seemingly agree with these underlying concepts, defining rewilding as "the large-scale restoration of ecosystems to the point where nature is allowed to take care of itself", and noting that "rewilding seeks to reinstate natural processes and, where appropriate, missing species – allowing them to shape the landscape and the habitats within."

Thus, rewilding is by definition big-picture restoration; many of the projects currently labelled as rewilding do not currently qualify. Fortunately, the "ten principles of rewilding" remain relevant across the broader range of activities collectively categorised as landscape restoration. Genuine rewilding requires serious consideration of landscape-scale issues such as facilitating migration by deliberately interconnecting 'core' islands of biodiversity (e.g. large nature reserves or national parks), a goal to be achieved using linear 'corridors' where possible and otherwise employing more isolated 'stepping stones' (familiar, if smaller-scale, examples of such linkages in an arable landscape would be linear hedgerows and isolated copses, respectively). Emphasis is inevitably placed on species that are unusually frequent and/or unusually influential in the ecology of that landscape. For animals, herds of herbivores and keystone predators would qualify, whereas for plants, dominant tree or grass species would likely gain top billing. When contemplating the reintroduction of species, animals inevitably claim the limelight (e.g. Tree & Burrell 2023). Despite the recency of their reintroduction, beavers are already spreading rapidly across the British landscape, while bison have now been awarded their own corner of Kent as an experimental playground. Sea eagles once again patrol our skies and reindeer once again graze the Cairngorms, where the right to roam may soon controversially be extended to the lynx.

But where are their botanical equivalents? The truth is that most plant (and animal) species genuinely native to the British Isles migrated here within the last 11,700 years of fully post-glacial climate – and our flora remains so impoverished that thus far there have been relatively few opportunities for subsequent extirpations. Most of the losses that have occurred are likely to have been herbaceous species, including glacial relicts, that were uncommon even before mankind began to impact substantially on the original natural ecosystems. Thus, although there have undoubtedly been shifts in ecological dominance – for example, the retreat of the Scots Pine to a handful of surviving Caledonian refugia – there have been few well-documented extirpations thus far during the historical period. The one officially recognised loss of a native orchid – Summer Ladies-tresses, eliminated from the New Forest by 1953 – is generally attributed not to indirect human effects on the relevant habitat but instead to the direct impact of the vast numbers of plants murdered to enhance innumerable herbaria. Rather than emphasising reintroductions, British and Irish conservationists remain focused on trying to prevent further losses among our ca 1390 unequivocally native plant species. Nonetheless, plant species restoration projects are probably best epitomised by orchids, most notably several decades of (rather accident-prone) attempts to bulk up the representation in northern England of the formerly far more widespread Lady's-slipper Orchid.

Minimalistic role of terrestrial orchids in macro-ecology

The first three principles of rewilding focus on "trophic interactions" (crudely, who

eats who), "landscape-scale [spatial] connectivity" and "recovery of ecological processes." But orchids constitute only a tiny proportion of the biomass in any habitat in which they occur, reliably failing the criterion for ecological dominance. The one arguable exception where orchids constitute a significant percentage of the ground flora – the presence of Birds-nest Orchid and some Helleborines in densely shading woodlands – simply reflects the absence of most other flowering plants, which lack the orchid's ability to use mycorrhizal networks to plumb into surrounding trees as a convenient source of nutrients. Across all habitats, orchids are too uncommon to aid long-distance connectivity among non-orchid species, and have no involvement in ecological processes that are likely to dictate the overall nature of the local vegetation.

Perhaps we could rescue the ecological importance of orchids by considering their "trophic interactions"? After all, orchids have long been justly famous for the "various contrivances" that they employ to successfully exploit animals as pollinators. But in the majority of cases the orchid is parasitizing the pollinating insects, who often receive no reward. And even in the case of orchids that do provide a welcome nectar reward, there will usually be present other non-orchid species that provide an alternative source of nectar equally appealing to the orchid's pollinators. Nor am I aware of any orchid having been shown to be essential to the continued presence of particular species of mycorrhizal fungus. Thus, I doubt that any ecosystem will ever collapse through loss of its orchid species; in no way can they be considered as ecologically crucial 'keystone' species. Rather, from a macro-ecological perspective, orchids are trivial components of any particular temperate ecosystem – the ornaments atop the icing of the ecological cake. Consequently, they are therefore likely to be, at best, only accidental beneficiaries of any scheme that fits the correct definition of rewilding.

Roles in restoration ecology more suited to terrestrial orchids

Happily, certain other of the 'ten principles of rewilding' appear more relevant to the orchid family. We are told that "rewilding is informed by science" and is "dependent on monitoring and feedback" (Carver *et al.* 2021). Both of these principles depend upon having ready access to in-depth knowledge of the relevant organisms – not only pre-existing knowledge but also ongoing field monitoring and focused research designed to add to that knowledge base. Here we have found one area where our orchids are likely to feel superior to most other plant families with which they co-exist. From Darwin onwards, orchids have proven their lasting appeal as rewarding study organisms. We have learned much about what differentiates orchids from other groups of plants, and about how they develop, grow and reproduce. More broadly, we have gained greater knowledge of how orchids interact with pollinators and, more recently, with mycorrhizal fungi – their place within terrestrial ecosystems is consequently unusually well-understood.

Perhaps the best way to view the contribution of orchids to landscape restoration – and indeed also to landscape conservation – is to treat them as ideal indicators of whether attempts to restore or preserve landscapes are meeting with success. When a plant community begins to fail, orchid species are typically among the 'loss leaders' (Fig. 2). Better still, we understand our native orchids sufficiently well to at least indulge in informed speculation regarding why they might be failing in any particular instance. Conversely, the arrival of orchids into a locality through natural means could be seen as welcome evidence that the habitat is becoming more amenable.

Indeed, it might be predicted from first principles that the tiny 'dust-seeds' of orchids, well-adapted for transport in high-level air currents, would be among the first (re)colonisers of an improved habitat. Rather than gradually migrate along wildlife corridors, orchid species can in theory travel saltationally, skipping over – rather than passing through – unappealing areas of the landscape in order to reach the relative safety of further 'stepping stone' habitats (the most obvious 'unappealing area' that, given post-glacial sea levels, severely limits plant migration to Britain is the English Channel). For example, during its current rapid northward migration, the Bee Orchid appears to have jumped over the Southern Uplands of Scotland in its urgent desire to reach the balmier lowland climates of the Scottish Midland Valley. However, other kinds of evidence suggest that long-distance jumps are in practice rare. Most orchid seeds that germinate successfully do so no more than two metres from their source plant, presumably benefitting from immediate infection by their 'mother's' mycorrhizal network (Jacquemyn *et al*. 2012). And my (as yet unpublished) body of bespoke genetic data, gathered explicitly to address the speed of postglacial migration across Europe, suggests that the average species of orchid marched northwards at about the same (stately) rate as the average species of oak.

It is less clear whether the initial success of some deliberate (re)introductions of orchids into a landscape means that the attempt will prove successful in the longer term. Wholesale removal of topsoil, followed by equally wholesale destruction of the existing vegetation through repeated treatments with herbicide, can demonstrably pave the way for creating an impressively orchid-rich meadow (Trudgill 2023). However, in most cases, those artificial ecosystems will still require regular maintenance by humans if they are to persist beyond the short term, limiting their wildness. It is arguable whether such strongly interventionist projects legitimately qualify as landscape restoration – landscape replacement seems a more apt description.

Using orchids as indicators of the health of their host ecosystem is made easier by their innate charisma; they appeal equally to field botanists and gardeners, and so have been the 'poster organisms' for innumerable conservation initiatives. The very existence of the Hardy Orchid Society is a testament to that lasting appeal; we provide an increasingly valuable route into the "local engagement and support" that

is promoted as another of the ten requirements for effective rewilding. Who better to monitor native orchids as ecological indicators than an expanding body of naturalists who have determinedly made themselves competent to identify, record and monitor orchid occurrences?

An unstated dilemma: do any ecosystems actually remain natural?

But in my opinion there is now a mammoth in the room – a dilemma that is rarely if ever explicitly stated. I would argue that much of what I have written thus far is currently being challenged, at a fundamental level, by galloping climate change (e.g. Bateman 2022). It is already clear that the present year (2023) will yield the highest global mean annual temperature (MAT) since the Ipswichian/Eemian – the last major inter-glacial period, ca 125,000 years ago, when hippos and rhinos occupied Trafalgar Square! Few observers doubt that the widely predicted increase of 2°C in global MAT, likely to be reached well before 2050, will have a profound effect on global landscapes. Planned responses to anthropogenic climate change are generally labelled as either mitigation – attempts to reduce the rate of climate change – or adaptation – attempts to accommodate the effects of climate change. The principles of rewilding state that rewilding initiatives "should anticipate the effects of climate change", suggesting a focus on adaptation more than mitigation. However, arguments are also often made that ecosystem restoration can also play its part in mitigation; for example, by locking up additional organic carbon. But when viewed more broadly, it seems to me that anthropogenic climate change presents us with a particularly stark 'Catch 22' situation. Rewilding seeks to compensate for damage to the environment caused by human activity (Fig. 1), but the current phase of climate change has itself been caused by a vast panoply of human activities. Given that anthropogenic climate change is increasingly profound and undeniably global in its effects, does any ecosystem on Earth remain truly natural? Hasn't the world already been altered irrevocably by human activity?

Humans residing in Europe 10,000 years ago, caught in the act of transitioning from Palaeolithic pack-hunters to Mesolithic hunter-gatherers, witnessed first-hand the catastrophic degradation of familiar ecosystems due to climate change. Like us, they surely would have wished to reverse the then rapid decline of previously dominant tundra vegetation that featured ground-hugging arctic-alpine plants such as Dwarf Willow and Mountain Avens. How else could they have sought to maintain the vast tracts of grazing lands needed to continue providing them with their familiar and seemingly essential range of mammoth-derived products?! Irrespective of how much of today's technology were to be placed at the disposal of Mesolithic humans, any attempt to preserve the tundra would of course have still been doomed to failure, given the profound nature of the rapid climatic shift they had just endured. Indeed, the increase of ca 7°C in MAT documented in Greenland ice-cores during a period of just ca 50 years is four times the industrially-driven rise in MAT presently anticipated by 2050. Unable to mitigate these changes, given that they reflected natural causes

way beyond their control, Mesolithic humans had no choice but to adapt instead to a profoundly altered environment through radical modification of their entire approach to life. I suspect that they viewed as poor compensation the consequent natural arrival of hardy orchid species into a formerly inhospitable but now rapidly warming Britain.

In contrast, we modern humans have at our disposal a brief opportunity to partially mitigate, rather than merely adapt to, the impending climate crisis. The tenth (and final) principle of rewilding is that to be successful it "requires a paradigm shift in the co-existence of humans and nature, … such that society no longer accepts degraded ecosystems and over-exploitation of nature as the baseline for each successive future generation" (Carver *et al*. 2021: 1890). Unfortunately, it seems to me that – for all the lip-service now paid to the task – the responses to anthropogenic climate change worldwide have been too shallow and too slow, and will remain so – at least, until various climate-related crises coalesce into an irreversible 'perfect storm'. Recent history has demonstrated conclusively that even the slightest economic setback immediately induces collectively selfish behaviour within the human population. I regret that I cannot under any circumstances envisage the concessions being made that I believe are necessary for an effective response: acceptance of economic stasis, concomitant reallocation of existing resources, and serious consideration of the even more politically toxic subject of population control.

Relevant here is the banner headline that emerged from analysis of the massive volume of distribution data in the latest plant atlas of Britain and Ireland – that, for the first time in history, non-native species outnumber native species in our supposedly 'wild' flora (Walker *et al*. 2023). Orchids are at present under-represented in the expanding roster of non-native species, most of the few ambiguous cases of possible unnatural arrival being confined to the genera *Ophrys* and *Serapias* (Fig. 2). For now, I will stand by the arguably puritanical views that I first expressed in the pages of *JHOS* 14 years ago (Bateman 2010), primarily reflecting my desire to be able to continue monitoring 'natural' changes in our orchid populations without suffering the complicating factor of innumerable poorly coordinated human interventions. I still believe that deliberate local introductions made beyond the boundaries of formal gardens should be carefully considered, be properly documented, and should not extend the natural distributional margin of the species in question. But when I consider the likely longer-term future of what remains of our countryside, I begin to wonder whether the distinctions between rewilding, smaller-scale forms of ecosystem restoration, and strictly defined gardening will soon become so blurred by increasingly desperate responses to the effects of climate change that they will no longer be meaningful. Much to my regret, the survival of species and ecosystems may in time become judged more important than maintaining the pretence that anything that remains is truly natural.

Fig. 2: Possible winners and losers in the face of the rapidly approaching 2°C rise in mean annual temperature. Cold temperate/high altitude specialists such as Creeping Lady's-tresses (*Goodyera repens*, top left) and Small-white Orchid (*Pseudorchis albida*, top right) are already showing signs of retreat within the British Isles. In contrast, more southerly species native to mainland Europe, such as Giant Orchid (*Himantoglossum robertianum*, bottom left) and Small-flowered Tongue-orchid (*Serapias parviflora*, bottom right), are actively migrating northwards.

References

Bateman, R. M. (2010) Where does orchid conservation end and gardening begin? *Journal of the Hardy Orchid Society* 7(4): 119-133.

Bateman, R. M. (2022) Out of the frying pan? Predicting the British and Irish orchid flora of the late 21st century. *Journal of the Hardy Orchid Society* 19(4): 119-132.

Burns, F., and 35 co-authors (2023) State of [the UK's] nature, 2023 report. *State of Nature Partnership*. 213 pp.

Carver, S., and 32 co-authors (2021) Guiding principles for rewilding. *Conservation Biology* 35: 1882-1893.

Jacquemyn, H., and three co-authors (2012) Spatial variation in below-ground seed germination and divergent mycorrhizal associations correlate with spatial segregation of three co-occurring orchid species. *Journal of Ecology* 100: 1328-1337.

'Rewilding Britain' website (2023) Why rewilding is a story of hope. https://www.rewildingbritain.org.uk/

'Society for Ecological Restoration International' (2004) *Primer on ecological restoration*. 13 pp.

Tree, I. & Burrell, C. (2023) *The book of wilding: a practical guide to rewilding, big and small*. Bloomsbury. 560 pp.

Trudgill, D. (2023) Creating an orchid meadow using seed. *Journal of the Hardy Orchid Society* 20(4): 114–127.

Walker, K., and five co-authors (2023) *Britain's changing flora: a summary of the results of Plant Atlas* 2020. BSBI, Durham. 32 pp.

Orchid Meadows and Rewilding.

Bill Temple

Orchid Meadows

A landowner can plant anything on their land unless it is a banned plant (such as Japanese Knotweed). Creating an orchid meadow on your own land is basically gardening. It is best if you can use legal seed collected from local plants as it is then likely to be appreciated locally and not controversial. Local landowners with orchids will often give permission for small amounts of seed to be collected and Wildlife Trusts will often give permission for small amounts of common orchid seed to be collected although they may ask for a donation. Alternatively they may collect the seed themselves and sell it to you; there is no harm in asking.

It is controversial to obtain seed of species that are not found locally from elsewhere in the UK and you should inform BSBI if the seeds grow. Pollinating insects carry pollen for anything up to five miles so pollen from non-local orchids would not be confined to your land and could affect the genetic variability of our native species elsewhere. It would not be wise to do this if there is an SSSI or nature reserve within

ten miles (i.e. within bee range). However, orchid seed spread is not range restricted, although most falls within a metre or two: Lizard Orchids popping up in Oxfordshire are probably descended from plants near Bristol. *Spiranthes romanzoffiana* has recently appeared in several new countries, probably either due to seed arriving from Ireland or the USA.

Foreign seed (although at present it has become difficult and expensive to obtain due to new regulations imposed as a result of Brexit) should not be used for the reasons in the paragraph above. Our native orchids tend to grow in either impoverished land, oxygenated wet areas or in woodlands. Few of our native orchid species can cope with an untended, overgrown lawn. I know of one case where a lawn containing 300 flowering Bee Orchids was not mown for a year and the following summer 30 flowered. The grass was then cut and left lying, after which in the next year I found only four. Regular mowing of lawns with a period of non mowing can result in lawns with a number of our native orchids and wild flowers growing happily. I can provide information about mowing regimes for common species on request.

What most people regard as wildflower meadows are impoverished chalk grasslands that support orchids such as Bee Orchid, Pyramidal Orchid, Common Spotted-orchid, Frog Orchid, Lady's Tresses, Burnt Orchid and Musk Orchid growing among our downland flower species. Former agricultural land and domestic lawns rarely fit the description of impoverished land. In the past it was thought that the fertility of land could be reduced by simply cutting it regularly and removing the cuttings. The current view seems to be that at best this merely retains the current fertility.

To create a wild flower meadow with chalk downland flowers and orchids it is often necessary to remove the top layer of soil. This is an extremely expensive process due to the disposal and transport costs. Some members of the society have experience of doing this in small areas and have written about their methods and results in *JHOS*. The wildlife area behind my house which was formerly agricultural land was sown with a wildflower mixture when the solar farm was constructed and has not been cut since. Although it contains a tiny number of orchids in less fertile areas, they are struggling to compete with the other, mainly rank, vegetation. It does not contain any sources of nectar in winter, but has seed heads for the finches. Figures 1 & 2 show a section in summer and winter.

What happens when former agricultural land is allowed to go wild varies with its former use. In my area, former wheat fields tend to contain agricultural weeds at first such as Poppy and Field Pansy then invasive species such as Oxeye Daisy, Ragwort, Willowherb, Teasel, Prickly Oxtongue, Sowthistles, Creeping Thistle, Stinging Nettle and Dock. Eventually hedgerow plants such as Bramble, Blackthorn, Dog Rose, Hawthorn, Willow and Dogwood start to appear.

1

2

Reintroductions

HOS has experience of trying to reintroduce species of orchids into former sites where they became extinct. The usual problem with this is that we do not know why they became extinct or where in the site they were. It is preferable to use symbiotically raised flowering sized plants when doing this as we do not know if the sites still contain the original symbiotic fungi. The alternative is to scatter seed. It is not usually controversial if legal seed from the nearest existing colony is used and it can also be locally popular. Both these methods are a hit or miss process although scattering seed can cover a much larger area. You can learn how to raise our common orchids artificially from seed at our annual seed sowing workshop.

Garden Wildlife Areas

This is basically not cultivating an area of land and allowing nature to take its course, possibly after adding some flowers to assist pollinators. Ideally there should be nectar rich flowers available all year. This is encouraged by the wildlife organisations as it improves biodiversity. Including a pond can add biodiversity quickly (if it does not include fish) and it is also encouraged for that reason. Information on doing this is widely available from Wildlife Trusts. RHS biodiversity trials suggest that nectar rich flowers are very popular with pollinators, whether they are native or not. Biodiversity may however be better if native flowers are used as much as possible. Some people consider this to be rewilding and this term is used in its call to rewild in the February 2023 issue of The Garden, which is the magazine of the RHS. However, in the November 2023 issue of The Garden, the Director General of the RHS (Clare Matterson) later made it clear that she regards this as 'wildlife friendly gardening' or 'planet friendly gardening' rather than rewilding

Rewilding Projects

These involve trying to create large, ecologically balanced, self regulating areas that require minimal routine intervention. Obtaining an ecological balance is far from simple however as it means a balance of hunters and hunted throughout the whole food chain so missing species may need to be re-introduced. It often requires major landscaping or drainage work and it can sometimes face local opposition and be controversial. It can also take years to get plans agreed by the various statutory bodies and years to stabilise. However, it can be spectacularly successful as for example in the Knepp Estate. More information can be found at https://www.rewildingbritain.org.uk/why-rewild/what-is-rewilding.

Fig. 1: Wildlife area in summer.
Fig. 2: Wildlife area in winter.
Photos by Bill Temple

MARIPOSA NATURE TOURS

Our orchid-hunting tours for 2025 include:

Orchids of Cyprus	2-9 March	£1,375
Orchids of Rhodes	7-14 April	£1,425
Orchids of Sicily	April dates tbc	£1,595
Orchids of the Gargano	16-23 April	£1,575
Orchids of Kent daytrip	31 May	£150
Orchids of Kent daytrip	1 June	£150

Our early bird booking offer - £125 off all 2025 week-long tours booked before 30 November 2024

www.mariposanature.com

The best guides, the best site knowledge, the best orchids

Puzzling Platantheras

Richard Mielcarek

UK field guides all agree that the best way to distinguish between the two species of *Platanthera* that occur here is to examine the pollinia; 'close together and vertically parallel' in *Platanthera bifolia*, Lesser Butterfly-orchid, and 'relatively far apart and diverge sharply from the top downwards' in *Platanthera chlorantha*, Greater Butterfly-orchid, according to Ettlinger. Harrap & Harrap (2005) and Cole & Waller(2020) provide illustrations showing obvious differences in the pollinia.

Figs. 1 and 2: *Platanthera* sp, Edge, 2nd June 2017, amongst a colony of *P. chlorantha*.

Although the pollinia are widely spaced at the base, revealing an obvious spur mouth, they are not sharply angled towards each other at the top.

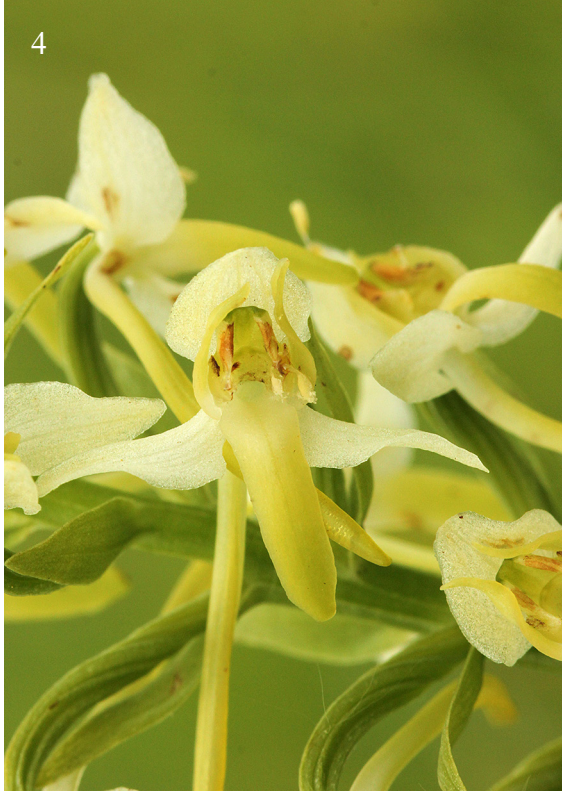
All Photos by Richard Mielcarek

Stace says the parallel pollinia of *P. bifolia* are 0.3-1.2 mm apart while the base of angled pollinia in *P. chlorantha* are 2.5-4.8 mm apart. These differences mean the mouth of the spur is obvious in *P. chlorantha* but largely obscured in *P. bifolia*. Swainbank (2017) suggests, based on a limited study, that the subtended angle between the pollinia averages 45° in *P. chlorantha* but no more than 5° in *P. bifolia*. However, in the 18th December 2018 post on his Hooky Natural History blog he reduces the angle for *P. chlorantha* down to somewhere between 38° and 32°.

So, identification and separation should be straightforward but it is not always so simple in the field. This is particularly true in the Stroud area of the Cotswolds where it is not hard to find plants whose pollinia do not easily fit either species. For example, at Edge I found five plants amongst a large colony of *P. chlorantha* where the pollinia are wide apart as expected but largely parallel rather than angled (see Figs. 1 and 2). At Sheepscombe, amongst *P. bifolia*, I have found plants with parallel pollinia as expected but held quite widely apart instead of close together (see Fig. 3).

The two UK *Platanthera* species are known to hybridise as *Platanthera* × *hybrida*,


3


4


5


6

although the hybrid is rarely recorded, possibly due to the problem of confident identification. Many of the records on the BSBI distribution map for this century are from five different tetrads around Stroud. Bateman *et al*. (2012) mention hybrids 'identified primarily on the basis of their intermediate pollinarium positions' from Bulls Cross and Strawberry Banks (the latter only mentioned in Appendix 4) while Swainbank (2017) mentions finding 'numerous putative hybrids' at Cranham. I have visited those three locations and the plants at each show a wide range of variation in pollinia positioning (see Figs 4, 5, 6 and 7).

Intermediate plants are known from across Europe and have formed the basis for several published studies. Nilsson (1985) reported them from the Baltic, mainly south east Sweden and Alandia, Finland. Claessens and Kleynan (2006) reported them from two sites in Holland, where neither parent species was present. Durka (2017) analysed plants from five sites and Tyteca and Esposito (2018) studied intermediates growing amongst *P. bifolia* and *P. chlorantha* in Belgium. Bleilevens *et al*. (2021) reported on intermediate plants in Germany.

Baum (2017) built on the DNA analyses in Durka (2017) to describe a new species, *Platanthera muelleri* for colonies consisting only of what they called 'non-hybrid intermediate' plants. Tyteca and Esposito (2018) suggested their '*P. bifolia sensu lato* incorporating intermediates' are *Platanthera fornicata* even though they were not genetically distinct from *P. bifolia*. Kreutz (2019) elevates *Platanthera hybrida* to a full species. The section on *Platanthera* in Bateman (2022) provides a useful summary of these developments.

Fig 3: *Platanthera* sp., Sheepscombe, 31st May 2018, amongst *P. bifolia*. Although the pollinia are held parallel they are widely spaced.
Fig 4: *Platanthera* sp., Cranham, 2nd June 2017. The pollinia are widely spaced but almost parallel.
Fig 5: *Platanthera* sp., Strawberry Banks, 31st May 2018. The pollinia are wide apart at base but held at a very shallow angle.
Fig 6: *Platanthera* sp., Strawberry Banks, 31st May 2018. The parallel pollinia are held widely apart revealing the spur mouth.
Fig 7: *Platanthera* sp., Bulls Cross 31st May 2018. The pollinia are in a shallow V, touching at the base and so totally obscuring the mouth of the spur. I had seen this plant, with the same pollinia arrangement, in 2017.

So we have two puzzles, firstly why the area just north of Stroud has such a preponderance of intermediate plants, and do they really not occur in numbers in other parts of the UK? Secondly, how do these UK plants compare with those observed on the Continent? The Baums have reviewed a series of photographs from Bulls Cross and confirmed the plants there are not *P. muelleri* (*pers. comm*). Are they *P. fornicata* (you would need a detailed morphological analysis to answer that question), or *P.* × *hybrida*, or even just extreme forms of *P. bifolia*?

References

Bateman, R. M., James, K. E. & Rudall, P. J. (2012): Contrast in levels of morphological versus molecular divergence between closely related Eurasian species of *Platanthera* (Orchidaceae) suggest recent evolution with a strong allometric component. *New Journal of Botany* 2: 110–148.

Bateman, R. M. (2022): Systematics and conservation of British and Irish orchids: a 'state of the union' assessment to accompany Atlas 2020. *Kew Bulletin* 77: 355–402.

Baum, A. & Baum, H. (2017) *Platanthera muelleri* – eine dritte Art in der *Platanthera bifolia/chlorantha* Gruppe in Mitteleuropa. *Journal Europäischer Orchideen* 49: 133–152.

Bleilevens, J., Koch, M. A. & Lorenz, R. (2021): Neue Beobachtungen intermediärer Waldhyazinthen in Europa mit Anmerkungen zu deren historischen Namen. *Journal Europäischer Orchideen*. 53: 301–329.

Claessens, J. & Kleynan, J. (2006): Anmerkungen zur Hybridbildung bei *Platanthera bifolia* und *P. chlorantha. Journal Europäischer Orchideen* 38: 3–28.

Cole, S. & Waller,M. (2000): *Britain's Orchids* Princeton University Press.

Durka, W., Baum, A., Michalski, S. G. & Baum, H. (2017): Darwin's legacy in *Platanthera*: are there more than two species in the *Platanthera/chlorantha* group? *Plant Syst Evol* 303: 419–431.

Ettlinger, D. M. T. (1997) *Notes on British and Irish Orchids*. Privately Published by the Author.

Harrap, A. & Harrap, S. (2005) *Orchids of Britain and Ireland*. A&C Black, London.

Kreutz, C. A. J. (2019) *Orchideën van de Benelux*. Kreutz Publishers

Nilsson, L. A. (1985): 'Characteristics and distribution of intermediates between *Platanthera bifolia* and *P. chlorantha* (Orchidaceae) in the Nordic countries. *Nordic Journal of Botany* 5: 407–419.

Stace, C.A., Preston, C. D. & Pearman, D. A. (2015) *Hybrid Flora of the British Isles*. Botanical Society of the British Isles, Bristol.

Swainbank, T. (2017): 'Is the hybrid between Britain's two butterfly orchids, *Platanthera* × *hybrida* under recorded?'.*BSBI News*: 51–58.

Tyteca, D. & Esposito, F. (2018): 'Recent proposals in *Platanthera (Orchidaceae)* systematics in Western Europe, with focus on intermediate looking plants. *Journal Europäischer Orchideen*. 50: 393–408.

Forthcoming 2024 botanical tours include:

Greenwings
Wildlife Holidays

British day trips

Early Spider Orchids & Spring Butterflies

29 April **£75**

Enjoy a day out in Sussex with local guide Terry Goble looking for Early Spider Orchids in the beautiful South Downs along with spring butterflies such as Green Hairstreak, Grizzled & Dingy Skippers & reptiles like Adder & Wall Lizard.

Photography Workshop: Orchids & Butterflies

17/22 June **£125**

Join professional photographer Victoria Hillman for a day of macro photography in the Somerset Levels. With guidance to suit all abilities & a variety of species to enjoy, this promises to be a great day out.

European Escapes

Zagoria - Slow Pace in the Pindos

1-9 June **£1,395**

Explore Northwest Greece with expert botanist Yiannis Christofides. Visit the foothills of Mount Smolikas, composed of serpentine & hosting a large number of endemic plants. This is an area of almost pristine natural condition & varied habitats.

Butterflies & Flowers of Bulgaria

3-11 July **£1,495**

Visit Rila & Pirin National Parks, Kresna & Trigrad Gorges & the wildlife-rich Rhodopes on the border with Northern Greece. There are a number of Balkan endemics to look out for & the butterflies & flora are as varied as the habitats we explore.

Worldwide Adventures

Spring Flowers of the Western Cape

29 Aug-10 Sep **£3,895**

Visit the iconic South African Cape after the first spring rains turn the semi-barren landscape into a floral wonderland. Taking in a wide range of habitats & a number of National Parks, we'll share the very best flora & wildlife the region has to offer.

Orchids of the Cape Floral Kingdom

24 Nov-6 Dec **£3,995**

The Cape Floral Kingdom is an area of extraordinarily high diversity & endemism. Among the 9,000+ vascular plant species are a great many orchids & this tour focuses on finding these, several of which rely on fire for flowering. The *Disa* genus is especially varied.

2025 Destinations

Rhodes, Gargano, Sicily, Ireland, Sibillini, Dolomites, Cotswolds, Scotland, Somerset, Sussex, South Africa and more...

01473 254658 ◆ www.greenwings.co.uk

Monkton Nature Reserve: Reflections on a Former Rubbish Tip

James Douglas Bonthron

Monkton Nature Reserve is found on the outskirts of Ramsgate, in the village after which it is named. The surrounding area is mostly farmland and one of its immediate neighbours is the famous Thanet Earth. This huge glasshouse complex is one of the largest in the world, and produces around 400 million tonnes of tomatoes, 24 million tonnes of peppers and 30 million tonnes of cucumbers a year. (Thanet Earth, 2023). As well as producing vegetables, it has an area of land which it leaves in a semi-wild state. There is current collaborative work with Monkton Nature Reserve, helping to increase the biodiversity of wild plants on both sites. Being next to a main road, it does not seem a likely candidate for wildlife and its past use as a rubbish tip couldn't be further from the conservation idyll of pristine woodlands or babbling brooks.

However, if the Thanet Conservation Group had not had the visionary idea to save the space, then Thanet would not have its first record of a Broad-leaved Helleborine (*Epipactis helleborine*). So just how does a former rubbish tip turn into a haven for 13 species of orchid and how was the reserve's newest discovery made? Since 1799, the area had been used as a quarry (which now gives the reserve its distinct, sunken shape) and this only ceased in 1958. It was bought by the Margate Corporation ten years later and turned into a rubbish tip (Monkton Nature Reserve, 2023). Almost 45 years ago, the Thanet Conservation Group stepped in to preserve the former rubbish tip and in the relatively short time between then and now, the site has rebounded with wildlife.

As the site was allowed to regrow naturally, it is easy to understand how the orchids became established in the reserve. The new owners (the Thanet Conservation Trust became the Thanet Countryside Trust which operates the area now as a charity) discouraged invasive species and the lack of grass plus the chalky conditions were boons to opportunistic orchids.

The recovery of nature on the site has been helped hugely by the care and nurture of the Thanet Countryside Trust and the relatively recent push to record species on the reserve. An exciting new discovery on the reserve is the splendid Broad-Leaved Helleborine, *Epipactis helleborine,* which was reported in an earlier *JHOS*. The attractive plant is a tall, dark orchid and its leaves spiral around the steam. The drooping flowers are purple-tinged, and the plant flowers from July to September and

Fig. 1: View of Monkton Nature Reserve illustrating its former use as a quarry.

Fig. 2: Impressive colony of Man Orchids within Monkton Nature Reserve.
Photos by Simon Tarrant


1


2

its usual habitat is in scrub and woodland (The Wildlife Trusts, 2023). The plant was spotted just this July by a visitor to the reserve who happened to notice the single specimen off the path winding around the reserve's large pond.

The discovery of the Broad-Leaved Helleborine is not the first time that a rare orchid has been found on the reserve. In 1996, a single specimen of the Heart-flowered Tongue Orchid (*Serapias cordigera*) was found. This species usually frequents the Mediterranean region. The year after, three plants were found on the reserve. The colonisation of the reserve may well be natural, although there is still the possibility that seeds were blown from a local cultivation. If the plants are truly wild, then this means that Monkton Nature Reserve has the sole record of the Heart-flowered Tongue Orchid in the UK.

The reserve is very proud of its orchids, with much of the management plan dedicated to helping them. A range of orchids can be found, from the extremely scarce Greater Butterfly Orchid (*Platanthera chlorantha*) to the extremely abundant Man Orchid (*Orchis anthropophora*). The full list of species includes Bee Orchid (*Ophrys apifera*), Early-purple Orchid (*Orchis mascula*), Twayblade (*Neottia ovata*), Pyramidal Orchid (*Anacamptis pyramidalis*), Autumn Lady's-tresses (*Spiranthes spiralis*), Southern Marsh-orchid (*Dactylorhiza praetermissa*), Chalk Fragrant-orchid (*Gymnadenia conopsea*) and Lizard Orchid (*Himantoglossum hircinum*). Orchid surveying is also in full swing at the reserve, as part of rigorous efforts to record the abundance of species. This is a relatively new development, as part of a push for more surveying work.

The Man Orchid is a particular focus on the reserve, with over 900 being recorded last year. Boasting a significant population, it can be argued that Monkton Nature Reserve is (at least locally) important to the survival of Man Orchids in the southeast of England as the species is in decline (Rankou, 2011). Like many orchids, Man Orchid needs calcareous grassland to survive and prefers alkaline soils. Much care is devoted to these plants, particularly concerning browsing by Rabbits (*Oryctolagus cuniculus*). Earlier this year, the Hardy Orchid Society aided the reserve with a research grant to determine a way to deter the Rabbits without the need for plastic guards littering the site.

We started our investigation in the 2023 season with some preliminary work. Due to the abundance of Man Orchids they were used for most of the study, although Common Spotted Orchids (*Dactylorhiza fuchsii*) were also used. The main study was in an area affectionately known as "No Man's Land". Four distinct populations were chosen and used to test different experimental deterrent treatments: chilli powder, a heat compound with chilli, garlic, and a commercially available deterrent, called Grazers. In each case the treated orchids were compared with an untreated control

group and an untreated but cage protected group. The areas were left for six weeks before being examined when the lengths of leaves and surviving flower stems were measured.

Although this was very much a first look at the potential of these novel treatments, some conclusions could be made. We need to repeat work with garlic and the heat/chilli compound to get better data but the other two treatments gave useful information that is presented in the following table. Numbers for leaf length and flower spike length are the averages (cm) for all plants in the various experimental groups.

		Grazers	Chilli Powder
Treated	Number of Plants	8	11
	Leaf Length	5.2	6.2
	Flower Spike Length	17.8	10.1
Control	Number of Plants	11	12
	Leaf Length	5.8	5.8
	Flower Spike Length	0	0
Guards	Number of Plants	10	18
	Leaf Length	5.8	6.3
	Flower Spike Length	24.6	23.3

Perhaps the most important conclusion is the reinforcement of the utility of plastic guards against Rabbits. However, in the case of Grazers and Chilli Powder there is preliminary evidence that they do offer some protection in the absence of plastic guards.

References

Monkton Nature Reserve (2023). *About us*. Available at: https://monkton-reserve.org/about/ (Accessed: 12th September 2023).

Rankou, H. (2011). *Orchis anthropophora* (Europe assessment). *The IUCN Red List of Threatened Species*. https://www.iucnredlist.org/species/176017/7172337 (Accessed 12th September 2023).

Thanet Earth (2023). *Home Page*. Available at: https://www.thanetearth.com/ (Accessed: 13th September 2023).

The Wildlife Trusts (2023). *The Broad-leaved helleborine*. Available at: https://monkton-reserve.org/about/ (Accessed: 12th September 2023).

Acknowledgement

The author wishes to thank Dr Clive Nuttman for his extensive guidance.