International Rock Gardener

ISSN 2053-7557

Number 191 The Scottish Rock Garden Club December 2025

---International Rock Gardener---

December 2025

We welcome another instalment of Gerrit and Iep Eijkelenboom's orchid odyssey round the Mediterranean sea. This time they have visited Epirus, in Greece.

Gerrit Eijkelenboom in the flower strewn Dodoni theatre.

Also included is an article from a recent issue of The Rock Garden (the twice-yearly print journal of the Scottish Rock Garden Club) on the making of an orchid meadow. David and Jean Trudgill decided some years ago to try to make an "alpine meadow" with as many orchids added as they could manage, on their land in Scotland and in this article, they describe the process - which has proven most successful and provides an extra layer of interest to their Perthshire garden. It is clear that such a project takes both time and application, but the result is impressive!

David Trudgill in the meadow.

Cover image: *Dactylorhiza fuchsii.*

Orchids of Epirus, NW of Greece - Gerrit & Iep Eijkelenboom - a trip undertaken 25 April to 10 May 2025

Epirus is a large and sparsely populated province in north-western Greece. Its capital is Ioannina, with a population of over 100,000. This province is home to the Pindos Mountains, a wild and rugged mountainous landscape.

Position of Epirus, marked in red, used from the Internet.

We stayed in Parga, a small picturesque town on the Ionian Sea. It has a lovely harbour and lots of cats.

Parga, with sleeping cat.

The first orchid is named after the province of Epirus, ***Ophrys epirotica***. It is one of the many beautiful orchids that grow here. It is a colourful species, usually round in shape. The flowers are small and bloom late. The flowers often have a yellow edge. The speculum (the pattern on the lip) is simple, usually two parallel lines.

Ophrys epirotica

Ophrys helenae is a beautiful and unique orchid, with a cherry-red colour covering the entire lip, which is a unique phenomenon in the orchid world. I only know *Ophrys mavromata*, which is completely black. (or rather, very dark purple) This orchid from Kefalonia can be seen in my report on that island. *Ophrys helenae* is therefore considered to be an ancestor of *Ophrys mavromata*. The entire surface of the lip is velvety red.

Obviously, this orchid does not use sexual deception, as other species of the genus Ophrys do, by pretending to be a willing female and thus provoking fertilisation. Due to the lack of markings on the lip, recognition is not possible. Instead, this orchid offers male bees shelter during the cool morning hours, when fertilisation takes place (shelter mimicry).

Ophrys helenae

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Ophrys helenae

www.srgc.net Charity registered in Scotland SC000942 ISSN 2053-7557

Ophrys zeusii. It is a large orchid and also a large plant. Many flowers grow on a long spike. The lip of the flower is large, broad and three-lobed. The edges of the lip are wavy and yellow in colour. The speculum is a simple H. The edges of the petals are more or less wavy.

Ophrys zeusii

Ophrys zeusii

Ophrys hystera. This orchid is characterised by its late flowering time (late May, June) and large flowers. The lip has a triangular shape, which usually ends in a point. It has very pronounced swellings. This makes this orchid easy to recognise, but beware, a species that looks very similar is *Ophrys leucophthalma*. This orchid is easily recognisable by the white cap on the gynostemium (also called a column) that curves towards the pseudo-eyes, which are also white, followed by a horizontal white stripe at the stigmatic cavity. It is a late-flowering species, blooming in May and June.

This species also has large swellings, which are hairy on the outside and smooth on the inside. The tip is often white.

Ophrys hystera

Ophrys leucophthalma

Ophrys mammosa also resembles the previous two species, but flowers earlier, namely in March, April and early May. We were lucky to find this species.

Ophrys mammosa

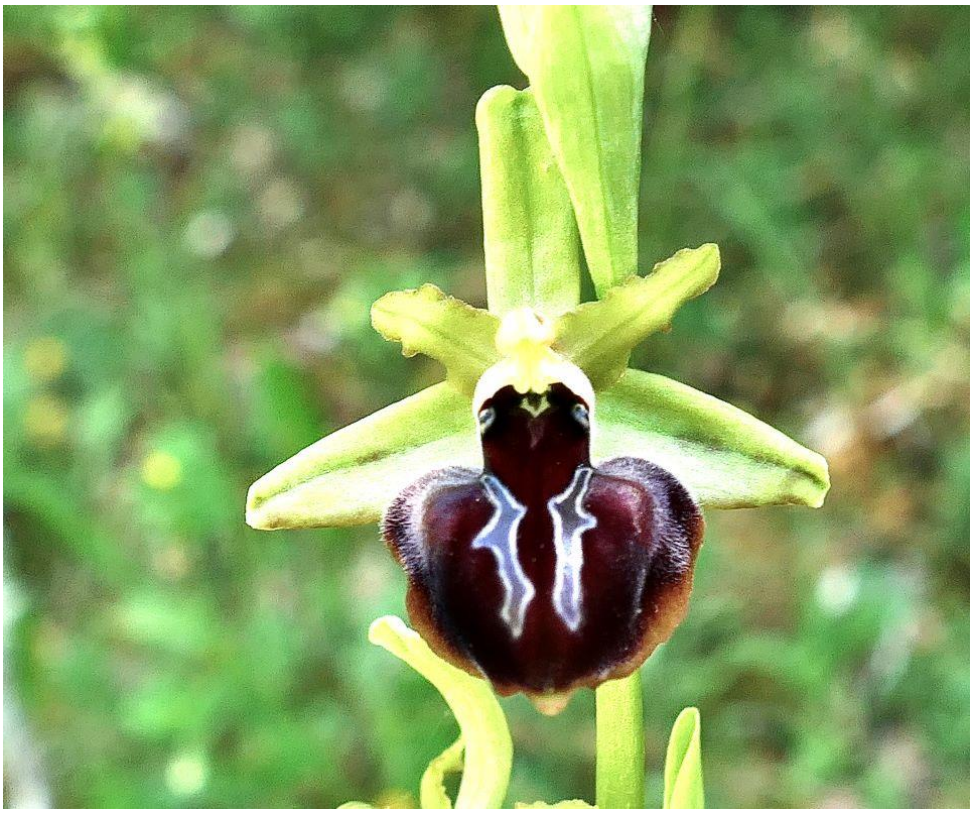
Ophrys grammica is a widespread species across mainland Greece, the Ionian Islands and Crete. It can be recognised by the light colour of the basal field. Few species have this characteristic.

Ophrys grammica

Ophrys macedonica. It is a variable species. Sometimes it shows small basal protuberances and a heart-shaped lip, which resembles *Ophrys epirotica*, and sometimes it has prominent swellings, with broad hairy shoulders. *O. macedonica* is a late bloomer and can be in bloom into June.

Ophrys macedonica

Ophrys chaonica.



This species is rare and occurs locally in Epirus and Greek Macedonia.

The petals are long, about half the length of the lateral sepals. The lip is very small and round, 5 to 7 mm, as long as it is wide. It is single-lobed, convex, with a beautiful deep dark red-brown colour, with hairs on the edges and shoulders. The edges are often yellow to red. The protuberances are hairy on the outside and smooth on the inside. The speculum is H-shaped.

Ophrys bombyliflora. This unusual orchid is fairly early. It has already finished flowering by mid-May. It is particularly striking because of its broad stigmatic cavity. The flowers are tiny, round and hairy. The red spot on top of the gynostemium (the column) is striking. This species grows in all countries around the Mediterranean, including the Canary Islands. They form colonies of identical individuals due to vegetative reproduction by means of root tubers, which is unique to the genus Ophrys.

Ophrys phryganae. The most important characteristic of this species is the abrupt bend (knee) at the base of the lip. A bend of almost 90°.

Ophrys sicula. This species is easily distinguished from *Ophrys phryganae* by its horizontal lip, which points straight forward and often even slightly upwards.

Ophrys negadensis. In a wide bend of a mountain road in the Zagoria region, not far from the village of Negades, we found a large group of more than 20 plants that had finished flowering. We found a last flower on two plants. After studying the various possibilities at home, I had to conclude that this was *Ophrys negadensis*. However, *Ophrys hebes* came close. But due to the fact that *Ophrys hebes* flowers two weeks earlier than *Ophrys negadensis*, I opted for that name. It is possible that both species have genetically influenced each other. Characteristics: *Ophrys negadensis* has very long petals, two-thirds of the length of the sepals. The lateral sepals point downwards, the lip has marginal white hairs. However, the pattern of the speculum does not match. It should cover most of the lip, which is not the case here.

Ophrys negadensis is named after the village of Negades. Negades is located in the Zagoria region. This area is known for its stone bridges. There are dozens of them, and it is great fun to visit a few. The most beautiful ones are located near the village of Kipoi.

Stone bridges

In the same Zagoria region, we found more species from the Orchis genus:

Orchis provincialis. This orchid is easy to distinguish from *Orchis pauciflora* by its much lighter yellow-coloured lip and the many red dots at the base.

Orchis purpurea

Orchis simia. An orchid with many dancing monkeys as flowers.

Odontorchis tridentata. (Formerly *Neotinea*) The lip has a white base colour with many purple spots and dots. The hood is formed by the sepals and petals. The sepals come together and the pointed tips point upwards like three teeth.

Orchis italica

Anacamptis pyramidalis

Anteriorchis fragrans

Ophrys apifera Well known to many and needs no further explanation.

In the Zagoria region, we only found a few specimens of ***Vermeulenia balcanica.*** That was all. The species *V. balcanica* was formerly called *Anacamptis rubra*, but since Karel Kreutz reclassified this genus, the genus name is now *Vermeulenia*, and the species name is *balcanica*. We did not find the main form, *Vermeulenia papilionacea*. I suspect we were too late.

Vermeulenia balcanica

Herorchis caucasica is an orchid that grows in abundance in Epirus. Whereas other orchids are eaten by cattle, cows and goats, this orchid remains untouched. This leads us to believe that they are poisonous to large grazers.

Herorchis caucasica is related to *Herorchis morio*. This species*, H. caucasica*, replaces *Herorchis morio* and *Herorchis picta* in Eastern Europe from Greece to Crimea in Ukraine. However, there are no clear differences. This also applies to the characteristics between *Herorchis morio* and *Herorchis picta.* These are apparently clear to taxonomists. The most obvious difference is the geographical distribution: morio for Western and Central Europe north of the Alps, picta for Southern Europe and caucasica for South-Eastern Europe, although it should be noted that the areas where they overlap are very vaguely defined. The most important identification characteristics are: fairly large plants, 15 to 30 cm, and green veins in the sepals.

Vermeulenia balcanica (or *Vermeulenia papilionacea*) x *Herorchis caucasica***.** This is the hybrid between the above-mentioned parents.

The ancient amphitheatre of Dodoni (see page two) is located not far south of Ioannina. It was built between 200 and 300 BC. The god Zeus was worshipped here. It could seat 17,000 spectators. It was part of a large city. In 167 BC, Dodoni was destroyed by the Romans.

Herorchis albanica

After purchasing a ticket for the archaeological site of Dodoni, walk towards the amphitheatre. Before you get there, you will see a vast lawn with hundreds of flowers in the middle. These are called ***Herorchis albanica***. They are pink in colour with light-coloured dots on the lip. The green veins on the lateral sepals reveal the origin of *Herorchis morio*. (In Greece, *Herorchis caucasica*.)

Herorchis skorpilii. In the area around the archaeological site of Dodoni, we found a species that resembles *Herorchis caucasica*, but whose middle lobe is longer than the lateral lobes. The spur also appears to be thicker than that of *Herorchis caucasica*. The inflorescence is dense and cylindrical with 15 to 20 flowers. The plants are not tall, 10 to 20 cm, smaller than *Herorchis caucasica*. Karel Kreutz mentions the location in his new book. This could be *Herorchis skorpilii.*

In the same area, we found ***Orchis quadripunctata*** on a steep roadside embankment. The species is easily recognisable by the four dots just in front of the stigmatic cavity.

Not far from Preveza Airport lies the ancient city of Nicopolis. The flora at such sites is often left undisturbed, resulting in exuberant flowering. The photo below shows *Oenothera speciosa.*

A road runs north from the airport. I don't mean the motorway. Along this road are many orchid sites.

I am now showing ***Ophrys ferrum-equinum*** with all its subspecies and varieties.

Ophrys ferrum-equinum has a medium-sized lip, dark brown to purple, oval, undivided with thick purple hairs at the edges, especially on the shoulders. The speculum is shaped like a horse's hoof, shiny blue. The basal field is absent.

Ophrys gottfriediana is now considered an independent taxon, formerly a subspecies of *Ophrys ferrum-equinum*. Taxonomists increasingly consider the subspecies to be independent taxa. *Ophrys gottfriediana* occurs mainly on the island of Kefalonia, where it grows in large groups. On the Greek mainland, it is known to occur in the coastal strip of Epirus.

There it occasionally occurs in groups of the nominate form. The most striking characteristic is the lip, which tapers to a point, giving it a triangular shape.

Ophrys ferrum-equinum **var. *labiosa***. This variety has a larger lip than the nominate form and has a rectangular or trapezoidal appearance. The colour of the lip is much more reddish. The margins are spreading and then reflexed.

Ophrys ferrum-equinum* forma *subtriloba. As the name suggests, the lip is three-lobed and resembles a muscular upper arm.

Ophrys ferrum-equinum.* var. *minor. Another subspecies with a clear name: small. 10 mm wide and 10 mm long.

Ophrys ferrum-equinum var. *minor*

Ophrys ferrum-equinum* var. *pseudogottfriediana. This variety has a colourful perianth. The lip is three-lobed and tapers to a point, as in *Ophrys gottfriediana*. The plant is rare, occurring mainly on the Aegean islands such as Santorini, but also on Rhodes. It is not known whether it also occurs in Epirus. The plant was found not far west of Kastri (Thesprotica.)

The Holy Monastery of Saint Demetrius. This Byzantine monastery was built in the 13th century. The church contains frescoes from the 17th and 18th centuries, most of which are still in good condition. It is a magnificent building and a must-see. The monastery is deserted and only tourists visit it now. When we arrived, everything was open and we were free to walk around. GPS 39.3074 20.5609 Kipseli (Preveza.)

***Ophrys oestrifera*.** The next three species are scolopaxoid. *Ophrys oestrifera* has medium-sized flowers. The lip is strongly 3-lobed. The side lobes are horn-shaped, with dense hair on the outside. The speculum is covered with numerous spots and stripes. The appendage is broad, yellow with three teeth, and protrudes forward.

Ophrys minuscula. This species has an extremely small inflorescence, with many flowers on a stem and many plants growing close together. The lip is approximately 7 mm long and 5 mm wide.
The lateral lobes are very long, even longer than the lip, and resemble horns. The pattern on the lip covers a large part of it, with broad yellow lines.

Ophrys attica. A scolopaxoid species, larger than the previous two described here. There are many flowers on a long stem. The perianth is green and the lateral lobes are horn-shaped.

In the extremely sparsely populated area north of the Igoumenitsa - Thessaloniki motorway, where you rarely encounter a car, you may come across the Greek tortoise (*Testudo hermanni*). The animals scurry along the roadside and when you stop, they try to get away quickly. But they are sometimes willing to pose for a photo.

Orchis (Paludorchis) laxiflora. Nowhere else in Europe have I seen *Orchis laxiflora* in so many places. *Orchis laxiflora* grows and flowers wherever water comes out of the ground, for example at the bottom of a slope. In other articles, I wrote about the disappearance of this species due to human intervention, which led to water flows being diverted into hills and mountains and wet areas being drained. In the province of Epirus, which is so sparsely populated, time seems to stand still, allowing this species to thrive.

Orchis (Paludorchis) palustris. The river Acheron flows into the Ionian Sea near the village of Amoudia, a sleepy village with a large sandy beach, where tourism has largely passed it by. This river and the more famous Styx river are two of the five rivers from Greek mythology that formed the Underworld, Hades.

The river Acheron runs partly underground, hence the name. In the delta formed by the Acheron, there is a large area full of *Orchis laxiflora* and only one specimen of *Orchis palustris*, at least after an intensive search. (Cross the river at the only bridge in Amoudia over the Acheron).

Serapias cordigera. This is an easily recognisable species because of its large lip (30-48 mm). The lip is heart-shaped and red in colour, spectacular when backlit.

Serapias orientalis. This is a fairly low taxon, about 30 cm high. The lip is fairly light in colour, as shown in the photo, orange-red.

Serapias orientalis

Serapias bergonii. A large and tall species, up to 50 cm long, with up to 12 flowers close to the stem. The flower colour is red-brown, sometimes light purple. They often occur in large groups. This is one of the easiest species to identify.

Serapias politisii. This species resembles *Serapis bergonii*, but the inflorescence is shorter and has fewer flowers per stem. This plant occurs on the islands of Kefalonia and Corfu and the adjacent coastal strip of mainland Greece.

Serapias vomeracea. This species is the largest of the *Serapias* genus, growing up to 60 cm tall, with up to 12 individual flowers. The flower colour varies from yellow-orange to deep red. According to various taxonomists, a new species, *Serapias longipetala*, would replace *Serapias vomeracea in* Italy, excluding Sicily, along the Croatian coast, Albania and western Greece.

As the name suggests, this new species has a very long lip, which can be seen in the photo.

Serapias longipetala

Serapias lingua. This species is easy to recognise because it occurs in groups and the lip is often red, yellow or white-pink in colour.

Books: I used the new book by Karel Kreutz to identify the species: Guide to the Orchids of Europe, North Africa and the Middle East. 2024.
Pierre Delforge: Orchidées d'Europe,
Spyros Tsiftsis and Zissis Antonopoulos: Atlas of the Greek Orchids. Vol. 1 and 2.

All photos Gerrit Eijkelenboom.

Creating a Wildflower Meadow with Orchids by David & Jean Trudgill

(Photos: Graham Wood and Paul Kingston)

Anacamptis pyramidalis (pyramidal orchid).

There is abundant advice available for those who wish to make a wildflower meadow, but much less for those who wish to include wild orchids in their mix. We hope to provide that advice for you. You will find complementary material in a recent video we made: go to *YouTube* and search for '*Newmill: creating and managing an orchid meadow*'. The basis of our article and the video is a small (0.14 ha) paddock that we bought because we needed somewhere to site a septic tank by our house near Blairgowrie in eastern Scotland. It was originally part of a larger field in a grass/barley rotation. For several years we grazed it with sheep but in 2003 we decided to convert it to wildflower meadow. Now, more than twenty years later, it is full of wildflowers, including fourteen species of orchid, all of which have been grown from seed broadcast with the help of the breezes.

Starting to create an orchid meadow

An important question for us when starting was '*what kind of wildflower meadow do we want*?' Yes, we wanted it to look colourful, but we also wanted it to be diverse and interesting, and to attract other wildlife. Water is always an attraction, so our first step was to dig a pond using a large-tracked excavator. Next, to ensure a clean start, we killed all the grass with glyphosate (*Roundup*). About three months later we repeated the application to kill any perennial weeds that had subsequently emerged.

A view to the west, over the meadow.

Unless your site is already a wildflower meadow, a clean start has several advantages, including the ability to determine the initial species of all the plants and, where desirable, to modify the site physically. We determined the soil acidity with a simple cheap pH meter such as is used to check fish tanks, and have subsequently added
large amounts (more than two kg per square metre) of agricultural lime, plus limestone chippings, to several areas in our meadow. In some we removed about five cm of topsoil and replaced it with lime that was then dug in.

Pond, after it was dug out, and then after filling. The surrounding ground was sprayed with glyphosate (*RoundUp*).

Wildflower seed mixtures

We sowed our meadow with a wildflower seed mixture from a local producer (*Scotia Seeds*); it contained species of several grasses and sixteen herbs, all of local provenance, including yellow rattle (*Rhinanthus minor*), a semi-parasite of grasses. Our mixture contained no legumes because one of our long-term aims was to decrease the soil fertility. We tried to avoid vigorous species that might become too dominant, and later experience has shown us that oxeye daisy (*Leucanthemum vulgare*), cat's ear (*Hypochaeris radicata*), and ribwort plantain (*Plantago lanceolata*) are to be avoided.

Smaller less competitive species that do well in our meadow include sweet vernal grass (*Anthoxanthum odoratum*), cowslips (*Primula veris*) and selfheal (*Prunella vulgaris*).

Above: *Primula veris.*

Left: *Anthoxanthum odoratum.*

We also added seed of our own, including snake's head fritillary (*Fritillaria meleagris*) and a small amount of seed of lesser butterfly orchid (*Platanthera bifolia*). Four years later, to our surprise, flowering plants of this species appeared. Spurred on by this success we have continued to spread seed of different orchid species and now, twenty or more years later, we have fourteen native orchid species flowering in our meadow.

Stachys sylvatica (hedge woundwort) is another smaller plant that does well in the meadow.

Management

It typically takes four years or more for orchids to flower. Consequently, creating and managing a wildflower meadow, especially one with orchids grown from seed, is a long-term project. It can also be hard work; if our meadow were much larger, it would be difficult to manage without farm machinery. The importance of appropriate management cannot be overstated. Its main aims are:

1) to protect the orchid plants from herbivore damage,

2) to decrease soil fertility and thereby reduce competition from the other plants in the meadow, and

3) to prevent any normal successional change from grassland to scrub.

To achieve the first aim, our meadow is fenced to exclude large herbivores. For the second and third we cut our meadow for hay, starting in late August when all the orchid seeds have matured. We do this using a lightweight, self-propelled mower with a cutter bar at the front. We often follow this by a further mowing three or four weeks later using a ride-on mower. On both occasions all the cuttings and mowings are removed to try to decrease soil fertility and, because of the volumes involved, their disposal needs to be planned in advance. We have never added any fertiliser, and we avoid using heavy machines that compact the soil and damage the plants.

White and red forms of snakes-head fritillary (*Fritillaria meleagris*).

Lesser butterfly orchid (*Platanthera bifolia*).

Below: *Platanthera bifolia* also with hybrid and *Dactylorhiza fuchsii* (common spotted orchid).

Creating diversity

Creating a diversity of habitats is important when trying to grow many different species. Orchid seeds are very tiny, and their germination requires the seed to be colonized by the hyphae of specific mycorrhizal fungi that the orchid then relies on to supply all its nutrients while developing underground.

Orchids are often patchily distributed, partly because these fungi may be localised and partly because orchids tend to occupy specific ecological niches.

In our meadow we have three distinct habitats. The first is around the pond. The pond is filled with water from the Lunan Burn, a watercourse that has an alkaline pH ranging between 7 and an environment similar to an alkaline flush and are favoured by seven of the orchid species that grow in our meadow. These are *Orchis mascula* (early purple orchid), *Anacamptis morio* (green-winged orchid), *Dactylorhiza maculata* (heath spotted orchid), *D. incarnata* (early marsh orchid), *D. praetermissa* (southern marsh orchid), *Platanthera chlorantha* (greater butterfly orchid), and *Epipactis palustris* (marsh helleborine).

Faded beauty in a senescent marsh helleborine *(Epipactis palustris*).

A second distinct habitat is provided by the small group of trees comprising a 'Pussy Willow' and two birch trees (*Betula utilis* and *B. pendula*) that we planted in the south-west corner of our meadow.

The broad-leaved helleborine, *Epipactis helleborine,* with *E. palustris* in the background.

Cephalanthera damasonium.

Two orchid species, broadleaved (*Epipactis helleborine*) and white helleborine (*Cephalanthera damasonium*) only grow in that area. This is because their roots need close association with a mycorrhizal fungus that is itself closely associated with tree roots. The fungus acts as an essential conduit, passing nutrients from the tree to the orchid. The shaded area under
the trees is also favoured by common twayblade (*Neottia ovata*), and a few marsh helleborine (*Epipactis palustris*) also grow here even though the soil is relatively dry. The latter is concentrated in an area where we had removed five to ten cm of turf and topsoil and replaced it with, and mixed in, dolomitic limestone and subsoil.

The third habitat, the largest part of our meadow, is best described as ‘open grassland’. The orchids that grow here are less specific regarding their habitat requirements and also grow around the pond, under the trees, or both. They include common spotted orchid (*Dactylorhiza fuchsii*), northern marsh orchid (*D. purpurella*) and pyramidal orchid (*Anacamptis pyramidalis*). Although these three species are numerous and widespread throughout our meadow, they are still patchily distributed, reflecting variation in the occurrence of the appropriate mycorrhizal fungi or of other biotic and abiotic factors. Lesser butterfly orchid also grows well across much of the meadow with more than sixty plants presently flowering each year.

Left: Common twayblade, *Neottia ovata.*

Right: Common spotted orchid, *Dactylorhiza fuchsii*.

Introducing orchids into a meadow

We have always introduced new species as seed that we have spread across the meadow. We have never used plants.

It is illegal to dig up wild plants without the landowner's permission, but it is not illegal to collect seed, except that of some rare species and that from areas such as Nature Reserves. When introducing a new species of orchid, we have tried to use the seed from at least four seed heads. In the past, we spread the seed by carefully and progressively opening the capsules in a light breeze while we moved back and forth across the whole of the meadow. Nowadays, to obtain a more even spread we gently mix the seed with a much larger volume of dry sieved peat or leaf mould. Orchid seed is tiny and lacks food reserves – hence the need for the involvement of a mycorrhizal fungus to supply the embryo with nutrients. Also, it lacks a hard outer shell (testa) and is easily damaged, so it must be handled gently and protected from crushing when being sent through the post. We try to distribute the seed in the autumn after the hay crop has been removed. Seed has several advantages compared with transplanted plants. It is usually free, it does not carry diseases, and it can be obtained in quite huge numbers – four orchid seed heads will probably contain more than 100,000 seeds. As our meadow is about 1400 square metres, this equates to more than 70 seeds per square metre.

Consequently, seed is also more likely to find itself in the parts of the meadow with the suitable conditions and mycorrhizal fungi for its germination and subsequent growth. Any plants that develop from seed and survive to flowering must, almost by definition, be in the right place where they and their progeny are likely to prosper.

In the meadow, northern marsh orchids (*Dactylorhiza purpurella)* with inset, *Orchis mascula.*

Guidelines for obtaining seed

These include seeking the landowner's permission, only taking seed from populations where the loss will not have a negative impact, and using seed from plants of known local provenance. Although some other people have been successful in transplanting orchids, we have had relatively poor survival rates when we moved plants from the paths in the meadow to other parts of it, despite taking a ball of soil twelve to fifteen cm in diameter. Instead, we now move such plants into pots, where they suffer less competition and stress, and we use them as a source for further seed.

Grass is inhibited by the semi-parasitic yellow-rattle *(Rhinanthus minor*).

The *Hardy Orchid Society* (*https://www.hardyorchidsociety.org.uk*) operates a seed bank and is a potential source of seed. In the past we have supplied it with seed in quantities sufficient for spreading across meadows. It publishes a quarterly journal, organises meetings, operates a forum for the exchange of information and ideas, and is a resource for information – all for less than £20 per year.

Southern marsh orchid *(Dactylorhiza praetermissa*) left, with the early marsh orchid *(D. incarnata)* and red hybrids.

Choice of orchid species

It pays to research which orchids grow locally and the types of sites where they occur. It is best to use seed from species that are locally abundant as this has two advantages: it is often easy to acquire seed from local sources; and the likelihood of success is greatest. Common spotted orchid (*Dactylorhiza fuchsii*) should always be included as it is a generalist that grows on many soils and in many situations. It is also relatively vigorous and grows taller than most orchid species. Northern marsh orchid (*D. purpurella*) is a good choice for damp soils in northern Britain and southern marsh orchid (*D. praetermissa*) in the south. Pyramidal orchid (*Anacamptis pyramidalis*) has been astonishingly successful in our meadow. We now have more than 1500 plants growing there despite its rarity elsewhere in eastern Scotland.

Final comments

The Botanical Society for Britain and Ireland has recently published *Plant Atlas 2020* that summarizes recent changes in the distributions of plants in Britain and Ireland. This has shown that the majority of orchid species in Britain have not expanded their geographic range in response to climate warming and have continued to decline. Consequently, our meadow and others like it may have a long-term conservation worth.

The bee orchid, *Ophrys apifera.*

In addition to their potential future conservation value, wildflower meadows are a delight that can provide interest and colour throughout much of the year. It is important, therefore, to think not only about orchids but to include herbs and trees with other desirable features. On warm days in early spring, the pussy willow in our meadow hums with the sound of bees collecting pollen and nectar. We have a succession of flowers that starts with wood anemones (*Anemone nemorosa*) and finishes with devil's-bit scabious (*Succisa pratensis*). The pond is alive with frogs, toads and dragonflies and attracts visitors such as herons and, occasionally, otters. The orchids are a bonus, but one that provides almost year-round interest. Species such as pyramidal orchid start to produce their new leaves in the early autumn and grow through the winter whereas others, such as common spotted orchid, do not emerge and produce leaves until early spring. In the winter and spring, we are busy finding and marking the newly emerging plants, and there is great rejoicing in the Trudgill household when we find that another new species has established in our meadow. In the spring of 2022, to our great surprise, we found nine plants of the white helleborine, (*Cephalanthera damasonium*). It was a surprise, firstly because it a species naturally confined to southern England and, secondly because we had spread the seed in March 2016 and - because more than six years had elapsed - had forgotten all about it. The moral of this incident is to record everything you do and never lose hope.