

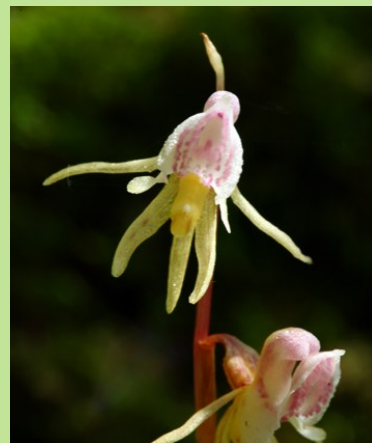
# The Ghost Orchid Project

## 2014

### End of Season Report

## Welcome to the Ghost Orchid Project Season Report for 2014!

The Ghost Orchid Project got off to a flying start for the 2014 season, with 26 new volunteers signing up and offering their time to the project. This enabled 7 sites in total to be searched on a regular basis throughout July, August and September, and in total 33 individual visits were made by our volunteers throughout the duration of the season (not including the guided Herefordshire visits). A huge thank you to everyone who took part over the summer and autumn – your help was absolutely vital and we couldn't have done it without you! We received some outstanding reports and incredibly detailed visit accounts from many of you, and we hope your much valued support will continue on in to the 2015 season!



### So, what have we learned?

Unfortunately (and as you can probably guess), **no Ghost Orchids were discovered throughout the duration of the 2014 season.** The main consensus from many of you was that the ground was just far too dry with very little rainfall throughout August and September, which will have been a huge contributing factor for this moisture sensitive species. This was mirrored by reports of a distinct lack of fungi throughout the majority of the sites, and whilst several species were observed in Herefordshire, numbers were much lower than in previous years. There were also very few indicator species such as Yellow Birds-nest, Birds-nest Orchids and Helleborine species which are usually found in good numbers at our key site.

Analysing the weather patterns from the Met Office for this year, rainfall was down considerably, with just **14.4mm in the south in 2014** in comparison to last years 72.9mm and 42.1mm in 2009 (the date of the last confirmed flowering). It is believed that the weather plays a key role in determining Ghost Orchid growth in the UK, and with the current mild weather this winter only time will tell what effects this will have on the forthcoming flowering season.

### European Links

As of this year, we are co-ordinating our UK searches in partnership with data from **various Ghost Orchid colonies throughout Europe.** A thorough data set of European records will enable us to identify trends and patterns of occurrence on the continent, with a particular emphasis on the numbers of flowering plants and specific plant sizes at each location. Weather data, indicator species abundance and the presence of *Inocybe* fungal bodies will also be vital information to help to form correlations between European conditions and those here in the UK, which should ultimately aid us in determining the ideal sites here in Britain. *If any of our recorders have visited or make regular trips to locations in Europe that hold Ghost Orchid colonies, then we would love to hear from you – please get in touch on [info@ghostorchidproject.co.uk](mailto:info@ghostorchidproject.co.uk).*



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#### Inocybe fungi—an important link



*Inocybe geophylla* var. *lilacina*—one of the key species for Ghost Orchid growth.

As documented in a paper by [Roy et al. \(2009\)](#), Ghost Orchids require a partnership with several types of fungi in order to survive, mainly of the genus **Inocybe**. Several species of *Inocybe* fungi grow in the UK, and we have compared the species that occur in Britain to the species listed as being utilised by Ghost Orchids in the findings from the study. As a result, we have established several species that are found in our woodlands here in Britain which are known to be found in a partnership with Ghost Orchids. Several in particular stand out, these being *Inocybe geophylla* (White Fibrecap) *Inocybe flocculosa* (Fleecy Fibrecap), *Inocybe lanuginosa* (Woolly Fibrecap), *Inocybe whitei* (Blushing Fibrecap), *Inocybe griseolilacina* (Lilac leg Fibrecap) and *Inocybe dulcamara*. ***Inocybe fuscidula*** is also found to be a main partner in Ghost Orchid populations on the continent, and one which the project will particularly aim to record throughout the 2015 season.

We will be using records of these species using maps from the **NBN Gateway website** to establish locations where there is fungal presence in nearby or ideal habitats close to the established Chilterns and Herefordshire sites. In turn, volunteers can also use the website (or get in touch with the project) in order to establish if any woods closer to home are known to include these species and may represent suitable habitat.

During 2015, we will be asking volunteers to keep an eye out and **register any records of *Inocybe* fungi that they find at the Ghost Orchid sites** (in particular those listed above), which could be an indication of Ghost Orchid presence or that the site is suitable. We have so far received a report from the warden at Warburg Nature Reserve in Bix, Oxfordshire (ideal Ghost Orchid habitat) which confirms the presence of 3 of the key species in the woodlands there, in addition to a number of other *Inocybe* species. Whilst the study by Roy et al. is far from conclusive, it nevertheless sheds more light on Ghost Orchid growth, so further analysis and investigation in to this subject is planned for the coming year, along with an ID guide detailing relevant *Inocybe* fungi for volunteers.



#### BSBI Annual Exhibition 2015

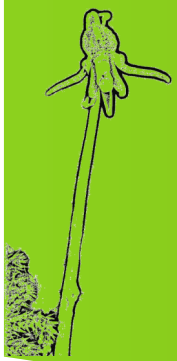
After a successful exhibit back in November, the Ghost Orchid Project team will again be hosting a stand at the **2015 BSBI Annual Exhibition** to spread the word of the importance of this tiny treasure. Held this year at The Natural History Museum in London, this is a fantastically organised event and a must in the calendar for anyone with a botanical interest. With 2014's event including a tour of the University of Leicester's incredible herbarium where one of the 1953 specimens found by Rex Graham at Marlow was displayed, this is a great opportunity to view Ghost Orchid specimens from years gone by. With an exhibit planned again this year we hope to see many of you there!



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#### The 2014 findings in more depth:

As well as the dryness of the soil being a main concern, very few indicator species were recorded from volunteers – perhaps indicating a poor flowering year with just one report of helleborine spikes (which were blind) and Yellow Birds-nest from William Bishop, and three reports of Birds-nest Orchid spikes from Brian Hodgkin, Jon Agar and Grahame Preston. The lack of fungi in comparison to previous years was also noted, although this naturally increased a little through September and October as the autumn progressed.

We had numerous accounts from volunteers detailing changes to the landscape at several sites that could have an adverse effect on Ghost Orchid flowering. Andrew Barnes and Kathryn Knapp reported that the woodlands were more overgrown with brambles than previous years, which could alter the habitat's soil and moisture levels and create a thicket unsuitable for Ghost Orchid growth. Several instances where tree thinning had taken place were also noted by Tony Vials and Simon Melville - changing the landscape and seeing increased ground flora appearing as a direct result of this. Volunteer Grahame Preston even reported what looked to be the start of a fence being erected at Site B (Satwell) although the location of this falls outside the areas of previous Ghost Orchid records so should not affect future searches.



An interesting red stick  
found by Jon Agar

Another point to consider was also the large amount of people in the locality noted by Andrew Barnes. Numerous dog walkers and horse riders were seen to be using the woods more often, which naturally leads to an increased threat of trampling and may result in the damage of developing plants. This is something to keep a note of in future years. Volunteer Duncan Harris searched suitable looking woodland in Exeter, but whilst conditions at the site looked ideal, nothing was found.

Overall, the main consensus from both the team here and our volunteers was that regarding the main Chilterns locations, Site B (Satwell) looked the most promising for Ghost Orchid growth, which, despite the very dry soil conditions, still held some damp hollows that looked favourable, as noted by Tony Vials and Grahame Preston. Site A (Marlow) was deemed to be far too dry, and the very few fungi and indicator species here this year confirmed our suspicions that although once the stronghold for the species, this site is becoming far from ideal as the years progress. Site E (Bear Wood), whilst not visited as often, did appear relatively damp at times (as noted by Mark Fessey at the end of August) but was otherwise far too dry.

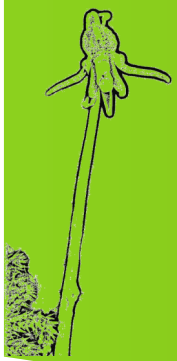
The guided searches at Site C (Herefordshire) were more promising, with greater numbers of fungi being reported as well as seemingly damper conditions which seemed better suited for Ghost Orchid growth. Various interesting finds were noted at this site indicating the richness of the habitat, with Birds-nest fungi and a Dormouse nest found by volunteers Paul Reade and Mike Poulton the most noteworthy.



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#### Branching out in Scotland

As the habitat in Scotland is very similar to that of locations where Ghost Orchids are found on the continent, we are looking for Scottish volunteers to get in touch and search suitable stands of woodland for the presence of Ghost Orchids. Even though there are no records of Ghost Orchids north of the English border to date, it is a possibility that a colony may reside in one of the dense Scottish forests, as of yet lying undiscovered and waiting to be found. This is an interesting concept that will need further development, and we hope to advance this study as the project progresses.



#### New e-mail address and website updates



As those sharp-eyed amongst you will have noticed, the Ghost Orchid Project has a brand new e-mail address. All correspondence should now be sent to [info@ghostorchidproject.co.uk](mailto:info@ghostorchidproject.co.uk) and one of the team will get back to you. The website also has a brand new "News and Project Updates" page that can be found at [www.ghostorchidproject.co.uk/news](http://www.ghostorchidproject.co.uk/news) - keep checking back here for project updates on searches and visits as the season progresses, as well as our Twitter and Facebook accounts ([@ghostorchiduk](https://twitter.com/ghostorchiduk) and [www.facebook.com/ghostorchidproject](https://www.facebook.com/ghostorchidproject)).

#### Our hopes for 2015!

This year, our intention is that the majority of the searches will be concentrated in Marlow, Satwell and Herefordshire, with the hope that Satwell will be checked on a more regular basis. We will also be advertising the project in villages and Natural History groups and societies close to the Chilterns sites in the hope of attracting additional local volunteers who will be able to help with the project on a frequent basis and fill in the gaps when no searches are scheduled. As Site C in Herefordshire held the last flowering record, increased guided searches will also be planned for this site throughout the summer and autumn. Another of our key aims will also be to target potential new sites that could harbour Ghost Orchids, as well as the traditional locations.

Hopefully, this year will bring considerably more rainfall to allow the sites to remain moist and damp throughout (although not too wet, we don't want a washout summer!) and fingers crossed for a flowering in 2015. Our huge thanks once again go out to our outstanding volunteers – without you the project wouldn't be possible on the scale that it is and our extreme gratitude goes out to everyone who took the time to search and send us a report. **Here's to a Ghost Orchid in 2015!**

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