

Bee Orchid Survey: Woodstock 2008-2012

Bob Pomfret

Location

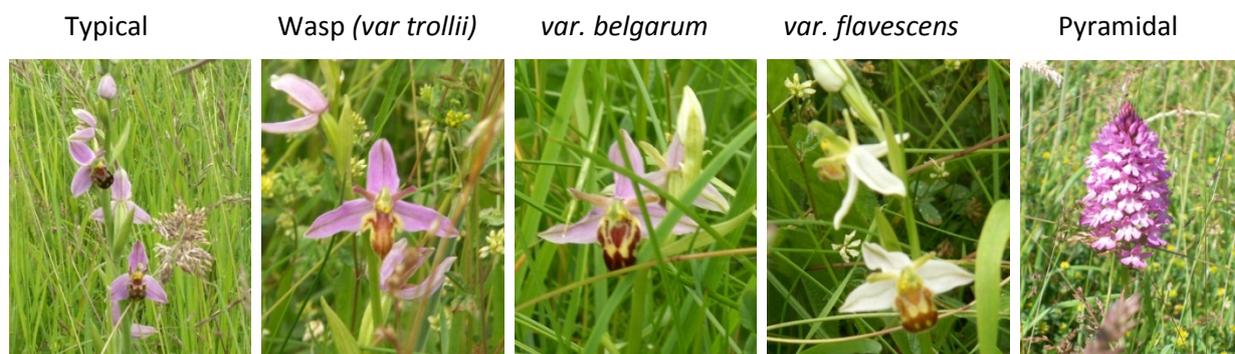
The site of the bee orchid colony is a field behind the Marlborough School, Woodstock (SP 457 170)

Before the summer of 2012, when the lease was not renewed, the field had been used as a school playing field for a number of years. Although most of the field has been cut regularly, one area at the Sansom's Lane end has mainly been left as rough grassland. Bee orchids were first noted there in 2001.

The field was mown and cleared in the autumn of 2007 and used for sports over the winter of 2007 and 2008. After consultation between myself and Simon Bult (Asst. Site Manager – Grounds) the school agreed not to use the site after March 2008. In the following years the field was not cut from February to August. We began to make an annual count in 2008 and were amazed at what we found.

Orchids on the site

After we carried out the first survey we were surprised and delighted to find that not only did we have a large number of Bee Orchids on the site but that as well as the typical Bee Orchid plants there were at least three variant forms and a small number of Pyramidal Orchids as well. We contacted Bill Temple, Conservation Officer at the Hardy Orchid society for advice. Bill, along with another Orchid enthusiast David Meadows, confirmed the types of orchid that we had found. All of the photographs below are of plants on the site taken in 2008 or 2009.



David Meadows, wrote about how excited he was by the site: *"We were able to locate all of the four variants of Bee orchid that you had recorded. I personally have never seen two of the variants before. My colleague had seen the variants before but not all four together. It was his view that this may be a unique site in Britain. According to the books, the bee orchid (*ophrys apifera*) is a European species that is quite common and widespread, but to put that into perspective, that does not mean that it occurs in large numbers. In fact, in this country, it is rare to see more than a few hundred in a population so 1200 in one small spot is unusual in itself.*

*More often than not, you see just a handful together. The wasp orchid variant, *ophrys apifera var trollii*, is quite local in the UK and is regarded as a Gloucestershire and Warwickshire variety. It occurs in a small number of sites in the Cotswolds, again, in just handfuls at a given site. The other two variants are also uncommon."*¹

The Survey

We divided the area into 18 rough 20 m squares (numbered 1A to 6C), see map below. Pairs of volunteers walked the squares counting the numbers of orchids in each square (They were given a printed visual guide to work with²). Photographs were taken to show examples of the orchid varieties.

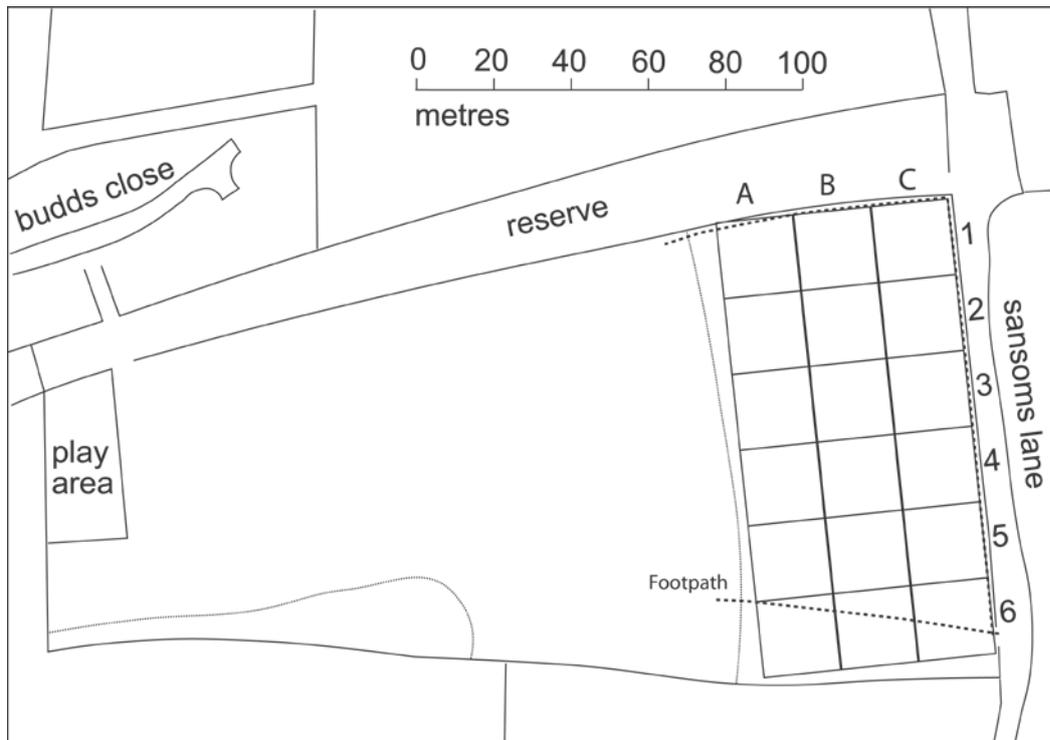
After the first count in June 2008, Bill Temple suggested that we could try a winter count to compare numbers. Bill came and led the first survey, showing us how to recognise the leaf rosettes of the bee orchid plants in the mown grassland (relatively easy after you get your eye in).

There were only three surveyors and we worked by walking the field in lengths and marking the orchids as we found them with plastic markers. Afterwards we took photographs to show how the orchids were distributed on the field and counted the plastic markers as we collected them up. It was quite time consuming so we finished the count over two weekends in February and March.

The photo's on the right show volunteers on the summer and winter surveys.



Map



Results

2008

June 18 2008: Orchids were recorded in 15 of the 18 squares. They tended to favour the areas where the grass grew less densely and were absent from the north east corner of the field where the grasses grew most densely.

We recorded 1266 individual plants. Of these at least 127 were considered to be *var. trollii* (wasp orchids), at least 55 *var. belgarum* (I think these may be the most under-recorded because they are less obviously different from the typical form) and 3 *var. flavescens*. There was also 1 Pyramidal orchid (*Anacamptis pyramidalis*).



2009

The winter survey February 21 and March 7 2009: was fascinating because we found that the orchid colony stretched beyond the area of rough grassland out on to the neighbouring football pitch. The pitch is mown throughout the year so these orchids have not had the opportunity to flower for at least 15 years (when it was last just a meadow). On the area covered by the summer count we found 1043 orchid rosettes.

The summer survey June 18 2009: Like 2008, orchids were recorded in 15 of the 18 squares. They tended to favour the areas where the grass grew less densely and were absent from the north east corner of the field where the grasses grew most densely.

We recorded 993 individual plants. Of these at least 85 were considered to be *var. trollii* (wasp orchids), at least 58 *var. belgarum* and 9 *var. flavescens*. There were also 5 Pyramidal orchids (*Anacamptis pyramidalis*). We also found 1 bee orchid in flower on the adjacent OWL nature reserve.

2010

In 2010 we did not carry out a survey. Instead we concentrated on removing the ragwort from the site – this ‘listed injurious weed’ is potentially deadly to livestock and there is a lot of it on site. We did two Ragwort Pulls on the site, one each with the Wychwood Project and the Green Gym. The pulled plants were burned on site.

However it was obvious that in 2010 there were very few flowering orchids on the site. Although I’m sure the numbers are under-recorded when I searched myself I noted only 22 bee orchids and 2 pyramidal orchids on the field. There were 2 bee orchids in flower on the reserve.

2011

June 22 2011: In comparison with the surveys in 2008 and 2009 the numbers of flowering orchids were hugely reduced. Those that were in bloom were also more stunted than in the previous surveys. Orchids were present in 11 of the 18 squares. As before they tended to favour the areas where the grass grew less densely and were absent from the north east corner of the field where the grasses grew most densely.

We recorded 38 individual plants. Of these 12 were considered to be *var. trollii* (wasp orchids), 5 *var. belgarum* and 0 *var. flavescens*. In addition we found 8 pyramidal orchids (*Anacamptis pyramidalis*). There were also 5 bee orchids in flower on the reserve.



2012

June 20 2012: This year produced our most disappointing survey, to date. We found flowering orchids in only 6 of the squares. There were 17 bee orchids. Almost all of these were small and stunted and it was difficult to decide which of the variations they were. Because of the stunted nature of the plants I'm sure that we will have missed others. We did also find 6 pyramidal orchids. On the reserve there were also 5 bee orchids and 2 pyramidal orchids in flower.

Current and Future Management of the site

Two hugely successful years have now been followed by three years when we have found far fewer flowering orchids. Bill Temple from the Hardy Orchid Society has reassured me that this is not unusual. Bee orchids are susceptible to weather conditions, especially in the spring. In the three years 2010 through 2012 we had exceptionally dry spring weather.

When I expressed concern to Bill about the situation in 2012 he wrote, *"In the last 4 years there have been early April droughts that have caused many Bee orchids to turn brown and disappear underground due to a lack of water. Assuming that the drought does not occur during flowering the orchids usually survive this, but return smaller the next year, or they decide to stay underground for up to 5 years before reappearing. My local Bee orchid site had 2500 rosettes in February, most of the rosettes had vanished by mid May"*³.



Back in 2008 we took advice about the best way to manage the site for the orchids, from David Meadows *"It is no good just leaving the site to look after itself. If it is left to its own devices, it will gradually decline and the bee orchids will eventually disappear. At the very least, the grass needs to be mowed once per year, roughly, at this time (mid-September is best) and the grass needs to be removed one or two weeks after cutting. The idea is to remove all of the nutrients so that the grass and other weeds are kept impoverished. Orchids do not compete very well with other strong growing plants. It goes without saying, that no fertiliser should be applied to the site."*⁴

In practice to fit with the School Summer holiday and to try and cut the field before the Ragwort had seeded the first mow after the orchids had flowered was usually in August.

In April 2013, the future of the site is now in doubt. In 2012 the school took the decision not to renew the lease on the field. As a result from the spring of 2012 they discontinued maintenance to the field, and since the summer of 2012 the field has not been cut.

The site sits alongside a new housing development and Pye Homes and Blenheim Estate have now published a proposal to build 64 houses on the field⁵. They would extend over the whole of the Bee Orchid colony.

To quote David Meadows once more. *"This is a very interesting site and needs to be preserved... this site may be unique in the UK."*⁶

References

^{1, 4, 6} David Meadows, email to Nina Sperinck, BTCV, 02/10/2008

² David Lang, Britain's Orchids: A guide to the identification and ecology of the wild orchids of Britain and Ireland www.britainorchids.fieldguide.co.uk/pdfs/bee_orchid_vars_forms.pdf

³ Bill Temple, Conservation Officer Hardy Orchid Society, email to Bob Pomfret, 06/06/2012

⁵ Pye Homes, Shipton Road Community Newsletter, April 2013

Thanks to Bill Temple and all of the volunteers from the Green Gym and the Wychwood Project, to Nina Sperinck, BTCV and to the Marlborough School especially Simon Bult