Narrow-leaved Helleborine *Cephalanthera longifolia* in the Wyre Forest

ROSEMARY WINNALL

Cephalanthera longifolia growing along disused railway line, 16 May 2015 Rosemary Winnall

I venture down into the woodland, mind alert and eyes scanning for a glimpse of white amongst the ground vegetation. I have chosen a day towards the end of May when the sun isn't shining, as searching is easier without the dappled light that makes Narrow-leaved Helleborine flowers so hard to see. They are also difficult to identify amongst a sea of bluebells in which some of their flowers are white, and these result in many a false alarm.

I know where most of the helleborine plants grow on this site and, like old friends, welcome their renewed presence each year. This section of the Wyre Forest, which looked so uniform 18 years ago when I first started to check this site, is now full of familiar niches and features which I have learned to recognise gradually. Memories come flooding back as I set foot on the winding path that leads up into the glade. I remember the slowworm sunning itself on the bank, the Silver-washed Fritillary larva lying still and spiny, and the Woodcock's nest with 4 young that we almost stepped on. And still, after all this time, I cannot help to experience a thrill of delightful recognition when I turn the corner and see a Narrow-leaved Helleborine in full flower at the start of another season.

But, as with all orchids, these helleborines are full of surprises. They are long-lived and each plant does not necessarily come up every year. It can remain dormant underground if conditions are not right, or produce a non-flowering plant in some years. At a glance the vegetative plants can look like grass or woodrush shoots and they often emerge above ground only when others have finished flowering, so several visits are needed during the summer to obtain an accurate count of plant numbers.

The only reasonable chance of discovering new helleborines is to be present when the plant is in full flower. So one needs to be in the right place at the right time, ideally before the deer come along to sample the succulent flowerheads. In a wet spring there can be an army of hungry slugs too, especially the large *Arion ater* agg. species, which emerge to graze amongst the vegetation in damp conditions, and some flowering spikes are 'slugged' every year. Evidence has also been obtained of a vole or mouse breaking off a helleborine stem and dragging it across to its hole where it was found sticking out, too large to be pulled right in.

It was 1997 when the Forestry Commission was contacted by Plantlife in connection with their Back from the Brink species recovery project. The Wyre Forest was chosen as one of 3 sites for the Narrow-leaved Helleborine to be studied in depth, with advice provided on management. At that time the Forestry Commission knew of only two sites in the Wyre Forest, with 15 flowering plants. It appeared that this species was very vulnerable to extinction with so few plants present.

I came into the project as a volunteer recorder in 1998 to develop this study and document results. Gradually, over the years, information was gathered about

historical sites, new locations were discovered, colonies were mapped and much data collected. Records were kept of all flowering and vegetative plants, numbers of flowers per spike (provided some indication of plant vigour), and fruiting success. An annual report was written and circulated and landowners contacted to discuss management. By 2000 we had 8 sites on record with 131 helleborines (of which 55 flowered) and had 10 historical sites located. (see Winall, 2000). Each year, with the help of many people, more information was gained about Narrow-leaved Helleborines in the Wyre Forest, and the study continued to develop. See Table 1 on page 76 and highlights below.

1999. Requests for records were made to local botanists and through the newsletter of Worcestershire Recorders. Historical records came in from John Bingham, Bill Thompson, John Meiklejohn, Roger Maskew and Mike Taylor. Three new colonies were found by Rosemary Winnall and Denise Bingham.

2000. One new site was found by walkers who had been alerted to look out for the flowers. Plants were found on another historical site even though searches had been unsuccessful in the previous 2 years. At the Red Route site discovered in 1999 at the side of a forestry track, 60 helleborines were found, but many were getting trampled and a line of fencing was erected to protect the plants from bikers, dogs and walkers. A few beech trees were removed from the Main Site and the footpath leading to a glade to the south was widened and scalloped in an attempt to encourage pollinator bees. A few helleborines were broken off during the Fallow deer rut.

2001. The late Hugh Hughes and I visited Hampshire where the late Richard Hedley showed us round Chappett's Coppice and kindly shared with us his wide knowledge of helleborines. The late Neville Wilde provided some invaluable historical data from his notebooks. An open helleborine fruit was found on the ground on 30th November 2001 full of germinating seeds (see photo below).

2002. Another historical site (Hickin's Site) was relocated after the discovery of one small vegetative plant under planted beech by Wayne Barnes whilst undertaking a botanical survey. This site subsequently became increasingly important as more vegetative plants were found during the next few years culminating in 28 in 2013 of which 15 flowered. John Day sent information about herbarium specimens that he'd found in the British Museum dating from between 1799 (one specimen labelled Wyre Forest and another from Abberley Hill) and 1950. This included one from the Golden Valley, Bewdley in 1899. I photographed Narrow-leaved Helleborines in Italy growing on limestone near Scheggino in Umbria.


Pod with germinating seeds, 30 Nov. 2001 R. Winnall

2003. A tenth site was found near the Whitty Pear by the same vigilant walkers as in 2000. This may have an association with the location of the herbarium specimen of 1855 (near the old sorb tree) and the reference from 1919 (south of the sorb tree). A mature oak fell in strong winds from the Main Site.

2004. The colony in the private garden at Loen is increasing each year since the removal of some shrubs allowing more light onto the site. Several seedlings grew up through the new gravel on the pathway alongside. 14 plants were present, 7 of which flowered. A flyer providing information about the Narrow-leaved Helleborine was circulated to local landowners, in the hope that more locations might be found.

2005. Two new sites on private land were discovered after speaking to residents of St. John's Lane. At one of these a helleborine was found growing up through the tarmac of their front drive (see photo below)! The Vascular Plant Red list for Great Britain (2005) showed a change in status of this plant to Vulnerable (having previously been classed as Nationally Scarce).


Narrow-leaved Helleborine, Wyre Forest Rosemary Winnall

2006. The Loen Site was destroyed during building work, although the gardener did attempt translocation. Another new site was found on a trackway near Uncllys (3 plants, 2 of which flowered). This was later destroyed by big machinery using the track. A visit to a woodland site near Aberdovey provided more information about habitat preferences. Andy Byfield from Plantlife visited


Vegetative helleborine, New Parks Rosemary Winnall

Wyre and advised on management. Natural England and the Forestry Commission joined forces to do some liming on half of the Main Site. Paul Reade came to assist with the fieldwork and has continued ever since. I had communication with Mike Edwards about his work for Hampshire and Isle of Weight Wildlife Trust about his investigation into potential insect pollinators for *Cephlanthera longifolia* (Edwards, 2000).


Liming, New Parks, 2 March 2006 {Phil Rudlin

2007. This year 145 plants were found on 13 sites and 50 of those flowered, but only 2 had fruits. Paul Reade and I did a 2 hour 'sweep search' for more plants at Hickin's site and found another 7 vegetative plants spread over a wide area (approx. 100m x 100m) under the dense shade of beech with some oak. This is an important woodland site at which more helleborines may be present.

2008. A single flowering plant was found on one of the historical sites along the disused railway line. (photo page 71). This is the first time since 1982 that a helleborine has been recorded along the railway line. Whilst in Scotland I came across one vegetative plant growing on the pathside on the Ardtornish Estate in Morven on 21st October 2008. The species was known hisgtorically from the estate (Brookes B.).

2009. Another new site was recorded this year from the St. John's Lane area, although the helleborines have been known by the owners for some years. Two mature oaks were found to have died on the Main Site. One beech tree was ring-barked at Hickin's Site to let more light onto the ground. On a visit to Arran, enquiries were made about this species on the island and the local botanist Tony Smith told me that none been seen for 3 years at the 3 known sites.

2010. A second visit to Morven in Scotland resulted in the find of a flowering plant close to the site discovered in 2008, plus 13 vigorous flowering spikes on the Lochaline to Drimnin Road at near Caisteal nan Con on 4th June 2010. Visiting sites outside Wyre can help with information about habitat preferences.

2011. This was a very early flowering season with some helleborines in full flower on 28th April! Another new site was discovered this year in New Parks at the edge of a forestry track. Across Wyre we recorded 107 flowering plants (out of 149) on 15 sites, the largest number since this project began. But considering that in 1981 John Bingham found 154 at just 3 sites, this is no reason for complacency. The fenced Red Route site continues to decline as other vegetation grows up in the increased light after the removal of some conifers.

2012. In an area above Hickin's site, where the oak and beech trees had been felled and the area fenced, Richard Boles discovered 12 new plants with 4 flowering. Then Paul Reade found 2 more just outside the fenceline. Paul also found 2 flowering plants on one of the historical sites - Beech Site. 31 helleborines fruited this year. 3 plants at one site had large numbers of fruits on each spike – 17, 11 and 9 – exceptional numbers not seen elsewhere. 65 plants (44 flowering) was the highest recorded at the St. John's Lane site. On the BSBI website (under herbaria@ home) Paul discovered some photographs of herbarium specimens of Narrow-leaved Helleborines from Wyre, most of which were labelled with the older name *Cephalanthera ensifolia,* as follows:
1835 Wyre Forest, Worcestershire, VC37
1883 8th June, Wyre Forest east of the Wyre Forest station, Bewdley, VC37


Narrow-leaved Helleborinesin cleared area R. Winnall

1897 25th May, Wyre Forest, Bewdley
1897 1st June, Bewdley, Park Woods
1900 May, Wyre Forest, Bewdley, Worcestershire, VC37
1901 2nd June, Wyre Forest, Worcestershire

2013. A second historical site along the disused railway line was found to contain a flowering plant this year. Peter Creed showed us another area where he'd photographed the helleborine in 1978 about 1km from the Visitor Centre. A record number of 244 helleborines were found this year of which 161 flowered and 27 fruited. Excavations by machinery at the end of St. John's Lane seriously eroded the bank, scooping away some of the soil where helleborines grew. Paul Reade and I visited Phil Seaton in his laboratory at King Charles School in Kidderminster where he is working in conjunction with Kew to attempt to germinate *Cephalanthera longifolia* from seed. He harvested one seedpod from a Wyre site on private land, and shared the seed with Kew's Millennium Seed Bank and Conservation Biotechnology Unit. Studies continue to try to isolate the fungi involved in germination and growth.

2014. Two more new sites were discovered this year. A training course was held (organised through Natural England's Species Surveillance Project), tutored by myself and Paul Reade, to recruit more helpers for this developing study. 6 persons attended and helped with the 2014 data collection. The woodland holding the Secondary Site was cut through during the winter of 2014/15 and later fenced.

2015. The protective fence was removed from Red Route Site as growth of dense vegetation was resulting in too much competition and shading for the helleborines and numbers had declined from 60 in 2000 to just 4 small plants in 2015. Paul Rutter from Plantlife visited and arranged for funding to open up a curving ride down through Hickins site in an attempt to encourage more helleborines there to flower and fruit. Paul Reade is to monitor changes. Phil Seaton reported no success yet in germinating this species from seed.

After 18 years of study we have learned a little more about Narrow-leaved Helleborines in Wyre. We have a better knowledge of where many of growing and some of the conditions they require. They are known to prefer soils that are not too acidic and these conditions occur in parts of Wyre. In fact many of our helleborine sites are associated with man-made features that provide this. One is a previously limed deer lawn, a couple are along the disused railway line which has imported ballast, 6 sites are alongside forest tracks where there is imported stone, 3 sites are in gardens (which act as woodland glades) within


Opened ride through New Parks, 12 Feb. 2015 Phil Rudlin

the forest, 2 are on old charcoal hearths and 2 are associated with buried bricks and mortar that have been used in the past to reinforce tracks. On our 3 'natural' woodland sites in Wyre the helleborines are usually found growing in association with Wood Spurge *Euphorbia amygdaloides* and Wood False Brome *Brachypodium sylvaticum,* both indicating that the soils are not too acidic. During the search for new plants, it is worth looking out for these. When we are considering management, it is important to try to get environmental conditions right for the hellborines plants to flower and to reproduce, of course, to safeguard the population. As fruits do not dehisce until October, they are vulnerable for many months each year. Management of adjacent land for solitary bees, which are thought to be the pollinating insects, needs also to be considered. Although these helleborines need the right amount of light to flower, they do not like competition, and if there is too much light other stronger vegetation will grow up and shade them out. There are almost certainly more colonies to discover in Wyre, and as conifers are removed and the forest opened up, some of these may come to light – quite literally! At present the majority of known Narrow-leaved Helleborines grow in New Parks, and all are in Worcestershire. Can they be found elsewhere?

The present colonies are still very vulnerable and in need of continual sensitive conservation, especially as more pressures grow on landuse in and around the forest. Threats include use of heavy forest machinery, indiscriminate bonfires and log stacking, increased visitor pressure in the forest, garden landscaping, as well as climate change. I have seen helleborines trampled by nature photographers in search of the perfect image. Then there was the year when horse riders set up some jumps on the main site amongst the helleborines. Mountain bike tracks were still in evidence on one occasion when I found our only

fruiting plant there run over and squashed in the mud. Dialogue needs to continue with all landowners.

I am now handing over this study into the safe hands of Paul Reade (Worcestershire's Botanical Society of the British Isles county recorder) and I would like to thank all those you have helped over many years. Historical records have been invaluable and were received from John Bingham, Mike Taylor, Phil Rudlin, Bill Thompson, the late Neville Wilde, John Robinson, John Meiklejohn, Roger Maskew, John Day and Peter Creed, some of whom also contributed photographs which have been very helpful in checking habitat and plant associations. The following people reported new sites: Denise Bingham, Phil Rudlin, Dave Grundy, Wayne Barnes, Freda Thomson, the late Joan Davenport, Yvonne Rundell, Richard Boles, Phil Rudlin, Linda Iles, Paul Reade and Sean Cole. The late Hugh Hughes helped with the fieldwork for a number of years at the beginning of the study, with Paul Reade coming in from 2006 onwards. Paul's dedicated commitment, excellent fieldwork skills and enquiring mind have brought so much to this study over many years. The following persons have helped with the collection of data in recent years: Jaswinder Boparai, Lynne Farquhar, Alice James, Essie Bear-Pearce, Sally Pendergast and Linda Iles. Advice on management has been received from Plantlife International (Andy Byfield, Belinda Wheeler and Paul Rutter), the Forestry Commission (Ian Hickman, Richard Boles and Phil Rudlin), and from Natural England (Tim Dixon, the late Simon Walker, and John Bingham). I had annual communication with the late Richard Hedley from Hampshire for many years, and Roger Jukes who checks the helleborines in Oversley Wood, Warwickshire. John Day and Paul Reade kindly submitted information of herbarium specimens collected from the Wyre Forest as long ago as 1799, the location details of which were of note. GIS maps have been created with help from Andy Grubb, Mick Blythe and Graham Hill. My final and very grateful thanks go to all the landowners who have provided permission for access and maintained an interest in these plants and this study. I shall not mention all by name to protect the identity of these locations, but I have very much appreciated your interest and co-operation over many years. Thank you all!

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Cephalanthera longifolia growing alongside forest track, 6 May 2011 Rosemary Winnall

Cephalanthera longifolia fruits 24 July 2003 R. Winnall

Table 1. Narrow-leaved Helleborine *Cephalanthera longifolia* in the Wyre Forest, 2015

	Site A			Site B			Site C			Site D						Site E			Site F			Site G			Site H						Site I			Site J						Site K			Site M			Site N			Site L					
Year	Main			Secondary			Glade			St. John's Lane			Loen			Red Route			Maskew's			Visitor Centre			Hickin's			Whitty Pear			Site I			Site J			Unellys			Railway Line			Site M			Beech Site			Railway Line			TOTALS		
	P	F	S	P	F	S	P	F	S	P	F	S	P	F	S	P	F	S	P	F	S	P	F	S	P	F	S	P	F	S	P	F	S	P	F	S	P	F	S	P	F	S	P	F	S	P	F	S	P	F	S
	P - plants, F - flowering plants, S - fruiting plants																																																		
1967		90	NW																																															90		
1970	present		FF																																																
1971		30	NW																																															30		
1975		30	NW																																															30		
1976													present		FF																																					
1978		80	JB																																															80		
1979		46	JB		3	JB		15	JB																																									64		
1980		26	JB		6	JB		10	JB																																									42		
1981		126	JB		7	JB		21	JB																																									154		
1982		50	NW		6	JB		12	JB																																									68		
1983		24	JB		3	JB		19	JB																																									46		
1984		24	JB		1	JB		13	JB																																									38		
1985		40	NW				4(area ploughed)		JR																																										40		
1987		5	NW																3	RM														present	SG																
88/89	15 trees felled NW																																																			
1990								20	JB																																												
1991													present		RW				3	JR																																	
1997	13	13	2	2	2	PR																																												15	15	2
1998	15	12	3	4	4	1	3	3	1																																									22	18	4
1999	16	2	0	3	2	0	4	3	0	12	8	2	2	2	0	16	1	0																																53	18	2
2000	27	11	3	14	5	0	4	3	0	13	13	3	6	5	0	60	14	0	4	3	0	3	1	0																										131	55	6
2001	20	9	3	9	0	0	5	5	0	8	3?	0	6	5	0	59	13	1	6	4	1	2	2	0																										115	41	5
2002	30	11	3	12	1	1	7	7	0	5	5	0	4	2	0	53	20	6	6	2	0	4	1	0	2	0	0																						123	49	10
2003	25	14	2	6	3	0	7	7	0	5	4	0	12	6	0	46	20	5	5	4	2	1	1	0	2	0	0	1	1	0																		110	60	9
2004	32	16	4	8	4	0	6	4	0	11	8	?	14	7	0	39	6	2	2	1	0	0	0	0	1	0	0	1	1	0																		114	47	6
2005	14	9	0	3	2	0	6	6	1	11	10	0	18	12	0	25	9	2	3	2	0	0	0	0	3	0	0	1	1	0	7	4	0	7	6	3												98	61	6
2006	23	18	0	1	0	0	5	4	0	14	13	3	site destroyed			10	6	0	2	1	0	4	1	0	2	0	0	0	0	0	?	?	0	7	4	0	3	2	0										78	56	3
2007	31	13	1	9	0	0	8	4	0	21	13	1				35	5	0	4	1	0	6	2	0	8	0	0	2	0	0	6	5	0	14	7	0	1	0	0										145	50	2
2008	36	19	2	7	2	0	7	5	0	28	24	0				13	1	0	5	2	0	6	2	0	6	1	0	1	0	0	6	6	0	23	10	1	0	0	0	1	1	0							139	73	3
2009	14	9	1	2	1	0	4	3	0	38	25	1	Site O			13	2	0	2	1	0	4	3	0	5	0	0	0	0	0	9	7	0	9	3	0	0	0	0	1	1	0	8	8	2				109	63	3
2010	25	15	2	3	3	0	9	8	0	54	43	7	Bank Site			14	3	0	4	1	0	5	2	0	8	0	0	None to 2014			?	?	?	?	?	?	0	0	0	1	1	0	10	10	2				133	86	11
2011	45	37	2	3	2	1	5	3	0	59	43	3	1	1	0	9	3	0	3	2	0	5	2	0	6	1	0				?	?	?	?	?	?	None to 2014			1	1	0	12	12	2				149	107	8
2012	52	43	13	3	2	1	13	10	3	65	44	3	0	0	0	14	3	0	4	3	0	4	2	1	22	6	3	Site P			?	2	?	?	?	?	Site Q			0	0	0	16	16	6	2	2	1				195	133	31
2013	96	60	10	5	2	1	17	8	1	55	39	2	2	2	0	6	2	0	4	3	0	2	1	0	28	15	5	St. George's			1+	1+	?	5	5	?	Middle Site			1	1	?	20	20	8	1	1	0	1	1	?	244	161	27
2014	30	18	2	4	2	0	15	6	0	23	22	0	1	1	0	3	1	0	2	1	0	2	0	0	15	9	3	6	6	0	2	1	0	2	0	0	4	1	0	0	0	0	24	24	9	2	1	1	1	1	?	136	94	15
2015	45	26	1	1	1	1	12	7	0	21	15	1	1	0	0	4	2	0	1	0	0	5	1	0	15	8	0	11	11	1	2	2	?	4	3	?	3	2	1	2	2	0	26	26	7	2	2	0	0	0	0	155	108	12
	NW - Neville Wilde, JB - John Bingham, PR - Phil Rudlin, FF - Fred Fincher, RM - Roger Maskew, RW - Rosemary Winnall, JR - John Robinson, SG - Sonia Groucher																																																		

This article is an extract from the Wyre Forest Study Group annual Review 2015