WILTSHIRE BOTANICAL SOCIETY NEWSLETTER

2021 No. 4

Contents

Website: http://www.wiltsbotsoc.co.uk

Green-flowered Helleborine

- *Epipactis phyllanthes* or just another Broad-leaved Helleborine *E. helleborine*?

Last September I was shown a number of helleborine plants which were, of course, in fruit at that time. A few of these had noticeably pendulous and rather glabrous capsules and so the possibility of them being *E. phyllanthes* sprang to mind. Clearly another visit would be needed in July 2021.

The first visit in 2021 showed that some of the plants were undoubtedly *E. helleborine* but for others the jury was still out. Sharon directed me to 'Stace' where the key readily separates the two on the basis of three characters the most decisive of which is the hairs, or lack of them, on the inflorescence –axis. I decided that a visit to a known site for *E. phyllanthes* was needed and persuaded Anne and Sue to accompany me. (That bit was easy). I also felt that a checklist of potentially useful features to note would be a very helpful and set about selecting characters using several reference books; Stace, Poland, Rich & Jermy and Harrap. Nine points were noted and a spreadsheet drawn up based on the following:

1. Whether or not the inflorescence-axis was hairy
2. The arrangement of the leaves on the stem
3. Whether or not the leaves are longer than the internodes
4. Whether the lowest leaf is the broadest
5. Whether the leaf tip is acute or acuminate
6. The number of veins on each side of the midrib of a leaf
7. Whether there are 3 – 7 veins clearly raised on each side of the lower leaf surface
8. Whether the ovary is large, glabrous and if the stalk is green or washed purple
9. If the flowers and / or fruits are pendulous or +/- horizontal.

The checklist was used to record these features in a sample of six *Epipactis phyllanthes* from a known population, a sample of seven *Epipactis helleborine* from a known population and also twenty six plants the identity of which had not been fully determined (those referred to in the opening paragraph). Characters such as the cilia on the leaf margins were not included because they were not readily determined in the field. There is also a discrepancy between the information provided in Harrap and that in Poland relating to this feature. Floral attributes were also avoided because specimens may not be in prime condition and errors could occur.

Of the points listed above **items 2, 6, 7 and 8** proved to be the most reliable.

Item 1 was one of the most confusing because no axis proved to be entirely glabrous. Plants that were clearly *E. phyllanthes* had a mealy look to them and, on closer inspection, were found to have many short, stout 'prickle' hairs, as described in Rich & Jermy. Plants of *E. helleborine* had many more of these and also a few more usual, longer hairs. Thus there is a considerable difference in density which only becomes apparent if you are very familiar with both species.

Item 3 worked well for *E. helleborine* as the leaves were consistently longer than the internodes but, for *E. phyllanthes* they were shorter in only three plants while one was too badly slug-eaten to judge and two others were equal to longer than the internodes.

Item 4 proved to be useless. About half the plants in each of the two groups complied with the notion that the lowest leaf should be broadest in *E. phyllanthes* while the mid-leaf should be the broadest in *E. helleborine*.

Item 5 also showed too much variation to be of value.

Item 8 worked well in relation to the colour of the pedicel, being green in *E. phyllanthes* and washed purple in *E. helleborine*. The size of the ovary was not reliable, at least at flowering time, and in several instances the fruits of both species were pubescent.

Item 9 is of limited value since young inflorescences of *E. helleborine* can appear quite pendulous, although they become more erect in flower, whilst those of *E. phyllanthes* are generally pendulous, but not exclusively so.

And so to the population of plants which were unidentified. They were all within about 100m of each other and contained within a deer exclusion pen within a hazel coppice area. Some predation by slugs or snails was evident, hence the data from plants 4,9,14 and 15 were insufficient.

The information obtained from the other 22 plants shows, with little doubt, that they were *Epipactis helleborine* and comparison with the sample groups indicated to us just how variable this species can be. Even so, the essential four or five characteristics which had been shown to be most reliable provided the necessary evidence.

References:
Harrap A&H Orchids of Britain and Ireland 2005
Poland J. and Clements E. The Vegetative Key to the British Flora 2nd Ed. 2020
Rich T.C.G. and Jermy A.C. The Plant Crib 1998
Stace C. New Flora of the British Isles 4th Edition 2019

E. helleborine – typical form with large leaves, longer than the internodes and spirally arranged on the stem

E. phyllanthes - typical form with pendulous green flowers, small leaves which are shorter than the internodes. The two-ranked leaf arrangement is clear on the second specimen

Detail of the lower surface of the leaf of *E. helleborine* showing more than 15 veins on each side of the midrib and several raised veins on each side.

Detail of the lower surface of the leaf of *E. phyllanthes* showing about 15 veins on each side of the midrib and none significantly raised.

E. helleborine flower axis showing numerous short 'hairs' which are probably better described as short, stout prickle hairs. Only a few longer, more typical hairs can be seen. The ovary is also notably hairy.

E. phyllanthes flower axis also has a mealy or pubescent appearance which extends to the ovaries. Although significantly less dense than in the example of *E. helleborine* above, this feature can be confusing if the description 'glabrous', which appears in some texts, is anticipated.

Do not pay too much attention to the apparently green, pendulous nature of this spike but look instead at the arrangement and

To conclude: there seem to be several reliable vegetative features which allow clear distinction between these two species, even when they are growing in sub-optimal conditions and appear to offer hope of the more rare *E. phyllanthes.*

My thanks to Anne Appleyard and Sue Fitzpatrick for their help in monitoring the populations.

On the opposite page, there is a checklist of all the features recorded, on which these conclusions were drawn.

Pat Woodruffe

A useful checklist to help with field observations might look like this:

Epipactis helleborine	*Epipactis phyllanthes*
Leaves spiralling on stem	Leaves two-ranked
Leaves usually longer than the internodes	Leaves often shorter than the internodes
Leaves with 15-40 veins each side of the midrib	Leaves with about 15 veins each side of the midrib
3 – 7 veins on each side of the underside clearly raised	No veins clearly raised more than others
Flower / fruit stalk washed purple at base	Flower / fruit stalk green

A summary of all the features recorded, on which these conclusions were drawn, is attached.

Characteristic: **Red = *E. Phyllanthes*,** **Black = *E. helleborine***	**Result from 7 specimens of *E. helleborine***	**Result from 6 specimens of *E. phyllanthes***	**Results from 23 undetermined plants**
Upper stem with some short, curved hairs, sometimes glabrous but often mealy		3 positive, 3 indet	
Upper stem with numerous short, curved hairs	7 positive		20 positive, 1 indet, 2 dam
Leaves two ranked		5 positive, 1 with 1 leaf	
Leaves spiralling the stem	7 positive		22 positive, 1 indet
Leaves often shorter than the internodes		3 positive, 3 indet	
Leaves longer than the internodes	7 positive		22 positive, 1 indet
Lowest leaf usually the broadest (3-7 x 1.5 - 3cm)		3 positive, 2 dam	
Mid-stem leaf often broadest, or equal width to the lowest	3 positive, 4 indet	1 indeterminate	15 positive, 6 indet, 2 dam
Leaves acuminate, tapering to a tip from a broad leaf, therefore with a wide angle		4 acuminate, 2 indet	
Leaves acute to acuminate, tapering more gradually and with a smaller angle	3 acute, 4 acuminate		18 positive, 3 indet, 2 dam
Leaves with c 15 veins each side of the midrib		6 positive	
Leaves with 15 - 40 veins on either side of the midrib	7 positive		23 positive
Veins uniformly raised on the lower surface		6 positive	
3 - 7 main veins markedly raised on the lower surface	7 positive		22 positive, 1 dam
Ovary large, glabrous to pubescent, may be shiny. Pedicel green.		6 positive	
Ovary pubescent. Pedicel washed purple at base.	7 positive		17 positive, 2 indet, 4 dam
Flowers and ovaries often markedly drooping		5 positive, 1 indet	
Flowers tending to be held more or less horizontally	6 positive, 1 indet		13 positive, 1 indet, 9 dam

WBS Residential Visit 2022.

Your committee has decided to plan for an out of county visit next year but, given the uncertainties of the ongoing pandemic, we have made some significant changes.

The hire of a large country house which enables many of us to stay together under one roof has been much appreciated but it brings with it several risks, firstly the potential for the transmission of Covid-19 should anyone (unknowingly) be infected and secondly the financial risk to the Society. The cost of such accommodation has risen significantly – the large house in Suffolk that we intended to use now charges over £3000 for 4 nights. Not only does this raise the contribution made by individuals but it is also a potential burden on the finances of the Society, should things go awry. We were fortunate last year to have the full deposit returned. It has therefore been decided that participating members should book their own accommodation. This does not, of course, preclude small groups of members joining forces if they wish to.

The level of organisation of the field trips has also been under discussion and remains flexible, according to the availability of those with local knowledge. The idea of seeking things for ourselves, rather than being led to 'good plants', is attractive to many. Critical though, is the choice of worthwhile and interesting places to visit.

Although the Suffolk visit remains an attractive proposition, it might be prudent to stay closer to home for this coming year. One suggestion is a two-days-in-the-field visit to Somerset, to include The Levels and the coast. Members in the west of Wiltshire may wish to commute and for others a town such as Bridgewater could make a useful base. The likely timing would be early June, avoiding the bank holiday / half term period of the first week.

Pat Woodruffe

Somerset Levels

A Note from the Project Group

I am writing to the membership hoping to get their input on the following proposal:

A virtual library/bookshop.

What do I mean by this? Nearly all of us with a background in the natural sciences, botany et cetera have acquired over the years a large number of books which we do not now use.

As the society acquires new members, the opportunity to pass on, either through the method of lend, gift, or sell, those books that we no longer use ourselves, I think should be considered.

What sort of things am I thinking of?

Historical Floras of the county - these are now hard to get hold of, and sometimes expensive.

- The Wiltshire Flora (Ed. Beatrice Gillam, 1993)
- The Supplement to the Flora of Wiltshire (L.F. Stearn, 1975)
- The Flora Wiltshire, Preston 1888 (the first Flora of Wiltshire in book form)

Books on identification

- These come and go, but many of us still use Clapham, Tutin and Warburg ("CTW"). The third edition still has a very prominent position in my library. It has better species descriptions than Stace (see below).
- Our standard ID book, the New Flora of the British Isles, Clive Stace, 3rd edition has now been superseded by edition 4, but Stace 3 is still hugely useful. Would members with Stace 4 like to pass on their Stace 3?

BSBI specialist handbooks, ranging through Sedges, Docks, Willows, Crucifers, et cetera.

If you have some of these books, would you be willing to pass them on, lend them, or sell them?

Our newer members are often hungry for knowledge of the county, and the historical floras and the technical material that will help them.

If you are willing to help please email me on d.green7@btinternet.com, and I will put together a list and forward it back out to the society.

Dave sent out the message above with the August newsletter. He has had some replies - see below

Thanks to those who replied to the earlier request (See Project note above). I have set out below what is on offer. If you wish to respond to any of these, please email me d.green7@btinternet.com and I will pass your requests on.

From Jenni Levin: I will have a Stace 3 spare after Feb and will be interested in many of the BSBI handbooks, which don't come up second hand like most other books I have picked up and are expensive to buy new.

From John Moon: I happy to give away the following. - Stace 3, Poland's Vegetative key to British Flora (1st ed).

If anyone else would like to offer please let me know.

Dave

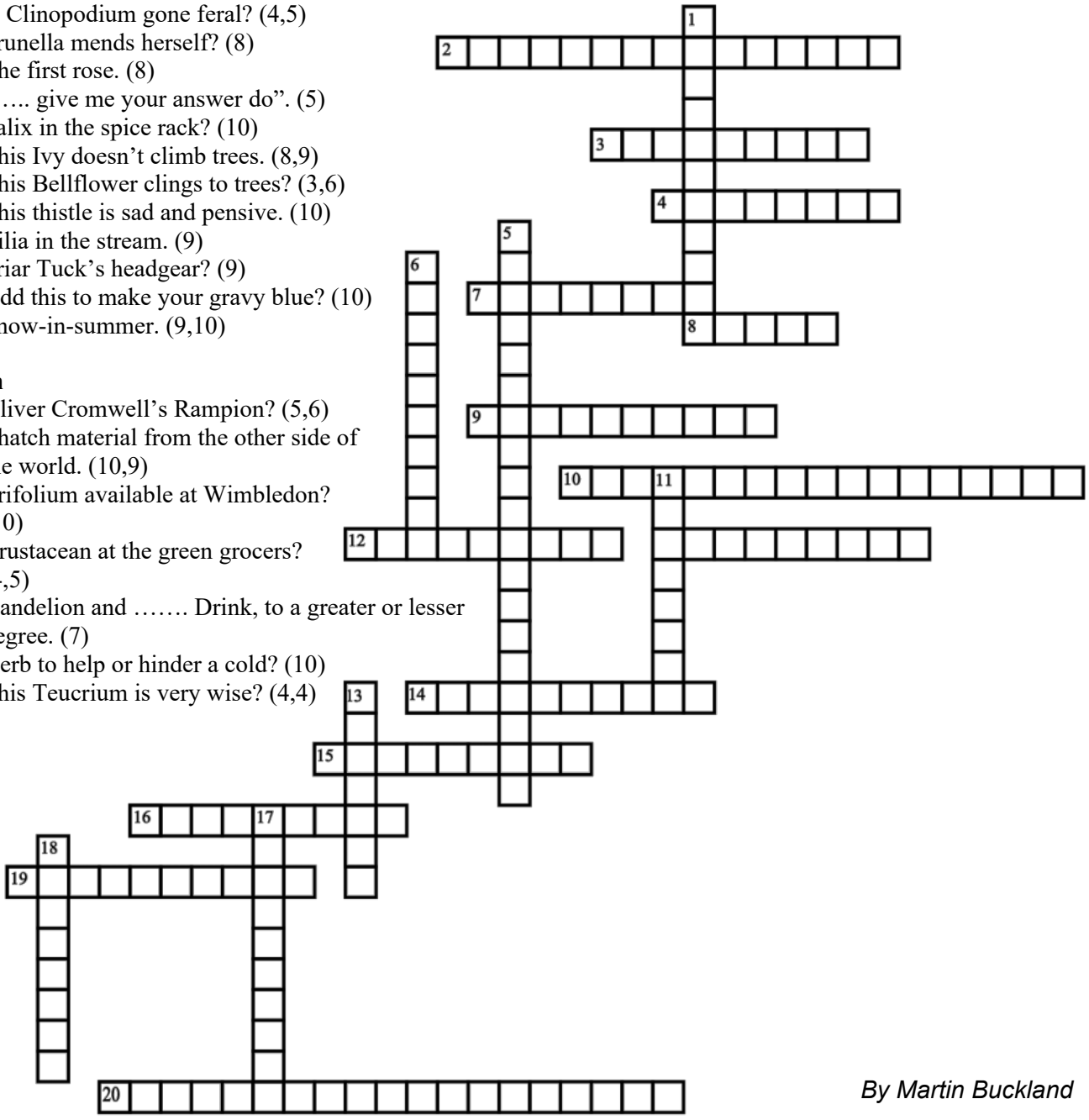
Autumn Crossword

Across

2. Snow in summer? (6,9)
3. A Clinopodium gone feral? (4,5)
4. Prunella mends herself? (8)
7. The first rose. (8)
8. "….. give me your answer do". (5)
9. Salix in the spice rack? (10)
10. This Ivy doesn't climb trees. (8,9)
12. This Bellflower clings to trees? (3,6)
14. This thistle is sad and pensive. (10)
15. Tilia in the stream. (9)
16. Friar Tuck's headgear? (9)
19. Add this to make your gravy blue? (10)
20. Snow-in-summer. (9,10)

Down

1. Oliver Cromwell's Rampion? (5,6)
5. Thatch material from the other side of the world. (10,9)
6. Trifolium available at Wimbledon? (10)
11. Crustacean at the green grocers? (4,5)
13. Dandelion and ……. Drink, to a greater or lesser degree. (7)
17. Herb to help or hinder a cold? (10)
18. This Teucrium is very wise? (4,4)



By Martin Buckland

Contacts

Chair, newsletter, records	Richard Aisbitt	01793 694680	richard@theaisbitts.co.uk
Treasurer	Sue Fitzpatrick	01722 410807	susan@fitzpatrick7.plus.com
Plant ID queries, records	Sharon Pilkington	01373 827074	sharon.pilkington1@btinternet.com
Secretary	Alison Robinson	01793 731947	alisonrobinson300@gmail.com
Project Group	Dave Green	07900 248992	d.green7@btinternet.com

Do you have any news or comments? I would be pleased to publish these in the next issue. Maybe you would like to write a full-blown article.
By email: richard@theaisbitts.co.uk. By post: Richard Aisbitt, 84 Goddard Avenue, Swindon, SN1 4HT

Cover picture: *Epipactis helleborine* - Granville Pictor, with permission