

Issue No. 59

March 2022

Friends of Thwaite Gardens Newsletter



Hello Friends

Welcome to our Spring 2022 newsletter.

The volunteers are continuing to work at the gardens on Tuesday afternoons, 1.00-3.00, and Fridays from 9.30-2.00. Usually there are a small number on Tuesdays and a much greater number on Fridays, often over 20 of us then. Everyone is well spread out across the various parts of the garden & greenhouses so it is only when we have our coffee break that we realise just how many people are there.

As you know, these are also the times that the gardens are open to you, the Friends. Only a few people come in but we are always pleased to see you. We are hoping that we may be able to arrange an occasional opening on a Sunday, perhaps 3 or 4 times a year. As yet this is only a proposal.

Our Open Day is set for Sunday 22nd May and we look forward to seeing many of you there.

Our March evening meeting will take place on Tuesday 22nd March at 7.45pm in the Cottingham Methodist Hall on Hallgate. Dr Lindsey Atkinson, who is also secretary of the Friends' committee, will speak about « Sharing, Stealing and Killing: alternative plant lifestyles ». We hope some of you will be able to join us that evening.

Meanwhile, our gardening work continues. There has been major activity in the rose arch area, near the herb garden, with half the existing roses being pruned as normal (itself quite a task) and the other half being cut back significantly with the aim of rejuvenating them.

In the autumn John Killingbeck led a working party for several weeks to tidy and rejuvenate the long border at the front: it looks quite different as a number of the shrubs had become very big, spreading into one another.

In the large grassed area behind « Green Wickets », Steve Howe is preparing a wildflower bed, to encourage bees, butterflies and other insects. This is close to the now well-established grasses bed, our most recent new project.

After the devastating vandalism in the Alpine House in 2019, this has remained empty for two years, but we are now restocking it. Fingers crossed!

I assume everyone is aware that Thwaite Hall itself, along with the lake and woodland, has finally been sold by the university.

Annie Bourton Card

16.2.22

PLANT OF THE MONTH – HELLEBORE (*Helleborus spp.*)



Hellebores are a diverse group of plants that have become very popular in recent decades perhaps because most of them have relatively large eye-catching flowers very early in the year. There are numerous species in the wild mainly from Europe and western Asia. Two are native to Britain – the Stinking Hellebore (*H. foetidus*) and Green Hellebore (*H. viridis*), the former being common in gardens. Green Hellebore is a rather rare native of East Yorkshire and the Stinking Hellebore is sometimes found in the wild here, too, though thought only native to the south of England.

Relatively few of the original species are widely grown and the majority seen in gardens are either fancy varieties of the originals or some sort of hybrid.

Perhaps the longest grown and best known of the original species is the Christmas Rose (*H. niger*). Though somewhat overshadowed these days, it remains popular although is mostly seen in selected garden forms. It may flower at Christmas but is often a little later and has strikingly big flowers (for mid-winter), slightly greenish or pinkish white. *H. niger* is one of the less easy Hellebores to please however and does not always flourish. It is also attractive to slugs and leaf spot disease which may distort and mark the flowers as well as the leaves. Hybrid forms, called *H. x nigercors*, may be preferred and are more robust.

The species which has contributed most to the garden Hellebore palate is undoubtedly *H. orientalis*. It was traditionally known as the Lenten Rose in contradistinction to the Christmas Rose and blooms in late winter and early spring. Originally native to the far south east of Europe and Turkey, various forms occur in the wild with either, white or purple flowers and differing degrees of spotting. Because these forms cross readily and produce a profusion of seedlings, they have proved a bonanza for breeders. Generally, now referred to as *H. x hybridus* the range is enormous and ever expanding, with all shades of white, pink to purple available with or without spotting. These have been further diversified with forms where flowers point outward and others that are frilly doubles. There has been a sort of 'Holy Grail' quest of breeding towards blackness of which 'Philip Ballard' is the best known. Greenish yellow has also joined the colour range. Many of the better ones are named but any gardener who introduces one or two of these will soon find an array of self-sown seedlings coming up which may both resemble and differ from the originals. In fact, if one hopes to preserve a really good form it is unwise to allow seedlings to proliferate unchecked.

The foliage of neither *H. niger* or *H. orientalis*, is particularly interesting. Although evergreen it is common practice to remove most of the leaves just before blooming to emphasise the flowers. This is not true of all Hellebores though. One species, *H. lividus*, has rather attractive foliage combined with flushed flowers. Unfortunately, it is not very hardy but has been crossed with *H. argutifolius* to produce *H. x sternii* forms, combining the rich colour of the

former and hardiness of the latter. *H. argutifolius* is itself quite widely grown and is one of the largest species, with green flowers, freely self-sowing if happy. Forms with silvery grey foliage have been bred. One further daintier species with a particularly subtle combination of greenish purple and almost grey overtone, is *H. purpurascens*. Perhaps too subtle compared with the multitude of glamorous rivals, it is not often grown and is deciduous too, so invisible until the flowers appear in late winter. Few other species are seen outside collections. Conversely, hybridisation has taken flight and there seems to be ever more availability of seemingly increasingly outsized and bizarre forms produced by breeders devoted entirely to the genus.

Broadly speaking, most of the common forms of Hellebore are reasonably easy to establish in most gardens. They will grow in sun or reasonable shade as long as conditions are not too dry or impoverished. They generally enjoy heavier soils and lime combined with good drainage. All the common forms are hardy as long as not too exposed. The worst cultivation problem is fungal leaf spot and die back disease. This causes ugly looking black blotchiness on foliage and may mark individual flowers or even cause entire flower heads to wither off. The best way to control this is to remove and destroy any affected tissues, relentlessly, as soon as it is noticed. Otherwise, fungicide chemicals can be employed. *H. orientalis* types and their hybrids can be propagated by division in early spring, as well as by seed. Some of the other hybrid types however are both sterile and difficult to propagate vegetatively, so most gardeners will need to purchase new plants as required.

John Killingbeck February 2022

TREES OF THWAITE – OSAGE ORANGE (*Maclura pomifera*)



When I worked as a lecturer at Bishop Burton College, many years ago, each time term began in September after the summer break, almost invariably some member of the public would come in to our horticultural department bearing a curious spherical green fruit. It was about the size of a cricket ball, almost as hard and had a strange wrinkled surface that lent it almost the look of a small green brain. “What on Earth is this?” – they wanted to know – having explained that they had come across it on the ground in some continental European city park or other (the location varied), while on holiday there.

It was the fruit of the Osage Orange tree, which is more widely grown on the continent than here. In fact, as far as I know, our Thwaite specimen is the only one in East Yorkshire. It is slightly less rare in the south of England where there are better examples than ours. Ours grows at the top of the long border/entrance garden, just to the east of the Silver Pear and in the corner, somewhat tucked away and not very noticeable even though it is a fair size.

But for its bizarre fruit, there would seem to be little reason for growing the Osage Orange as it is in most respects quite nondescript and the sort of tree one comes across that could be almost anything. It is also very thorny and indeed is sometimes used as a hedge on the continent and in the southern USA, from where it originates and where it is well regarded for this purpose. In fact, it has quite a restricted native range in America – north eastern Texas and just into adjacent states. This is, or was, the home range of the Native American Osage people and from where the name of the tree derives.

Our tree dates from the time of the authentic botanic garden days, some 50 or so years ago now and would have been included for its curiosity value and taxonomic significance. It is a member of the Fig family (Moraceae) – which also includes the Mulberry. Structurally the Osage fruit – with a bit of imagination – can be seen to resemble a large green inedible mulberry. The link with fig is less obvious but both have the same milky latex sap which oozes freely on injury. So for the study of botanical relationships, it would have made an ideal example of superficial appearance being no guide to taxonomy and was exactly the sort of thing useful to botanic gardens in those days.

So, does our tree produce any of the amazing fruit? Alas, it has never been known to. Unfortunately, the species is dioecious (male and female on separate trees), so needs a partner of the opposite sex to pollinate it. Additionally, ours seems as far as I can tell, to be male – reducing chances to zero as only females carry the fruit. It did once have a partner - planted, according to an old botanic garden guide as “hopefully” of the opposite sex. But there is no way of telling before flowering and it turned out to be also male. As it was taking up a lot of space, we decided to remove the other many years ago. At least one known female clone exists on the market, however, so I keep an eye open for this with the intention of planting it if available. Even then, our cool summer climate may limit fruiting, although in places like Kew and Cambridge Botanic, fruiting can occur.

Other than its botanical curiosity and historic botanic garden significance, Osage does have one redeeming aesthetic quality – that of its clear bright yellow autumn colour. In combination all the reasons discussed above make it

a tree to be greatly valued in our collection and an integral part of the history and character of the botanic garden. It is additionally hardy and trouble free to cultivate.

John Killingbeck September 2021

A bee's guide to a balanced diet

On Tuesday 16th March 2021 the Friends held their first ever evening Zoom meeting. Our talk was 'A bee's guide to a balanced diet' given by Dr James Gilbert, lecturer in the Department of Biological and Marine Sciences, University of Hull and 18 people attended.

We heard how 1/3 of our food depends on insect pollinators and that many of them are in decline due to pesticides, diseases, the loss of habitat and the homogenisation of landscapes. James focussed on bees: there are over 26 species of bumblebees and over 200 species of solitary bees in the UK with a great diversity of strategies and lifestyles. Some bees have very specialised relationships with certain plant species e.g., the carpenter bee with harebells. James also told us about 'hungry gaps' when there are not enough of the right flowers available – this will be different for different types of bees.

So, what can we do to help the bees? We can grow a diversity of plant species with different flower shapes to suit different bee species. We can also encourage wildflowers in some corners of the gardens – e.g., dandelions, red deadnettle and hawksbeard. Hawthorn and blackthorn are also good. Dandelions are particularly good at helping bees through the 'hungry gaps'. Bees forage for nectar for themselves and pollen for their offspring and while pollen from native plants is best for the development of the offspring, nectar from all species is a useful energy supply for the adults.

You may see James about at the gardens as he is doing a study on mason bees there. Do say hello!

For more information on helping our pollinator friends see:

<https://www.bumblebeeconservation.org/bees-needs/five-simple-actions/>

<https://www.ceh.ac.uk/sites/default/files/bee-book-chart.pdf>

And if you missed James' talk you can find it here:

https://docs.google.com/presentation/d/1T_tw-Qcvi4bwlxoqjjHE3Wz7uiug4EeN7fZjPv0Powg/edit?usp=sharing

Dr Lindsey Atkinson



What's your poison?

Following the AGM in October John Killingbeck entertained us with an informative talk about poisonous plants supported by a collection of samples gathered from Thwaite and elsewhere. Perhaps surprisingly, he started with the apple to demonstrate the complexity of discussing poisons in plants. Many

of the plants in our gardens have some toxin in them usually there as a feeding deterrent to herbivores, but humans would have to eat a huge amount for it to have an effect. This is true of the apple; the pips contain a tiny amount of prussic acid (hydrocyanic acid) which has a slight almond smell and taste and releases hydrogen cyanide. Another plant that you are probably familiar with is the common laurel, the berries of which are poisonous. The leaves used to be used by butterfly collectors: when crushed and placed in a jar with the unfortunate insect they release hydrogen cyanide, killing it.

Three families that contain more than their fair share of poisonous plants are the Euphorbiaceae (spurges), Ranunculaceae (buttercups and their relatives) and the Solanaceae (potato family). The Solanaceae family contains many of the world's important food crops and many of the most toxic plants. The fruit and foliage of potato plants is poisonous and the if left in the light the tubers can develop a green colour. While the green colour is chlorophyll, it indicates that a poisonous glycoalkaloid called solanine has also developed, which if eaten in sufficient quantities has many unpleasant effects including nausea, diarrhoea, vomiting and even death. In the same family deadly nightshade produces a poisonous, black fruit, 'Satan's cherry'.



Astonishing therefore that it used to be used as a beauty treatment to open the pupils, which is reflected in its Latin name, *Atropa belladonna* ('pretty lady'). The black nightshade is much less poisonous but can still cause a nasty bout of diarrhoea!

In the autumn the fungi in our gardens become more prominent. Like plants, many fungi have also developed a range of nasty chemicals to deter animals from eating them, although some molluscs and flies might be able to eat them



without harm. Names such as the 'death cap' and 'destroying angel' should warn you off!

Many of our plant names have come about because of traditional uses in herbalism. In ancient times people thought that plants resembling parts of the body could be used to treat that

body part – this was known as the doctrine of signatures. Today we wouldn't expect to treat a lung condition with *Pulmonaria* (lungwort) or a liver problem with *Hepatica* (liverleaf, related to anemones) but many chemicals originally derived from plants do have their place in modern, evidence-based medicine. For instance, atropine from deadly nightshade is used to treat a number of conditions, including a low heart rate while digitoxin derived from foxglove can cause slower, stronger heartbeats. Getting the dose right in these treatments is really important!

We humans have even developed a particular taste for some plant poisons, e.g., nicotine, coffee, chilli and many can be addictive. And did you know cattle and horses can become addicted to acorns! While mammals can taste chilli (love it or hate it), birds can't and therefore may be effective dispersers of chilli seeds. John gave us many more examples, including meadow saffron, arum, rhubarb leaves, ragwort and the castor oil plant to name but a few.

In summary, many of the plants around us contain some poisonous substances but most of them won't cause us significant harm in normal circumstances.

So, enjoy your gardens but don't eat what you don't know!

Dr Lindsey Atkinson

Diary DATES

Evening Meeting

7.45 pm, Tuesday 22nd March 2022 at Cottingham
Methodist Hall, Hallgate, Cottingham

Speaker: - Dr Lindsey Atkinson

A talk entitled « Sharing, stealing and killing:
alternative plant lifestyles ».

Members – free, non- members - £2

Open Day

Sunday 22nd May

Gardens Opening Times Reminder

Tuesdays 1.00 to 3.00pm and Fridays
9.30am to 2.00pm

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