Issue No. 36 December 2013

Friends of Thwaite Gardens Newsletter

PLANT OF THE MONTH -----CARRION FLOWER (*Orbea variegata*)

One of the main purposes of a botanic garden is to open people's eyes to the sheer wonder and diversity of the plant world. Many of the plants grown therein are chosen for their intrinsic value and interest as plants. In this way a botanic garden differs from other types of garden which are primarily ornamental or recreational in purpose with plants chosen mainly for their decorative qualities.

Orbea variegata is a classic botanic garden species in that although it possesses an undeniable if somewhat bizarre beauty, it is not the sort of thing most people would think aesthetically desirable. It does however have most extraordinary adaptations to its native desert environment and it is this that earns its place at Thwaite – in the desert glasshouse.

The plant itself is a fairly nondescript prostrate stem succulent, native to South Africa, which forms dense flat patches over the ground. But it is the flowers that are truly enthralling and yet simultaneously repellent. They resemble strange leathery looking stars about 4cm across, slightly wrinkly, cream coloured with profuse, vaguely unwholesome looking maroon mottling, which gives them an air of the animal rather than the vegetable. And this is exactly the idea, for to complete the animal disguise each flower emits a fairly strong and very authentic stench of rotting flesh.

The strategy is to attract flies to the flower (often commoner in deserts than bees) which are deceived into believing they have discovered a putrid carcass

in which to lay their eggs. So accurate is the deception that some flies often do deposit their eggs within, simultaneously fertilising the flower, of course. Some months later, curious horn like seed pods develop, bursting open when ripe with a mass of silky wind- blown seeds. Sadly for the fly, any maggots that hatch simply starve.

Such plants have the power to stir the mind – to exact answers to the unaccountable puzzles they seem to present. One such question, involving the carrion flower, was asked of me last September when I was giving a tour of the garden on Hull heritage day. Perhaps thinking of the more familiar floral relationship with bees, where the insect gets a fair reward for its pollination services – a gentleman asked: " So, what is the benefit to the fly?" The only one I could think of was: "the satisfaction of its instinct to reproduce!"

"But the species (fly) would die out!" he retorted. And indeed there does seem none but a superficial, empty, even detrimental reward for the fly whilst the plant gains all at almost no extra cost.

Certainly if all the flies were completely deceived by the plant and rarely reproduced they could die out. But evolution works on individuals rather than whole species – so within the fly population some might be wholly deceived, some partly and some not at all. The "wiser" flies would pass on their inheritance to further generations and in time the entire population would become "wiser."

As a result, the plants meanwhile would need to become ever more "convincing" with the most convincing individual plants receiving the most pollinators. Consequently, the overall plant population would eventually become ever more "convincing". An example of this can be seen in another species of carrion flower in the greenhouse that is not only smelly and wrinkly but also hairy!

By this means, what appear to be impossibly contrived forms of life begin, develop, become intertwined and more complex. What we see today is only

a snapshot at some random point in time of that development, often far from the beginning. (Fossils too, might similarly be described as “snapshots” taken long ago). And here’s a thought: if we could watch every day for long enough- at what point could we say that the “wiser” fly is another species from the “foolish” fly or the “convincing” plant a distinct species from the “unconvincing” plant?

I will leave readers to ponder that question as they contemplate the plants and other life in Thwaite gardens on their next visit.

John Killingbeck Nov 2013

An Apology

Sorry for the confusion about the voting for Committee Officers at the AGM.

John Killingbeck has agreed to be Acting Chairman until next year’s AGM

TREES OF THWAITE No. 17 – SWEET GUM (*Liquidambar styraciflua*)

Although deciduous trees are normally leafless in December, (when this newsletter is due to come out), this particular tree may well retain some leaves even now. Although not a rarity it is a very distinctive and rather unusual species for several reasons. Thwaite's only half respectable specimen is to be found near the centre of the western lawn, disguised amongst a small group of maples. The reason for this, I suspect, is that at first glance *Liquidambar* looks exactly like a typical maple and is often mistaken for one. No doubt the learned members of the now extinct botany department of the university who designed the layout of the planting, wanted to emphasise that apparent physical similarities in plants can be deceptive and one needs to look carefully before making assumptions!

The give- away feature of *Liquidambar* is that its leaves grow alternately on the twig whilst all true maples have opposite leaves. Were our tree ever to bear fruit, these too would be anomalous; being round prickly looking balls quite unlike the characteristic 'helicopters' of all maples. However, fruiting is not normally recorded this far north, though may sometimes be noticed in the south of England. Yes, once again I'm afraid, I have to report that this is yet another tree that grows better in a warmer summer climate than ours!

Nevertheless, in this instance climatic stunting may be to our advantage. I know of relatively few specimens in East Yorkshire much above 10m or so in height, (though time may change this), which makes the tree a manageable

prospect in a reasonably modest garden. In south east England, there are many of 20m and more. But the tree has much greater potential than this. In central France I have seen it at around 40m and in its native eastern North America, almost 50m (about 150') is considered standard, making it one of the continent's tallest hardwood trees. The species also has an extraordinarily wide natural distribution from Connecticut state in the north, southward through Mexico and beyond into tropical Nicaragua.

Although somewhat maple-like, *Liquidambar* has a refined beauty all of its own. The foliage is superbly formed and the overall habit of a healthy tree is broadly spire topped with a pleasing symmetry. Sadly our Thwaite tree fails to demonstrate this very well.

But it is autumn colour for which *Liquidambar* is justly famous and primarily grown. Typical fall colour is a range of red shades from claret to deep ruby mingled with orange, rosy pink and yellow, all at the same time; exceptionally diverse on one tree. Furthermore, colouring starts long before the leaves actually drop. My own tree at home (rescued originally as a tiny sapling from a skip!) tinges red in late August building up to full colour through October and much of November. Other qualities which make this species among the foremost for autumn display include the leaves being seemingly less affected by the frost and gales which so often frustratingly strip many other species prematurely at this season.

Diversity however extends to more than just the range of colour on one tree, but also to that between trees. The majority are spectacularly good but a few are aberrant. Odd trees are such dark red that they appear almost black which appeals to some people but not all. Most *Liquidambar* are also late shedders but a few are so late that they remain sullenly green until hard frost removes the leaves before senescence. Such trees are to be avoided. For this reason several named forms are available – most widely 'Worplesdon' and 'Lane Roberts', of dependable colour quality. Failing this, always select your own tree in autumn when you can assess its display.

Readers might wonder about the name "Liquidambar". Curiously it means almost what it says – liquid amber being a good description of the resin which can be extracted from the tree - and hence the English name "Sweet Gum". Apparently this was once used medicinally. Other curiosities include the twigs being heavily flanged with cork bark. In America the tree is also frequently associated with swampy soils, something worth noting given the recurrent flooding problems occurring at Thwaite. Soil tolerance unfortunately does not extend to shallow chalk - so success is unlikely on the Wolds and certainly not if chalk is combined with the cold and exposure of many high Wold localities.

There are a few other species of *Liquidambar* known – from south east Asia and also one from Asia Minor. But these are far less often encountered partly because they seem more difficult to grow successfully in the UK – the latter species forming little better than a stunted bush in this country.

John Killingbeck November 2013

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Diary Dates

25th March, 7.30 Cottingham Methodist Hall – talk by Rob Potterton, Potterton Nurseries – "Alpines and Bulbs from Mountain to Market" – plants for sale

18th May - Open Day
25th June – Open Evening
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An Inventory of Birds and Other Creatures Seen Around Thwaite Gardens

All my life I have been interested in wildlife and, although not an expert, I have kept an open eye and ear to the world about me.

Over the past 10 years I have walked my “Pets as Therapy” dog Guilder and latterly, my failed Hearing Dog (fallen angel) Bobby, around Thwaite Gardens. Over that period I have observed many birds, including residents, summer visitors, winter visitors, transients and flyovers. At the instigation of Vic Swetez, I decided to list from memory all those I have seen and recognised. There are others, designated LBJs (little brown jobs), which my aging eyes don’t pick up the shape, flight or colour of.

Here’s the list:-

House sparrow, tree sparrow, starling. blackbird, dunnock, song thrush, mistle thrush, wren, robin, tree creeper, blue tit, great tit, coal tit, long tailed tit, greenfinch, goldfinch, chaffinch, hawfinch, bullfinch, mallard, Aylesbury duck, coot, moorhen, little grebe(dabchick), grey heron, greylag goose, Canada goose, herring gull, black headed gull, common gull, great black backed gull, wood pigeon, feral pigeon, collared dove, turtle dove, cuckoo, reed bunting, sparrowhawk, kestrel, partridge, pheasant, swallow, swift, house martin, great spotted woodpecker, green woodpecker, kingfisher, ornamental goose, (white – known locally as “the Admiral”), tawny owl, little owl, pied wagtail, yellow wagtail, jackdaw, carrion crow, rook, magpie, reed

warbler, blackcap, garden warbler, white throat, goldcrest, chiffchaff, stock dove.

The following winter visitors:- Fieldfare, redwing, waxwing

The following accidentals, transients and flyovers:- common sandpiper(first seen by Norman), Egyptian goose, Argentinian teal, woodcock (seen by Ian and Becky), Emden goose, black necked grebe, Green Parakeet (probably from St Mary's churchyard), tufted duck.

The following overflies:- mute swan, buzzard.

The Emden goose is a large white goose bred as a farm goose in the town of Emden in Germany. Many have gone wild and although larger than greylag geese they are known to interbreed (information from Ernie Teal, the late Walkington bird man).

Sparrowhawks have again raised young this year(2013) in a nest in a conifer near the railway side of the garden. I have seen three chicks flying with parent bird.

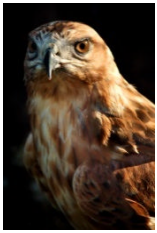
Little grebe – two pairs have raised young again this year(2013).

Kingfisher – very few sightings in 2013, but I observed one fishing near the commemorative tree trunk during the last week in August, then flying off down the lake carrying fish, probably feeding young. There may be more sightings when the young leave the nest.

Unusual sightings:- A great black backed gull – rare this side of the country – eating a golden carp in the centre of the lawn in July this year.

Two little grebes attacking a coot from under water when it had strayed too close to their nest in August 2011.

A clutch of 9 ducklings keeping warm between the front legs of my dog Guilder in April 2010.



A sparrowhawk taking a bat out of the air in daylight in 2008 (Ernie Teal suggested that the hawk had raked the bat out of its roosting box)

6th September 2009 – whilst sitting on the decking I had 9 sightings of Kingfishers in a 20 minute period. Five were seen at one time in the area looking towards the old bridge. Probably adults and chicks leaving the nest.

I have also seen the following mammals at Thwaite gardens:-

Fox, rabbit, stoat, weasel, wood mouse(dusk),hedgehog(dusk), common shrew (often seen dead on paths), house mouse, brown rat, water vole (first spotted by Pete Fenwick),field vole, grey squirrel, bat (species unknown). Many people have also seen roe deer but, unfortunately, I have not been lucky.

Things seen in and around the lake:-

Common frog, common toad, common newt, three-spined sticklebacks, seven-spined sticklebacks, carp, roach, two shoals of golden orfe (first shown to me by David Sands, Thwaite Hall Warden), dragonflies and damsel flies – 4 types.

Dave Thompson September 2013

Learning goes into the great outdoors with new wooden classroom at University of Hull Botanic Gardens, Thwaite Hall

Picture- Mike Park

A NEW outdoor classroom has been opened at the University of Hull to bring the wild to life for students, teachers and schoolchildren.

The covered wooden structure, which cost £9,500, has been built at the University Botanic Gardens at Thwaite Hall.

It aims to give the next generation of teachers the chance to develop outside teaching techniques, as well as allowing schoolchildren from across the region to learn outdoors.

Janet Gibbs, lecturer in science at the university's Centre for Educational Studies, said: "The University Botanic Gardens are a wonderful resource and PGCE students will now be able to work on various activities and fieldwork techniques that could be carried out with schoolchildren.

"The outdoor classroom is going to be hugely beneficial, not only in allowing this to develop but also to allow more groups to benefit from the fantastic educational opportunities at the gardens."

She said outdoor learning, which offers vast potential benefits, was a growing area in education.

"The classroom was designed to be open-sided to allow students to enjoy a covered workspace while still maintaining a connection with the outdoor environment," she said.

Pupils from Penshurst Primary School in Hessle were among the first to visit the classroom.

Year 2 teacher Anne Spurgeon said: "We went to the gardens to look at mini-beasts and different habitats as part of our 'Down at the Bottom of the Garden' study.

"The outdoor classroom was great as it enabled us all to come together and compare all our findings and see what all the groups had learned.

"It was all wonderfully organised and we also had a look round the greenhouses and even managed to do some mini-pond dipping in three planters filled with water.

"The outdoor learning was amazing and the Botanic Gardens were wonderful. We were so impressed we have already booked for next year."

The classroom has been funded by the Ferens Education Trust, the Initial Teacher Education Stem (science, technology, engineering and

maths) Project, the University of Hull and the Friends of Thwaite Gardens.

The University Botanic Gardens contain a locally important collection of exotic trees and a variety of formal plantings and natural habitats, including a lake.

There are also glasshouse collections of ferns and desert plants.

The gardens are used for field trips by University of Hull students from a number of departments, including biological sciences and geography.

In addition, the Centre for Educational Studies uses the gardens in the training of both primary and secondary science teachers.

The gardens are used by schools, the Friends of Thwaite Gardens and other local groups by appointment.

Schools and community groups wishing to book a visit can email Vic Swetez at v.swetez@hull.ac.uk or call 01482 305230.

MEMBERSHIP RENEWAL REMINDER

Annual subscriptions were due on 1st November 2013.

They remain at £7 per person or £10 for two people living at the same address

Anyone who has not paid by the Open Day 2014 will be removed from the database.

Cheques should be made payable to "The Friends of Thwaite Gardens" and sent to the treasurer, whose contact details are on the last page of this Newsletter.

Please note: new members who have joined on, or after, the Open Day in May 2013 do not have to renew their subscriptions until November 2014.

Friends of Thwaite Gardens

TREASURER'S REPORT FOR YEAR ENDING 31 JULY 2013

This report is prepared on the basis of information available to me in October 2013.

Mr Doug James, previously both Chairman and Treasurer, had already spoken of his wish to resign prior to suffering a stroke just a few weeks ago. Happily he seems to be making a good recovery but in order to remove any further stress, I assumed responsibility for all the Friends of Thwaite Gardens documents in his possession.

On 8.10.13, the date of the AGM, we had a bank balance of £5558.12.

As the year closed (31.7.13) we had £5,620.48 in the bank, much the same as last year.

Income was mostly generated from membership fees, the annual Open Day and an Open Evening. Open Day was an even greater success than last year.

A number of new members enrolled at the Open Day.

As previously most of the expenditure was on plants and other garden materials, including compost, tools and gloves for the volunteers. We also contributed £400 to the new open air classroom, to be used by university students, local school children and other groups.

Other expenses included stamps and stationery, guest speakers, hall hire and printing.

Overall the bank balance has remained steady, just below £6000 at year end, and we are well able to continue our contributions to these lovely gardens, extending the planting considerably.

Annie Bourton Card

Treasurer, 13.10.13

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A VERY HAPPY CHRISTMAS AND NEW YEAR FROM ALL THE COMMITTEE MEMBERS AND THE EDITOR
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Ferns at Thwaite Botanic Gardens

Microsorum grossum

There has been a long and chequered history of fern growing at Thwaite. A collection was originally put together by Dr B.T. Cromwell back in the 1920's. During the war he went to work at the research station at Auchincruive in Scotland, taking his collection with him, but brought them back to Hull University when he took up a Readership in Plant Biology after the war. In 1948 Jean Marston was appointed to develop the site in Cottingham as a University Botanic Garden. Dr. Cromwell donated his fern collection and Mrs Marston continued to grow ferns from spores obtained from Cambridge, Oxford, Glasgow and Edinburgh, also from Chelsea Physic Garden. In addition Mrs Marston was a member of the British Pteridological Society and so obtained many spores of unusual species from their spore exchange. So by the 1950's and 60's there was a large range of ferns grown in the heated greenhouses as well as a representative collection outside. In 1978 Mrs Marston retired from University life but continued to run a fern nursery in Driffield. She has since died and the nursery closed. In

the late 1980's early 1990's part of the gardens were threatened with closure and most of the plant collection was sent to Ripley Castle.

Since then John Killingbeck of The Friends has revamped the existing fernery in one of the glasshouses containing a range of ferns for a cool greenhouse. I have now added almost two glasshouses full of ferns some of which are tropical. Most are from my own collection built up through propagation from spores obtained from BPS spore exchange and botanic gardens, from fern nurseries and from splits and plant exchange with BPS members. There are around 8 species of tree ferns mostly smaller specimens in pots. Some ferns are from BPS expeditions to La Reunion Island; Canary Islands; Trinidad and currently some sporelings from South African ferns. Some are divisions from Manchester University Botanic Gardens, notably *Drynaria rigidula* – a fine epiphyte and very recently I rescued some ferns from Moorbank Botanic Gardens (University of Newcastle) which is sadly closing down due to lack of funding. I think the finest fern from Moorbank is *Adiantum polyphyllum* – giant maidenhair fern- which is about 6 feet tall! I just hope I can keep it going. I also inherited some cycads including a fine *Dioon edule* which was recently admired by students in the evolution house.

I am very grateful to the University of Hull in allowing me to house this collection at Thwaite and indeed for continuing to fund the gardens. The friends are very welcome to come and view the fern collection.

Yvonne Golding. Secretary @eBPS.org.uk

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