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North East Group Newsletter - Spring 2018



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Articles, snippets and photographs are always welcome. Opinions expressed in NE Newsletter are those of the authors and / or the editors and don't necessarily reflect those of the charity as a whole. The editors reserve the right to edit contributions.

The deadline for your articles, pictures and ideas for the Autumn 2018 Bulletin is Friday 19th October. Please send material to maxitoby1@gmail.com.



EDITORIAL

Dedicated gardeners are notorious for their inability just to relax and enjoy their gardens. To sit down with a cup of tea for half an hour is to leap up after two minutes to remove a weed, nip off a few dead heads or stake a flopping stem. It shows we care! However, we also have more serious reasons to be vigilant, and they are the subject of various pieces in this issue: pests and diseases. At the domestic level, pests are fairly easy to deal with. We've just noticed a recently purchased and newly planted young *Geranium x oxonianum* 'Old Rose' in a state of collapse, many of its stems and leaves lying shrivelled on the soil. We excavated it and rushed it to the greenhouse, where an emergency operation led to the removal of one enormous hulk of a leatherjacket with – we swear – clumps of root hanging from its jaws. It rapidly became an ex-leatherjacket, and the geranium is in intensive care. Easy, hopefully successful, and the standard way to hunt down other pests such as vine weevil larvae. Above-the-surface pests such as greenfly are even easier to spot and can be dealt with manually. However, if you're a grower or your garden covers acres and you have hundreds of plants, individual hands-on rescue is impossible, and other methods have to be employed.

Even for the domestic gardener, diseases are more difficult to deal with. There's the problem of identification and then treatment. It can be enough (if there's time) just to improve the plant's health and resistance by improving its conditions, but more often 'medication' is needed. This means very accurately identifying the disease in order to use the specific treatment. Sometimes – and particularly for commercial growers – desperate ills require desperate measures, and we can all see how environmental concerns might go out of the window 'just this once' to save valuable stock.

We're increasingly dependent therefore on the pest and disease control industries and research bodies to develop a mindset that looks beyond toxic chemicals towards more benign compounds or finds ways to target more efficiently the riskier products. If formulations of bicarb or honey will do the job, bring them on! But we're all aware of the law of unforeseen consequences, so even the simplest-seeming solutions need rigorous testing before release for large-scale use. Arthur Fallowfield (Kenneth Williams in 'Beyond our Ken') used to say in his cod south-west accent "Well, I think the answer lies in the soil". If only it were that simple.

We have items in this issue that don't lend themselves to illustrations, so we've slotted in some images of Plant Guardian wards.

Suzanne Stanley



CHAIR'S REPORT SPRING 2018

This winter has been long and tough but I am always surprised by how resilient some plants can be. A Hebe growing next to the house became encased in a gutter-to-ground icicle and survived. Some autumn planted tulips however have decided that moisture has been excessive and failed to appear. I must try and remember which did not survive and not order them again, as winter moisture is a constant in my garden.

We have had a busy start to the year as we organised and hosted the Plant Health Workshop in addition to our regular meeting programme. The Workshop was well received by those attendees I was able to speak to although some did say that the pest and disease threats currently out there are depressing to hear about. I have noticed that we have a core of regular attendees and a wider group who attend only some of our talks. The



Hebe icicle

The committee would love to know if this is because the topic does not appeal, so if you have ideas for topics to cover at future meetings or speakers to recommend please do let Irene or a member of the committee know.

By the time this is published our Plant Sale will be over for another year. Moving the sale forward into May seemed such a good idea when the committee discussed this last year and such a bad idea when we were knee deep in snow or buffeted by east winds. However the sudden growth spurt which is taking place almost visibly as I write this may result in many plants looking healthy and full of vigour at the plant sale.

You will all know that Plant Heritage has been reviewing governance and assessing if we are fit for the future, funded by a grant from the Heritage Lottery Fund. A number of proposals have now been formulated and will be voted on at an extraordinary general meeting (EGM) in July. More information will be enclosed with this Newsletter mailing, including details of the deadline by which I will need your preferences and comments so that I can represent North East Group's wishes at the meeting.

Finally I hope to see many of you at our Plant Fair on 15th July at Blagdon. If you are able to help please volunteer as we always need more assistance and you will still have time to support our local nurseries by buying far more plants than you intended.

Roz Cooper



NEMATODES: FRIENDS AND FOES

Sue Hockland (Independent plant nematology consultant), Nov.2017

Sue talked about one of life's great themes – good guys and bad guys. When it comes to nematodes (roundworms), the distinction really matters in horticulture and agriculture. The friendly nematodes are used for the biological control of plant pests, thereby saving plants. The foes are plant parasites which cause disease and death. They have their own phylum – Nematoda – within which there are approximately 25,000 known species, with maybe a million waiting to be discovered. They are tiny – the largest is 1mm long – and very simple: a tube with a mouth at one end, an anus at the other, and a simple digestive system in between. They are extremely successful, existing in ecological niches from the tropics to the Arctic.

The friends

Commercially, fast-acting chemical pesticides have dominated the field of plant pest control, but now that so many products are being withdrawn, there is more interest in the use of nematodes as biological control. Their role is to parasitise insect pests, introducing symbiotic bacteria which release toxins and kill the targeted pest. Sue suggests regularly inspecting plants, particularly at night, quarantining infected ones, and working out the timing of treatments. Products are now widely available 'simply' to be watered onto the garden, but Sue warns that the user should understand:

- that nematodes are highly specific, and therefore pests such as vine weevil, slugs and snails, leatherjackets, cutworms and so on each require a different product;
- the biology of the target pest, its life cycle and habits, in order to apply nematodes at the optimum time;
- how the pest attacks its plant host;
- the need for optimum soil conditions (moist and friable) and temperature (not less than 5°C for slugs or 12°C for insects);
- the likely need for repeat applications as the products aren't an instant cure.

The foes

Plant parasitic nematodes live in the soil and need to feed on plants. They have piercing mouth parts to do so, and this also damages the plant. Hundreds of species cause damage – those that feed on above-ground parts (usually the foliage and buds), and those occurring in the soil or roots. The latter cause the greatest number of problems as they form galls and damage the plants' ability to take in water and nutrients, stunting growth and development, or causing death. Commercial stock plants infected with nematodes have to be destroyed, and the general rule for amateur growers is not to use seed saved from the previous year. Commercially, they are most damaging to food crops; the Stubby Root and Root Knot nematodes for example affect cereals, root vegetables, grasses, and brassicas. They are readily spread in soil that sticks to equipment, humans and animals. There is now plenty of evidence too of Root Knot nematode (particularly *Meloidogyne mali*) affecting trees in Europe including the UK, but it seems that most ornamental plants affected by this nematode are those that thrive in tropical or sub-tropical areas. Sue recommends the RHS as the starting point for disease identification, as there is a continuing research programme – the address is www.rhs.org.uk/advice/plant-problems. For the eternal slug problem see www.slugoff.co.uk/slug-facts/nematodes. For commercial growers – or just because you're interested – she also suggested www.fera.co.uk/crop-health.

Suzanne Stanley



A SPECIAL CHRISTMAS PRESENT

Our daughters are good at finding “different” presents for us, especially at Christmas when many people are wallowing in chocolates and toiletries. Last Christmas they gave us a National Trust Voucher for an exclusive tour of Wallington with Head Gardener Simon Thompson. Some of you might remember that Simon, owner of Northern Ark Nursery, came to talk to the group a while ago.

We met at the new Information Centre on a typical April day of sunshine and showers. Much work is in progress on both sides of the path from the car park to the Clock Tower. By removing the hedge and thinning the trees, more light has been allowed in. Native trees and shrubs have been planted in the spaces created and the wood anemones were doing their thing nicely.

Simon’s brief was to show us current work and plans for the future. This was fascinating. We first paused at the house where the path along the ha-ha now stops but it used to go all the way along to the road, giving long vistas in both directions. Plans are afoot to change this back to the way it was and clear some of the West Wood to get the west vista back. On our way to the East Wood he explained that the shrubs by the path had long been due for renovation or removal. This is happening now and in fact throughout the grounds there is a need to look at now overgrown trees and shrubs. Many of the yew trees are now much larger than was intended in the original design so they are gradually being reduced in height to encourage new growth and allow in more light. Simon explained that this must be done carefully because sometimes they produce new growth on the trunk but don’t survive the second year.

Across the road, we passed the China Pond, so named because there was a Chinese gazebo there. We later saw photographs of the gazebo and the decoration was superb. Near here there is a large standing stone which was originally one of a pair situated at the entrance to a burial mound at Shaftoe Crags. No one knows how it got to Wallington in the 1700s, nor why it has never gone back.

Although the North Wood is being planted with native trees and shrubs, the East Wood has traditionally been more eclectic and this allows Simon to look for more ‘exotic’ plants, and we were delighted to see that some of our own favourites are already appearing. We did a quick detour to look at the ‘snowdrops’ - a large willow sculpture with flowers and buds. We had already seen this at snowdrop time when it was very relevant, in the middle of a vast planting of real snowdrops in full bloom. There are two stone torsos by the side of the path leading to the portico and a recent appraisal by a stone specialist has revealed that it is very good quality sculpture. Simon thinks they are in the wrong place but as yet he has not found the right place for them. Watch out for the move. Passing under the bare wrought iron arches we tried to imagine what it will be like when climbing plants cover them. Simon fancies Akebia.

We stopped at the Portico and looked across to the lake or canal as it was called. The vista originally looked further into the distance because the Centenary Wood did not exist, so more trees may be culled to retrieve the vista. The portico wall was the original wall of the old walled vegetable garden. It was very wet and the head gardener at the time seems to have listened to Lancelot Brown and created the new walled garden where it is today. It was the perfect spot for vegetables which were grown to feed the family and staff.

Onwards to the Walled Garden, taking in the Mary Pool backed by a semi-circular brick wall,





© D. Goodchild

Marjorie and Simon in the conservatory

containing the water source that feeds the rill on its way through the garden. This was constructed as a thank-you gift to Lady Mary after the National Trust inherited Wallington in the will of Sir Charles. We later saw photographs and plans of the construction. Of course we went into the glass house to see the beautiful pot plants. The gardener in charge does a fantastic job. We go quite regularly and the displays are always pristine. We also saw behind the scenes

where the public are not allowed. Here were all the seedlings for the summer displays in the garden and pot plants being brought to their peak ready for the display bench.

The hedge-enclosed nut garden was planted where the 'new' vegetable garden had been. Unfortunately when the National Trust took over Wallington they did not see vegetables as an interest for visitors. Things have since changed and more visitors are drawn to look at the gardens than the house, so it is likely that the nut trees will go and the vegetables will return, although as Simon was quick to point out it will be labour intensive and most likely have to be managed with the help of lots of volunteers. The produce would be used in the restaurant or sold on site.

Over a cup of tea in the restaurant we looked at some old photos and maps of the estate. In the house, we went upstairs to the West wing suite of the late Patricia Jennings, last surviving daughter of Sir Charles Trevelyan. Here in her kitchen we were able to look in the archives. Being short of time we looked at a random selection of commonplace books kept by the family containing photographs, letters, newspaper cuttings, diary entries and invoices for work done on and in the house and garden both before and after the National Trust arrived. We could have sat there for hours reading some of the personal anecdotes about the garden, the projects undertaken and the people involved. The references to head gardeners were interesting because we remembered most of the ones from the last 40 years.

The two hour tour became three hours before we said thank you and farewell to Simon. He is a very busy working Head Gardener with a remit not just to oversee everything that goes on in the garden: he also has to draw up short-term and long-term plans because, as we all know, plants keep growing and visitor expectations change.

Over 40 years we have seen many changes but Simon was able to fill in a lot of the background that we did not know. It was interesting to see that there is good reasoning behind everything they do, even though, like anyone seeing changes to a much loved garden, we're nervous about whether we'll like all of them at first. However, it was good to see that the garden is being very well cared for and there are plans for the next 50 odd years even if we don't get to see it all. Even Simon admitted he might not see his plans fulfilled, but at least the next head gardener will be able to see what his intentions were.

It was a wonderful Christmas present and we're wondering what Susan and Deborah will think of next.

Marjorie Goodchild



HORTICULTURAL R&D IN THE GARDEN

Doug Stewart, February, 2018

In the 1960s, pest control was 'all about chemicals'. Even now, says Doug, many products on the garden centre shelves are not inherently very safe, being re-engineered nerve agents that were designed for war. Yorkshire Water is detecting metaldehyde (used as a slug killer) in the water, and we know there are strong concerns about the effects of neonicotinoids – designed to replace organophosphates - on bees as well as human health. Some garden fungicides have more effect on bees than do pesticides; it has been shown that in plants grown from seed treated 30 weeks earlier, there is still a fungicide residue in the pollen. In short, the chemicals we use end up in the environment. Pesticide use in England and Wales has increased by 33% since 2008: insecticides by 37%, fungicides by 21% and herbicides by 5%. Plant growers are using 21% more growth regulators, mainly to create more stocky shrubby plants which appeal to buyers and can be packed more efficiently for transport and display.

But there are changes afoot, and current research projects take many different approaches. The effects of various pesticides on pollinators are being investigated. Breeding resistant plants includes for example selecting for longer hairs on a plant stem which discourage greenfly. Smart crops technology for commercial growers enables a field worker using a mobile phone app to tag and record a sick plant which can immediately be diagnosed and treated or removed. Computer modelling can help predict the spread and severity of insect pests so that they can be promptly and locally targeted. The scientific analysis of blight conditions facilitates spraying once only at the critical



Sign of the times

time rather than employing regular preventive spraying. Post-war, when fungicides were introduced, crop pests increased. It was hypothesised therefore that fungi could be used to control pests, particularly as many fungal pathogens can naturally infect insects in the right conditions. This has led to many commercial products that target a wide range of insect hosts. Microbial control of insect pests has also evolved, for example the use of *Bacillus thuringiensis* to control the caterpillars of the Cabbage White butterfly. The larva ingests Bt when eating sprayed leaves; toxins are then activated which dissolve the gut wall. And the use of nematodes as biological control agents is reported elsewhere in this issue. Genetic modification of plants can potentially be used to create pest resistant species, but there are many ethical concerns about this technology.

Alongside such developments is the search for friendlier pesticide compounds - Doug believes that the 2020s will be 'all about bio-



pesticides'. The golf industry is looking at using seaweed extract to strengthen grass, as it seems that constituents of seaweed raise plants' stress thresholds. Similarly bread wheat seems to increase in yield and in resistance to stresses such as fungal diseases. The use of aspirin makes tomato and potato leaves harder and more resistant to insect damage. Organic products are being developed using honey (antiseptic and anti-bacterial), fish oils (which seem to encourage rooting), and cinnamon (as a fungicide). Legislation exists of course to ensure that only products that have been tested and passed as fit for purpose and safe to use can

be employed in the pest war. Thus, though you can clean your leaves with Leaf Shine and the oils will discourage Red Spider Mite, you can't spray it as an insecticide. Peter Allatt asked how we know that these natural products are benign. Doug suggested that we are not funding enough research in the UK to assess this.

The one reassuring aspect to everything that our speaker told us is the apparently increased awareness of dangers to health and the environment of continuing to use chemicals with known toxicity, and the drive to make changes.

Suzanne Stanley

Capheaton Hall Garden Party

4th August

By the kind permission of Willy and Eliza Browne-Swinburne, PH members are invited to the 2018 Garden Party at Capheaton Hall Walled Garden on **Saturday 4th August 2.30-4.30pm**. This lovely walled garden which is rarely open to the public is being restored to a very high standard by Plant Heritage member Jane Armstrong.

We hope to see as many of our members as possible. There is no charge for attending but members are invited to make a donation towards the upkeep of the walled garden. The usual arrangements apply: tea and coffee will be provided; members who attend are requested to bring some food (savory or sweet) to be shared.

The address is: Capheaton Hall, Capheaton, NE19 2AB. When you arrive, follow the drive round to the main building. Parking is available adjacent to the walled garden.



NOTES FROM HOWICK - Spring 2018

It has been a late spring here at Howick with a lot of the early daffodils coming out about two weeks later than normal and coinciding with the mid-season ones, which has produced a tremendous display but it hasn't lasted very long as flowers have quickly gone over.



© Robert Jamieson

Rhododendron pingianum

After the coldest winter that we've had for a few years, it is good to see that most plants in the arboretum have survived although some have been damaged on the east side by the cold winds. However, the buds on these shoots look healthy enough so I am sure most of them will recover. It has been a good year for rhododendrons flowering in the arboretum, with some new ones including *Rhododendron pingianum* and *Rhododendron wiltonii*, both from south west China, covered in flower for the first time. We plant most of the wild origin rhododendrons in the arboretum at first to see how they perform and then move them up into the garden if they do well, so these two are candidates for moving this winter. As rhododendrons are shallow rooted they do not mind moving even as large specimens, so the only limiting factor is how we manage to lift them. It's easier now with a mini-digger and small tractor than when it involved using a block and tackle and man power.

We continue to clear parts of the woodland

garden to expand the areas for planting, and last year's clearing is filling up well with rhododendrons that were moved in from the arboretum to give us some structure. Then at the back of the beds we have added more of the large blue meconopsis, some of which are new varieties that have been bought in, 'Bobby Masterton' and 'Biggar Park'; others we have split up from other areas in the woodland garden where they are doing well. Along with the meconopsis, we are also adding many of the candelabra primulas that have seeded themselves around the wood, which give us a plentiful supply to pick from.

A lot of the Penstemons and Argyranthemums have not survived this year but thankfully we had taken quite a lot of cuttings. Although we also lost some of those in the polythene tunnel as we were not expecting temperatures to drop as low as they did, we have plenty of them left; along with the usual annuals we hope they will combine well to make a good show in the herbaceous borders later in the year.

Sometimes it is good to be patient when growing

trees and our patience has been rewarded this year as a young *Davidia involucrata*, seed of which was collected and gifted to Lord Howick from Sichuan province in south west China in 1995, is putting on a good show for the first time. Last year it had a few flowers but this year it is covered, so hopefully in years to come it will continue to flower well.



Davidia involucrata

© Robert Jamieson

Robert Jamieson



PHNE PLANT HEALTH WORKSHOP

Kirkley Hall – 19th April 2018

On a gloriously sunny April day, 39 PHNE members, National Collection Holders, horticultural students and visitors gathered for the Plant Health workshop at Kirkley Hall.

During the morning session Andrew Kirkwood, Plant Health and Seeds Inspector (PHSI) for NE England, spoke about his work, inspecting for pests and diseases, and providing a seed certification service for agricultural growers in the region. He spoke of the importance of investigating any outbreaks which might affect crops, seeds or imports in our area, as well as the need to monitor imports from outside the EU so that EU reciprocal arrangements are satisfied. Identification of a possible new outbreak often occurs when a member of the public spots a pest or Forestry Commission (FC) staff spot lesions or exit holes. Some diseases and pests e.g. Ash die-back, may have been present for some time. When we start trading with a new partner, new pests and diseases are added to the database. A visual inspection of 10% of the plant material, including wood packaging or machinery, is also carried out at the port or airport. Andrew needs to be familiar with existing or past problems, and also to be aware of pests and diseases around the world. The spread of outbreaks such as Pinewood Nematode which has been found in furniture, and Asian Hornet Wasp which kills honey bees, needs to be monitored by PHSI.

After lunch, we reassembled to hear Dr Katy Hayden, a mycologist by training, and currently Quarantine Plant Health Officer from the Royal Botanic Garden Edinburgh (RBGE). She is responsible for issuing plant passports for plant material that has been propagated not only for the Botanic gardens, but also in cases where threatened plants are being returned to their original habitat. She presented "Keeping Clean for Conservation at Botanic Gardens".

We may have been somewhat surprised when she introduced her subject by suggesting that plant diseases aren't necessarily a bad thing, and that diversity in tropical and temperate forests results from disease. Indeed, coffee and chocolate probably wouldn't exist without plant disease. However, what is clear is that emerging diseases represent a threat to diversity, and these are impacting on the RBGE gardens. Pests and diseases are most dangerous when established in new locations.

Katy invited us to consider the question 'What is plant disease?' She defines it as a malfunction in the plant which prevents essential functions. There are a minimum of 3 players: a virulent pathogen, a susceptible host, and a conducive environment. Water is important in the establishment of new plant diseases, be they moulds, viruses or bacteria. She and her team have established a hierarchy of risks, from the use of mains water (very safe) to open water (risky). The growing environment is also assessed, and examples of good practice as implemented at RBGE were given – practice good hygiene; minimise contact between plants and the ground or staging; minimise cross-contamination e.g. by over-watering.

Given that some of the systems at RBGE would be unaffordable to many of the delegates, the question was very quickly asked: how might RBGE concerns and systems be applied to

our own plants or nurseries, the Plant Exchange and our plant sales. Katy gave some tips specifically for Plant Heritage members about what can be done to combat pathogens when resources are not on the same scale as a botanic garden:

- Inspection of plants doesn't have to be hi-tech: regular walks round to inspect plants are helpful.
- Soap and water will do more to combat pathogens than anything else.
- The Plant Exchange is an exchange between knowledgeable people and so less risky. Katy suggests: watch the condition; keep an eye on anything new and different; if you can, keep plants separate.

For reference, both speakers drew our attention to some useful websites, focusing most on the PHSI risk register which lists 950 pests and diseases.

Although at first there were some good-natured complaints about being indoors on the best gardening day of the year, this was soon forgotten and all present found the workshop to be extremely interesting and informative. Members appreciated having a high quality workshop in our own region, and are looking forward to the next one. Thank you to our speakers for their time and expertise and to Roz for organising it.

Isobel Shaw

GREAT NORTH PLANT FAIR 10am – 3pm Sunday 15th July at Blagdon Hall

We thank Blagdon Estate for kindly hosting the PHNE Plant Fair again. PHNE will have its own plant stall as usual; if you can donate any suitable plants please bring them on the day. Visitors will be able to wander round the various specialist nursery and sundries stalls, but will also be able to look around Blagdon Hall's gardens and grounds.

We will need plenty of volunteers for this event to help with a variety of tasks including setting up / taking down signage and gazebos, car parking, catering and just being available to help out at some time during the day.

All offers / enquiries re food for the Clock Room Tearoom should be made to Marjorie Goodchild. Contact your Chairman, Roz Cooper, about any other volunteering matters.



PHNE MEMBERSHIP INFORMATION

Hello everyone. My name is Pat Skews and I became the Membership Secretary in January 2018 when I took over from Alison, who is now able to come to meetings without the responsibility of the role that she had worked hard in for some years. I have been a member of Plant Heritage for 2½ years and really enjoy the meetings, plant fairs, visits and garden parties as well as believing it's a worthwhile charity to support, so I was happy to volunteer.

Since taking on the role of Membership Secretary I've had the pleasure of talking to many of our members as they sign in and I am beginning to know who people are. And what pleasant, cheerful people they are too. Since I took on the role we have had 2 people join us and 2 people have resigned. There have been a couple of enquiries about becoming a member and I hope that these people will eventually join us as well. At present there are 128 members in our branch of whom about 30 attend monthly meetings along with a few visitors.

I get a lot of pleasure from my garden but I have to own up to being a fair-weather gardener; not particularly keen on growing vegetables, not terribly bothered about creating a well designed garden and having no patience with plants which don't have the will to live in my garden conditions. However I do love flowering plants. I have a soft spot for spring bulbs especially daffodils and I'm a bit mad about roses. I try to have something in flower every month of the year. There are 3 sheds in the garden which we'd allowed to go to rack and ruin while my husband and I both worked full time. Now, since we've retired, the sheds have all been restored and are a bit of an obsession for me. My husband has responsibility for the lawn and the hedge and not much interest in the rest of the garden and that's just fine by me. I know one couple who both love gardening but cannot agree about what to grow and have resolved their arguments by dividing the garden into "his" and "hers" and it works. They have a lovely garden.

I hope to find out your gardening interests, loves and pet hates over the coming months and perhaps you'll agree to my including them in forthcoming news letters. People and their gardens are just so interesting.

Pat Skews



Achillea 'Tissington Old Rose'



Berkheya 'Helios'

DNA TESTING PROJECT

PHNE has been working with National Office to put together a bid for funding for DNA testing of the *Fagus* collection at Kirkley Hall. You may remember the article in the autumn 2017 Plant Heritage Journal about De Montfort University undertaking DNA barcoding research on the National Collections of *Ophiopogon* and *Liriope* held at Brooksby Melton College. Before she left, Sophie Leguil was working with Adrian Slater to identify a follow-up DNA project to that analysis.

As a charity we talk about preserving genetic diversity without actually knowing much, if any, detail about the genetic diversity within our national collections. We are also the only charity that is interested in genetic diversity as represented in cultivars. The PHNE committee has been considering how to undertake DNA testing of one of the region's national collections for quite a while. Those who have attended our meetings over the last few months will have noticed that the potential to resolve some current identification problems using DNA analysis has cropped up a few times. The *Fagus* collection was selected as there were specific challenges with the DNA sequence of the genus and the fact that the collection is grafted. John Guy, National Collection Holder, identified 4 cultivars where further analysis was needed to establish if there was sufficient differentiation to remain as named cultivars or whether they should be

considered a single cultivar with some minor variation in appearance. It was hoped that this project would identify best techniques to analyse cultivar differentiation as well as confirm the accuracy of identification within the collection.

The total identified cost of the project at £12,000 is more than PHNE could finance although the committee was prepared to commit some funding. With advice and assistance from Lucy Pitman and Suzanne Featherstone, National Office submitted a grant application to the Finnis Scott Foundation. Unfortunately we heard at the end of April that this funding application has been unsuccessful. We are now investigating other options to source funding.

Roz Cooper



Hosta 'Gold Splash'

GEORGE FORREST'S 4TH EXPEDITION TO YUNNAN AND THE IMPACT OF WW1

We take for granted so many of the species that the great plant collectors introduced into the UK, that's it's often worth a look back at the effort involved. In spring 1918, sponsors of George Forrest's 4th expedition to China were waiting to receive seed. It may seem surprising that he was actually collecting seed during World War I. He had been in Yunnan in 1914, collecting for J.C. Williams of Caerhays, when the war began but returned to Scotland in 1915. As early as June that year he wrote to E.H. Wilson 'I hope to go out again as soon as this wretched war is ... settled' (McLean, B. p.131 - see *bibliography*).

Although the focus was on supporting the war effort in a number of ways, the Royal Horticultural Society (RHS) still held regular meetings in London. Forrest gave a talk to RHS fellows about his 3rd expedition (1915), describing the rich and varied flora in Yunnan and indicating that much of the area remained unexplored. Henry Elwes was inspired by this to set up a new syndicate to fund another expedition. J.C. Williams was keen to sponsor again, and the RHS was keen to be involved for the first time with one of Forrest's expeditions. It undertook the administration of seed distribution, while Royal Botanic Garden, Edinburgh (RBGE) would continue to identify the plants, name and publish the new introductions. By autumn 1916 the details were finalised and a contract drawn up. The sea journey from UK to Rangoon took around 6 weeks normally but when Forrest went out in January 1917, because of the war he had to travel around the Cape rather than via the Suez Canal, which added about three weeks to his journey. From Rangoon he travelled by train up through Burma (now Myanmar) to Bhamo where he joined

an old trading route between Burma and South Western China. On 2nd May he wrote to Dr Keeble from Talifee, Yunnan asking for details of "any species of my recent collections, seed of which was collected, which might not now be in cultivation and may wish to be collected again".

After three previous expeditions Forrest's seed distribution was a well-established process. His standard practice was to send small amounts of a few



© Heinrich Handel-Mazzatti in early 1900s

Caravan route from Bhamo to Kunming

specimens back with letters to his sponsors as seed was collected and send a bulk collection of seed after it had been dried and processed during the winter at base camp. The transportation of the bulk seed collection was the subject of an exchange of letters between Forrest and Dr Frederick Keeble, RHS Director. Only his reply is in RBGE Archives, written on 10th October from Tsedjrong, Upper Mekong, which identifies some of the issues he faced: “. . . routes you suggest to me for sending home material are impracticable from here. Nearest railhead to Shanghai is at Hankow. From this point to there the mail, at its best, takes about 50 days, that is letter mail, parcels take double or more, as they travel by mule and are exposed to all weathers! ... So must ... adhere to old plan of hoarding material till the end of the season. Will send sample seed of most interesting specimens by letter post. From here I dare not risk it, for during bad weather, the mails are often soaked.”

Sending parcels via Shanghai was probably a route used by previous plant hunters in China sponsored by RHS but Forrest preferred his closer, more direct route through Burma suggested by A. K. Bulley who sponsored Forrest’s first two expeditions. It is difficult to estimate accurately how long it took for seeds sent in letters to reach the RHS and then sponsors. The extended sea journey from Rangoon to UK via the Cape took around 9 weeks. Internal travel to Rangoon from wherever he was would take at least 2 weeks, plus however many days from the collecting area back to camp. Seed cleaning, possibly some time drying and then division and distribution gives a practical time frame of four months plus.

From the Forrest Archive in RBGE we can identify the first seeds distributed in letters during



Roscoeae humeana introduced by Forrest and named for David Hume

1918. Cover 1, dated 21st January, included seed of F14232 *Primula dubernardiana*, now known as *P. bracteata*. F14232 refers to a herbarium specimen of the plant in flower collected in July 1917, so seed collection would be a later date. This was assigned A31 by RHS in Field Notes of Tree, Shrubs and Plants . . . (see bibliography). Cover 2, also dated 21st January, included F14179 *Diplarche multiflora*, in flower in July 1917, and assigned number A44. On 3rd February he sent in Cover 3, *Vaccinium modestum* F14218, but the RHS number is A358 which suggests that the seed first sent did not arrive in good condition or at all. However Cover 4, also sent 3rd February, included *Lilium apertum tibeticum* F14178 (now known as *Nomocharis saluenensis*), assigned A38. On 1st February he wrote to William Wright Smith, Assistant Keeper at RBGE, that he had been in Tengyueh for the last 25 days writing up the dried specimens collected in 1917. He also describes having amassed 3-400lbs of seed (136-180kg).

However WW1 was having an impact on shipments as explained in a letter from him to Chittenden written on 8th May from Talifu. He had heard that the government was prohibiting all export from Rangoon but he was expecting shipping of non-essentials to be resumed in April. On 8th April "shipping lines reopened for non-essentials in limited quantities." On 12th April local agents agreed to take 10 cases of botanical specimens and seeds for Dr Keeble RHS but refused packages for J.C. Williams and R. Cory. He advised that they send everything to RHS, which did eventually receive the bulk shipment, which was distributed to the sponsors. How much would be known about the seed varied. Sometimes it came with genus and species identified by Forrest although this might be such a new, and possibly not yet published, name that it was of limited use. He made great effort when he was at home between expeditions to discover which of his collections were newly identified with names applied but it took several years to work through all the collected herbarium specimens. The F number was a link to his field notes which included altitude, latitude and type of location such as rhododendron scrub or open stream side, as well as (for trees, shrubs etc) height and flower colour. Sometimes only genus or family was identified and on occasion only a collection number came with the seed. RHS received a few batches of seeds with no F number but they were distributed with an A number allocated by RHS on the understanding that if germination was successful then the plant could be identified later. Both the RHS Field Notes and the complete RBGE identifications for the 1917-19 expedition were not published until 1929, long after seed was sent to challenge the sponsors and their gardeners. Even in 1929 some plants are only identified at genus level.

RHS sowed its share and later sent reports of mixed levels of success to Forrest. He sent a reply to Chittenden on 23rd August 1919 saying he was sorry to hear about the 1917 bulk consignment. "Obviously the packages had been delayed for 2 months in Rangoon and the climate is deadly. In wartime one cannot expect much else", but he hoped that the 1918 consignment would be much better.

The preface to the *Plantae Chinenses Forrestianae* (see bibliography) refers to the loss of some

herbarium specimens "in transit through hostile submarines" but duplicates were retained in China and seed collected in the majority of cases, so as plants might be in cultivation the details were included but marked with an asterisk. This refers to the sinking of the *City of Adelaide* off Sicily in August 1918.

Forrest was too old (45) to be conscripted into the army at the start of WW1 but by 1918, he was within the age band being called up. He declared himself willing to serve but having had Blackwater Fever felt he was not fit enough to be sent to hot climates (1. p131). He was informed by the British Council in Tengyueh in June 1918 that his registration papers were en route but the war ended before the process was complete. So Forrest was able to continue collecting until the planned completion date in late 1919.

Amongst the many hundreds of seed collected in 1917 and shipped in 1918 were *Kerria japonica* F13929 (A334); *Berberis jamesiana* F13974 (A57); *Incarvillea grandiflora* F14098 (A41 & A692).

Bibliography:

McLean, B. (2004) *George Forrest Plant Hunter*. Antique Collectors' Club.

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Royal Horticultural Society (1929) *Field Notes of Trees, Shrubs and Plants other than Rhododendrons collected in Western China* by Mr George Forrest 1917-19. RHS.



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RECENT TALKS AND GARDEN DESIGN CONSERVATION

Interestingly and coincidentally, the issue of maintaining or recreating historical garden designs has appeared in a number of our talks recently. Kate White, Head Gardener at Cowden Castle in Clackmannanshire, is overseeing the restoration of the 7-acre garden, said in 1925 to be “the most important Japanese garden in the western world”. It was created in 1907-08 by explorer Ella Christie and a female Japanese garden designer in an age when all things oriental were highly fashionable. It was subsequently maintained by Japanese gardeners who understood the underlying philosophy: a traditional Japanese garden is a landscape designed to be viewed for its structure and symbolism, using stones, water, bridges and trees, with little emphasis on plants. Ella died in 1949, the castle was demolished in 1952, and the gardens were severely vandalised in 1963. In 2008, Ella’s great-great niece Sara Stewart took it over and began restoration in 2014 with the help of Professor Masao Fukuhara. Though unfinished, the aim is to open Cowden to visitors this summer.

Belsay Hall garden also needs restoration to reclaim Sir Charles Monck’s original vision for the quarry garden in the Picturesque style. His son, Sir Arthur Middleton, added ‘strong formal bones’ and botanical interest to the garden. The project is in the hands of English Heritage, and Dr Michael Klemperer, Gardens Advisor for the North & Midlands, explained Phase 1 – details of the bid for a Heritage Lottery Fund grant to carry out the work. The aim, in the light of falling visitor numbers, is to provide a more authentic and attractive landscape and preserve ‘irreplaceable historic plant collections’ (as well as improving visitor facilities). Highlights are species rhododendrons, species lilies, a Plant Heritage National Collection of *Iris* series *Spuriae* and a range of specimen trees. The whole site displays Romantic, Picturesque and Classical styles, and deciding which period to concentrate on involves difficult decisions.

Michael Brown talked about Georgian gardeners, and fascinatingly emphasised their conditions, accommodation, routines, equipment, and tools of which he brought an intriguing selection. Underpinning their work were great advances in gardening, and changes in taste and design from the formal to the ‘natural’ - the period when Capability Brown found his niche. Humphry Repton subsequently changed the focus but is still recognisably Georgian. The great gardens of the period emphasised enjoyment and spectacle, and therefore utilised carefully landscaped walks, hedges, lakes and fountains, statues and ornaments. Many famous gardens (including Wallington - see p5-6) carefully retain and restore these period characteristics.

Dr Klemperer referred to critics who say that restoration can never be more than pastiche, and that reversion to nature is better than a compromised restoration. But the danger is that a period of garden design – its philosophy, themes, structure and, of particular interest to PH, its plant varieties – can otherwise be lost.

Suzanne Stanley

Plant Guardian Scheme

The Plant Guardian scheme is proving to be a great success nationally. One of the objectives in Plant Heritage's current business plan is to increase the number and diversity of cultivated plants held and actively conserved by Plant Heritage. In relation to plant guardians the target is to increase the number of rare cultivated plants conserved through the scheme by 75% by 2020. In order to achieve this, every group will need to recruit more plant guardians and identify more rare plants which are eligible.

As usual almost all the plants we received in the 2018 Plant Exchange are eligible for registration. There are also changes to the way these plants are labelled. Plant Guardian plants will now have an orange label. Threatened plants, those which are identified by the Threatened Plants Project as being at most risk, will also have a red label. This is actually returning to the original use of the red label. Some plants received from the Plant Exchange will be in this category. I will contact PHNE members if they offered threatened plants so they can consider registering them.

If you would like to be involved in the Plant Guardian scheme but don't already have plants which are eligible, please contact me or a committee member and we will try to match up suitable plants and growers.

Roz Cooper



Pelargonium 'Dunskey'

STOP PRESS! MAY PLANT SALE AT KIRKLEY HALL



Our Chairman's optimism (page 3) about the surge of plant growth after our late spring was just about well-founded: though we had fewer plants than usual because of the weather, everything there looked fresh and healthy, and sales totalled over £2,500.

Thank you to all who donated stock, and to volunteers who helped price plants, set up on Saturday, staff the sale on Sunday 20th. and dismantle it all at the end of the day. Thanks too to Kirkley Hall for the use of their facilities.

It was a successful event with many return customers and genuine plant enthusiasts among the visitors.

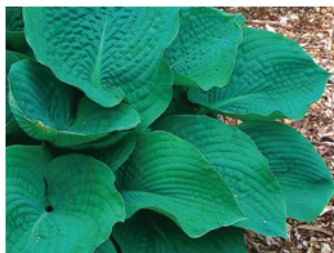


KONNICHIWA (hello) from Polemonium Plantery

To celebrate 20 years of National Collection Open Days in our current garden this year, and the introduction of two new Japanese cultivars to our collections, we have a Japanese themed competition. Our two new cultivars are Polemonium yesoense 'Kaleidoscope' and Hakonechloa macra 'Sunflare'.

To win a plant, identify the following plants seen from the seat in our Japanese corner. Bring your answers to our open days (22nd July and 26th August, 2 – 5pm) or our plant stall at the Blagdon Plant Fair, and the first 3 fully correct answers at each venue can claim a free plant.

Dianne Nichol-Browne



REMINDER

If you have an email address, please let our Membership Secretary Pat Skews know, then you can receive future updates electronically. This would save PHNE the cost of paper, envelopes, postage and time, and ensure you received the information wherever you might be.

Thank you very much.

Contact

Pat Skews

Email: pat.skews@btinternet.com

2018 Programme

- 13th January** **AGM + Rob Potterton:** “Special nursery challenge.”
- 10th February** **Doug Stewart:** “Horticultural R&D in our Gardens.”
- 10th March** **Kate White:** “Cowden Castle Japanese garden, history and restoration.”
- 14th April** **Michael Brown:** “The Georgian gardener.”
- 12th May** **Michael Klemperer:** “Belsay Hall: reviving the existing garden.”
- 20th May** **Great North Plant Sale,** Kirkley Hall College.
- 15th July** **Great North Plant Fair,** Blagdon Hall Estate.
- 4th August** **Annual Garden Party** - The Browne-Swinburnes open their garden at Capheaton Hall from 2.30 - 4.30pm.
- 13th October** **Catherine Penny:** “NC Pemberton roses.”
- 10th November** **Alan Furness:** “Alpine meadow plants.”
- 8th December** **Members’ Christmas event + Richard Barnes:** “It’s not all about plants.”

Meetings at 2.00 for a 2.30pm start, in
Ponteland Memorial Hall, Darras Road, Ponteland NE20 9NX

Our Mission Statement:

‘Plant Heritage seeks to conserve, document, promote and make available Britain and Ireland’s rich diversity of garden plants for the benefit of everyone through horticulture, education and science’.