

The University of Oxford

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**Botanic
Garden &
Harcourt
Arboretum**
Friends'
newsletter

Autumn/
Winter 2017



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Green Impact update

By Kate Castleden

We were thrilled this summer to be awarded our bronze accreditation as part of the Green Impact scheme which is run through the NUS, National Union of Students, and encourages universities and their departments to rise to the challenge of becoming as 'green' and eco-friendly as possible. We are determined to work towards a silver award in 2018!

From the Director

by Simon Hiscock

The spring and summer months have seen record numbers of visitors to both the Garden and Arboretum. The good weather through to mid-summer helped, as did the fact that the Garden and Arboretum looked magnificent, but a key factor has clearly been the 'Mindgrowing' marketing campaign run by GLAM (the Gardens, Libraries and Museums Division), which has been promoting the University's world class collections as visitor attractions through spring and summer. As a consequence the Museums and Bodleian Library have also seen increased visitor numbers compared to 2016 - up by 9% across all GLAM departments. This campaign, the first of its kind in Oxford, has been a tremendous success, and has helped raise the visibility of the Botanic Garden and Arboretum - I even saw a 'Mindgrowing' poster at Aldgate East tube station.

Through the summer, visitors to the Garden were wowed by established plantings, like the herbaceous border and the Merton Borders (featured in a splendid article by Mary Keen in the July edition of the RHS Garden Magazine), more recent plantings, especially 'Plants that Changed the World', which has now been 'extended' into the glasshouses via Pia Östlund's wonderful interpretation boards, and new plantings, including those within the Order Beds and Literary Woodland. At the Arboretum too there was much to see, both old and new; the wildflower meadow was alive with biodiversity - flowers and grasses attracted a host of insects, especially butterflies, including hundreds of meadow browns, while within the Arboretum, newly planted rhododendrons and azaleas testified to the amazing amount

of work going on to restore the Serpentine Ride. All of these ongoing projects were made possible because of the generosity of the Friends - financial support that is vital for the 'transformation' of the Garden and Arboretum.

Building projects are also underway at both sites. The conversion of the Exhibition Room into the Herbarium Room, to showcase material from Oxford's world-class herbaria, has begun with removal of plaster to allow the walls to dry in preparation for damp proofing. Hopefully these restorative works will be completed by Christmas so that decoration with Pia Östlund's unique Dillenius botanical art 'wallpaper' and curtains can begin in the new year. The inspiration for this design is Linnaeus's former study room at Hammarby, Uppsala, where 'wallpaper' was created by the botanical artist Ehret. All the interior design work for the Herbarium Room has been funded by the Friends. Also under construction is the shade frame at the Arboretum (again funded by the Friends), which will allow the Curator, Ben Jones, and his team to raise saplings prior to permanent planting, including many rare tree species, such as *Betula chichibuensis* collected on expeditions to Japan.

At the time of writing, preparation is underway for the Autumn Fair, now an annual event at the Arboretum to coincide with National Apple Day on October 20th, and the Christmas Fair, which will take place on December 2nd and 3rd. Following its success in 2016 the Christmas Fair has been expanded to include up to 46 stalls selling high quality Christmas gifts for all ages so please book your tickets early and join us to sample some early Christmas magic at the Botanic Garden.

The lost art of Nature printing

By Chris Thorogood

We were delighted to host Pia Östlund this September who taught a course on Nature Printing - a revived 19th Century printmaking technique - as part of our Public Education Programme. Twelve participants, ranging from beginners to professional textile designers, met in the Conservatory which was transformed for two days into a verdant printmaking studio.

The group visited the Herbarium where Dr Stephen Harris presented a veritable smörgåsbord of original nature prints. The jewels in the crown were 'The Nature-printed Ferns of Great Britain and Ireland' (by Thomas Moore and Henry Bradbury, London 1855), as well as early nature prints by Bobart the Younger.



Nature printing in the Conservatory

Back in the Conservatory, Pia gave demonstrations of the method using specialist paper and inks. The two days were an intense programme of printing and experimentation, in which fresh plants from the garden were used to produce impressions. Participants identified their favourite plants which ranged from the large star-shaped leaves of a castor oil plant to the wispy fronds of a fennel leaf. Feedback from the course proved it to be a resounding success.

This year we are delighted to offer a brand new programme of tours, talks, lectures and practical courses in our Public Education Programme. Please see the enclosed flier and book now online before this becomes publicly available. We look forward to seeing you.

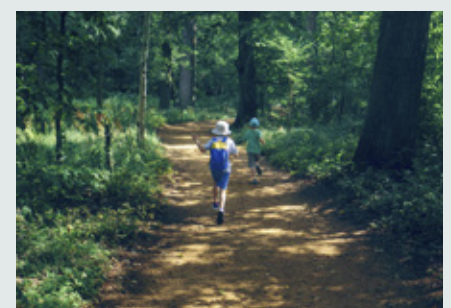
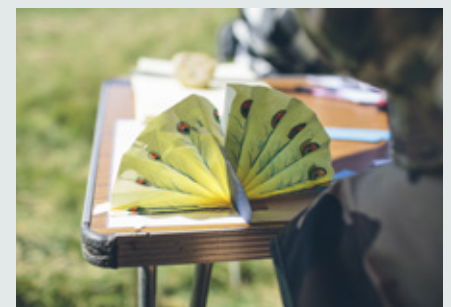
Arboretum Update

By Ben Jones

Families get crafty in the Arboretum

By Catherine Vivian

Families were invited to join us at Harcourt Arboretum for some nature-inspired craft activity this summer. We held five family-friendly sessions in August which were enjoyed by both Friends and new visitors to the Arboretum. Children enjoyed creating owl masks, hanging nature mobiles, whittling woodland wands, decorating wooden medallions and crafting origami peacocks. All sessions were very well attended, apart from one when it rained heavily all day. We would like to extend our sincere thanks to all the volunteers who helped support these activities.



Newly planted 'conservation hedge' at the Arboretum.

In the last 15 years the Arboretum has actively supported the International Conifer Conservation Programme (ICCP) by integrating threatened conifer species into our collections and landscape. The ICCP coordinates *ex-situ* and *in-situ* conservation, scientific research, education and cultivation of conifers. In June 2002, the Arboretum received its first delivery of conifers from the Royal Botanic Garden Edinburgh - the home of ICCP. Over the years, these plants have formed an integral part of the landscape, and supported the aims and objectives of both the ICCP and OBG.

Harcourt Arboretum is ideally positioned to act as a living *ex-situ* conservation collection of threatened tree species. This is particularly important for species that have fruits that cannot be stored in a seed bank, known as *recalcitrant* or *unorthodox*, examples being the acorn and sweet chestnut. Whilst they can be dehydrated for storing, they cannot be rehydrated successfully for germinating. Establishing a 'seed orchard', comprising specimens grown from wild-collected, documented seed material is a vital conservation tool for such species. Whilst the Millennium Seed Bank aims to conserve 25% of the world's plant species by 2020, there are many threatened plant species for which seed banking is not a viable option. This is where plant collections such as those of OBG play a vital role in conservation.



Prumnopitys andina (Podocarpaceae) - Chilean plum yew

Chilean plum yews (*Prumnopitys andina*) provided by Martin Gardner, who raised the plants from collections made in Chile, were among the first trees planted at the Arboretum as part of the ICCP. The valley from which seeds were collected has recently been devastated by fires. Fifteen years on, our plants have reached 5m in height and, importantly, are now producing viable female cones. This means that in future, should seed material be required for ecological restoration or species reintroduction, the Arboretum can play a vital role in supplying viable plant material. We have even planted a 'conifer conservation hedge' comprising 146 specimens. This hedge will provide winter structure and act as an evergreen backdrop to enhance autumn colour and spring flowers. This is in keeping with the picturesque landscape principles with which the Arboretum was first established under the guidance of William Sawrey Gilpin. The Chilean plum yew will also form part of a new permanent 'threatened tree trail', due to open this autumn. This trail will showcase the rare and threatened trees we are growing and protecting at the Arboretum.

Assessed as 'Vulnerable' by the IUCN Red List, *P. andina* occurs in valleys close to rivers in mixed forests across Southern Chile and Argentina, at altitudes between 200 m to 1400 m a.s.l. There are fewer than 12 populations and only two of these have more than 1000 individuals.

Plant-hunting in Japan

By Chris Thorogood



Phacellanthus tubiflorus

During recent years OBGAs has developed and strengthened collaborative links with Japan. We have been working closely with colleagues across the country, from the botanic gardens of Toyama, Sapporo and Niigata, the Ibaraki Natural History Museum, Tsukuba University and the University of Tokyo Forests. This year I joined Ben Jones on an expedition to Toyama on the island of Honshu, and the island of Hokkaido.

One of our key objectives was to collect data to augment a long term project, running in close collaboration with Oxford University Department of Plant Sciences, to develop

a technique called *Rapid Botanical Survey*. This technique rapidly quantifies the plant diversity of a given area to inform the setting of conservation priorities. Japan is an ideal country in which to develop this technique because it is classed as a global biodiversity hotspot for plants. We carried out Rapid Botanical Surveys alongside local botanists at several sites across Japan this year and collected valuable data to support this important project.

Another key objective was to collect seed to augment our Japanese plant collection here at OBGAs. This is in line with our mission to conserve rare plant species from around the world and Japan in particular. An exciting find, deep in the heart of the temperate forests of Hokkaido, was a very rare and unusual species called *Phacellanthus tubiflorus*. This plant is completely leafless and devoid of chlorophyll. It is parasitic and steals all its nutrition from the roots of its so-called host plant, in this case a vine called *Actinidia kolomicta*. We collected seed of this peculiar species and hope to cultivate it on specimens of *A. kolomicta* we are propagating from a specimen collected on a previous expedition. We also

collected seeds of a parasitic broomrape called *Orobanche coerulescens* in the Jinzu river basin in Toyama. Like *P. tubiflorus* this unusual plant too lacks functional leaves, roots and chlorophyll. We will attempt to propagate this species next year on pot-grown *Artemisia campestris*, a preferred host of this particular broomrape.

Parasitic plants such as these are notoriously difficult to grow, and *P. tubiflorus* in particular is completely unknown in cultivation today. If we are successful in their propagation, they will make exciting new additions to our Japanese plant collection and the start of a growing collection of parasitic plants at the Garden.



Rapid Botanical Survey work



Daisetsuzan National Park

How we use the Garden as an education resource:

Our top five plants and places under glass

By Kate Castleden



Amazon waterlilies

Readers may recall our last article in which we described our five favourite plants in the Garden's hardy collection. As the weather grows cooler and we spend more time in the glasshouses with our school groups, so in this newsletter we have highlighted our top five plants under glass. The glass collection includes some weird and wonderful plants which are a valuable education resource. In reverse order, here are our top five:

5. *Victoria cruziana*, Lily House

Our young visitors find the Lily House particularly appealing. The warmth and humidity, the vibrant colours and the variety of shapes and textures provide a stimulating sensory environment. The pond is a highlight, with its centrepiece of giant water lily leaves. The largest of these belong to the *Victoria cruziana*, which can reach up to two metres across! These botanical marvels have a network of spine-clad ribs along their under-surface which trap air, enabling the leaves to float. The leaves are so buoyant that they can even support the weight of a small child.

4. *Citrus spp.*, Conservatory

The Conservatory is a good all-weather resource, regardless of the season. The citrus are a valuable resource for working with primary teachers during Continuing Professional Development (CPD) training. The remit of a primary teacher is broad,

covering many subjects and, understandably, some teachers seek additional training to help support their teaching. The Education Team provides a range of primary CPD courses, from Art to Gardening, and Maths to Science. It is in the Science CPD course, which includes discussion of plant lifecycles, that the citrus plants are integral. They enable us to demonstrate different stages of the plant lifecycle at the same time, as we examine their simultaneous production of buds, flowers and fruits.

3. *Nepenthes spp.*, Carnivorous House

Our Key Stage 2 visitors (primary school children aged 7 to 11 years) are hooked when we explain to them that these extraordinary plants have evolved pitchers to gorge on insects or attract tree shrews which use them as toilets! Strange and comical as these stories may seem, they reveal important scientific concepts. They demonstrate how plants have adapted to their environment and the crucial interactions that have developed between plants and animals.

2. *Aloe vera*, Arid House

Aloe vera is commonly seen in garden centres and on kitchen windowsills, ready for use as a burn treatment. This succulent is a key part of any visit to the Arid House, and is introduced as one of the 'friendly' desert plants, having medicinal properties rather than the irritant sap of some of the other plants found there. Our

team regularly works with Abingdon and Witney College, to provide sessions for adults with learning disabilities. One of these sessions is 'Hot Art' which takes an immersive look at our glasshouse collection, where learners take time to examine and sketch the plants and then create composite pieces of art. The aloes always prove popular during these sessions, particularly when we examine slices of the leaf, squish out the gel and use it to moisturise our hands!

1. *Theobroma cacao*, Palm House

Our largest glasshouse, the Palm House, hosts one of the most popular plants with our visitors, the cocoa tree (*Theobroma cacao*). With more than one specimen to spot, it's a challenge we often set our Key Stage 1 visitors (primary school children aged 4 to 7 years). The children enjoy finding the developing pods of various colours when the trees are in fruit. As chocolate is a favourite food, it provides a valuable platform from which to discuss the importance of rainforest plants in our everyday lives. We examine the raw materials of chocolate, from the cocoa pods and cocoa beans in our handling collection, to the sugarcane (which also grows in the Palm House). We then have a tasting session with Fairtrade chocolate. Using this multi-sensory approach makes the experience interactive for children, and is a good story for them to remember and retell.

Plants That Changed the World in an afternoon

By Emma Williams

As we waved goodbye to the last of the school groups at the end of the summer term our thoughts turned to our summer picnic afternoons. These events take place every year with the generous support of the Friends. The theme of this year's picnic centred on the 'Plants that changed the world' beds that have been wowing our visitors with their colour and diversity this summer. To celebrate the plants that have had a dramatic impact on how we live and survive, we incorporated activities, performances and entertainment into a family friendly picnic afternoon.

We selected a handful of these essential plants, starting with barley, one of the oldest domesticated crops on the planet, originally grown in ancient Egypt to make barley porridge, and now associated with beer production. We offered children the chance to sow their own mini barley meadows and tested their strength by encouraging them to grind barley to make flour for barley pancakes, showing them just how hard it must have been to grind enough flour by hand to make anything larger than a small bread roll!

Visitors were surprised by the diversity of rice plants from around the world. Even parents were amazed that the tiny seeds forming at the ends of graceful stems of the rice plant are in fact the individual grains of rice. More people on the planet are fed by this grain than any other. Children at the picnic had great fun creating *rangoli* - traditional Indian good luck designs that are painstakingly crafted by creating geometric patterns from coloured rice. Parents are always very happy for children to take part in messy activities like this when they realise they don't have to clear it all up at the end!

We were delighted to welcome Lyn Sellwood and Mary Ann Dale along to the picnic afternoon. Lyn and Mary Ann are members of the Oxfordshire Guild of Weavers, Spinners and Dyers. They demonstrated how a beautiful blue dye is obtained from woad, *Isatis tinctoria*. They picked woad directly from the Garden and made a steaming vat of yellow-coloured water. Magically when cloth was dipped into the water and taken out it turned a beautiful blue colour. The pair welcomed the public to roll up their sleeves and try the process themselves.

The afternoon was helped along by delicious pizzas, crepes, ice-creams, beers and ciders from local producers. The Oxford Drum Troupe returned for another mesmerizing session at the Garden, beating out infectious tunes that had everyone tapping along. However, we were most excited to bring our visitors a performance of 'Seed' by Pif-Paf Theatre. The performance followed a Rockabilly traveller, who found and planted the last acorn in existence. We followed him and his side-kick chicken as he fought off plagues of hungry slugs and waited for precious rain to fall and germinate the seed. It really was an impressive spectacle to see a 3 m high slug appear (then thankfully disappear) in the Garden! This was a highlight of our summer and we look forward to planning next year's picnic afternoons.



Pif-Paf theatre performance



Children grinding barley

Plants and Human Health

By Sarah Lloyd

Over the summer term I have been working with a number of Oxfordshire- and London-based secondary schools alongside my colleagues at the Museum of the History of Science and the University Department of Chemistry. Students in Year 9 attended a number of 'special activity days', the theme for which was Materials and Medicines. At the Botanic Garden students focussed on the role of plants in the discovery and production of modern medicines.

We started with the English yew tree (*Taxus baccata*) and the development of treatments for breast and ovarian cancer. We then progressed to the medicinal beds where students enjoyed exploring treatments for a range of conditions, such as asthma, scurvy and malaria. Students were surprised to see cannabis (*Cannabis sativa*) growing in the Garden and were particularly interested to hear about the plant's versatility as a raw material. They enjoyed smelling the leaves and thinking about the advantages of a pungent smell and the control of insect pests. Students were intrigued by the controversy surrounding the production of *Sativex* from cannabis, a treatment for the symptoms of multiple sclerosis. They considered the arguments for and against the licensing of the drug to help shape their personal views.

Students were set the challenge to think about other ways in which plants impact on health. We talked about the production of food and access to a healthy diet. In the glasshouses we were able to find plants that are economically important food crops and identify some species that have positive and negative effects on human health. One such plant is sugarcane (*Saccharum officinarum*) which has been a crop for more than 3000 years as a medicine, preservative, food stuff and sweetener. Sugar has had a huge impact on our health. As our consumption of sugar has increased so has the number of people affected by tooth decay, obesity, Type II diabetes and heart disease. Despite this, when students were asked to choose a plant that they wouldn't want to live without, sugarcane was a popular choice.

The most popular choice by far, was cocoa (*Theobroma cacao*). Cocoa beans are bitter in taste, and require significant processing to produce chocolate, which we discussed as a group. Perhaps a teenage fascination for chocolate is no bad thing. In 2014, analysis of data on a country by country basis revealed an unexpected positive correlation between average consumption of chocolate and the number of Nobel Laureates!



Families exploring the Lily House



Children examining different rice varieties

Cycads in the Garden

By Kate Pritchard

Cycads are attractive ornamental plants with striking foliage, often mistaken for palms, and sometimes referred to as 'living fossils' (see Science Snapshots on p9). Unlike palms, cycads are gymnosperms - relatives of the *Ginkgo* and conifers. Cycads produce male and female cones on separate plants and for fertilisation to occur, pollen must be transferred from a male to a female cone. Many botanic gardens are unable to house multiple plants of the same species and so collaboration is essential for reproduction. Here at the Garden we have both male and female cone-bearing plants. We successfully brought about fertilisation in our female specimen of *Encephalartos ferox* with pollen from the Royal Botanic Gardens, Kew. Young plants were subsequently distributed to botanic collections - an example of *ex-situ* conservation in practice.

Cycads belonging to the genera *Encephalartos*, *Macrozamia* and *Dioon*

occur in semi-arid and arid grassland, scrub and gorges, where rainfall fluctuates seasonally. In Honduras the wild population of *Dioon mejiae* is protected and can be found growing in a dry canyon at an altitude of about 750m. The seeds of *D. mejiae* are ground to make tortilla flour. In the Garden it can be found growing in the Palm House at an altitude of about 72m, proving it to be a very adaptable species.

The Eastern Cape blue cycad, *Encephalartos horridus*, is a striking and heavily-armed species from South Africa. It grows in open scrub and on exposed ridges where populations have declined significantly due to poaching for the horticultural trade. Cycads are considered to be one of the most threatened groups of plants on the planet. Fifty eight percent of cycad species have a conservation rating ranging from vulnerable to critically endangered. Pressures from over-collection

and habitat destruction have contributed to their decline. A small, ethically-sourced specimen of *E. horridus* grows in our Arid House.

Other species of cycad favour wet tropical forests. *Ceratozamia kuesteriana* is native to the Mexican cloud forests where fewer than 300 plants survive today. It has a subterranean trunk and in common with many other cycads in cultivation, produces a single set of new leaves each year. The young leaves of *C. kuesteriana* are a beautiful reddish-bronze colour, due to the presence of ancanthocycins. These compounds protect the new foliage from exposure to ultra-violet light. This species can be found growing in the Palm House.

For more information about this fascinating group of plants, visit the International Union for Conservation of Nature (IUCN) Cycad specialist group website. <http://cycadlist.org>



Cycas rumphii female cone



Dioon mejiae

Science snapshots

By Chris Thorogood

Cauliflory in the Garden

Where to look:
cocoa trees (*Theobroma cacao*) in the left-hand corner of the Palm House

Several of our trees under glass have come into flower in the last few weeks. One or two are notable examples of *cauliflorous* trees, for example our cocoa (*Theobroma cacao*) in the Palm House. *Cauliflory* is a botanical term which describes flowers and fruits arising directly from the main stem or trunk of a tree, or its mature lower branches. There is no common taxonomic or anatomical basis for cauliflory, and it has evolved repeatedly, most often among small trees in tropical rainforests. Cauliflorous trees produce flowers in the axils of the leaves like most plants, but the site of the flower does not become inactive after the flower dies. Instead, resting (dormant) buds repeatedly yield new flowers from season to season as the trees age. The development of cauliflory is poorly understood because invasive (destructive) techniques prevent repeated studies of the same flower.



Theobroma cacao in the Palm House

Living fossils in the Garden?

Where to look:
cycads in the glasshouses

The cycads are often cited as a classic example of *living fossils* - evolutionary relicts of formerly diverse and abundant groups that have survived with little change. Other well-known examples include the coelacanth, the horseshoe crab and the *Ginkgo* tree. Cycads were hypothesised to have originated before the mid-Permian era (ca. 272.95-259.1 mya), reached their peak in the Jurassic-Cretaceous era (ca. 201.3-66.0 mya), and then declined to their present 300 or so species due to competition with flowering plants and the loss of dinosaurs for dispersal. Scientists have recently produced *timetrees* - combining DNA sequence and fossil record data - to show that cycads in fact diversified in the late Miocene. This means that living cycads are therefore not much older than 12 million years. These DNA-based analyses refute the role of dinosaurs in generating diversity in the cycads, and the commonly held view that they are living fossils.



Encephalartos ferox female cones

Adventures on Mount Etna

By Simon Hiscock

Earlier this year I visited Catania, the second city of Sicily, to meet with colleagues at the University and from the Universities of Napoli and Bristol, to plan the first phase of our 3-year research project investigating adaptation of *Senecio* (ragworts) to high and low altitude on Mount Etna. The aim of this visit (in February) was to identify sites for four transplant 'gardens' at 500m, 1000m, 1500m and 2000m, respectively. Normally, it would have been possible to get to the two higher altitudes in mid-February, but the winter of 2016/17 was one of the coldest on record and these areas were still covered by snow. Fortunately therefore, Antonietta Cristaudo, Professor of Botany at Catania University and the expert on the flora of Mt Etna, told us not to worry as she had already identified all the sites back in the autumn. On seeing the sites selected at 500m and 1000m, ideally located on private (protected) land, we were reassured that the two higher sites would be suitable - Antonietta told us that Marco, a local farmer, had agreed to prepare and fence the upper 'gardens' for us once the snow had melted.

Next we visited the glasshouses where our plants would be reared before being planted out at the different altitude gardens. What glasshouses! Antonietta had secured the services of Piante Faro, the largest nursery business in the Mediterranean, to rear our plants. This they had agreed to do as 'in kind' support for our project, because Antonietta was helping them grow endemic



One of the many glasshouses at Piante Faro

Sicilian plants for cultivation. Venerando Faro, the founder of the business and his son Mario told us they were excited to help with the project and invited us to visit their Garden Festival of Sicily when we returned later in the year.

Satisfied that all was in place for the start of the project, we toasted its success with a glass of Etna Rosso at the famous Benanti family vineyard on the western slopes of Mt Etna. Sipping this delicious blend of endemic Nerello grapes we watched Mt Etna puffing out huge plumes of white and grey smoke. On March 16th it erupted to spectacular effect.

I next visited Mt Etna in mid-June with the project well under way. Greg, the post-doc appointed to run the project, had arrived from Australia in May to join Jon Bridle, the Bristol lead, Antonietta and Stefania, another post-doc from Catania. They were already well advanced in planting low altitude plants of *Senecio chrysanthemifolius* at three of the transplant gardens and I joined them with Professor Salvatore Cozzolino from the University of Napoli to complete planting at the two high altitude gardens. Plants of high altitude *S. aethnensis* (an endemic of Mt Etna) would be planted later. These two *Senecio* species form



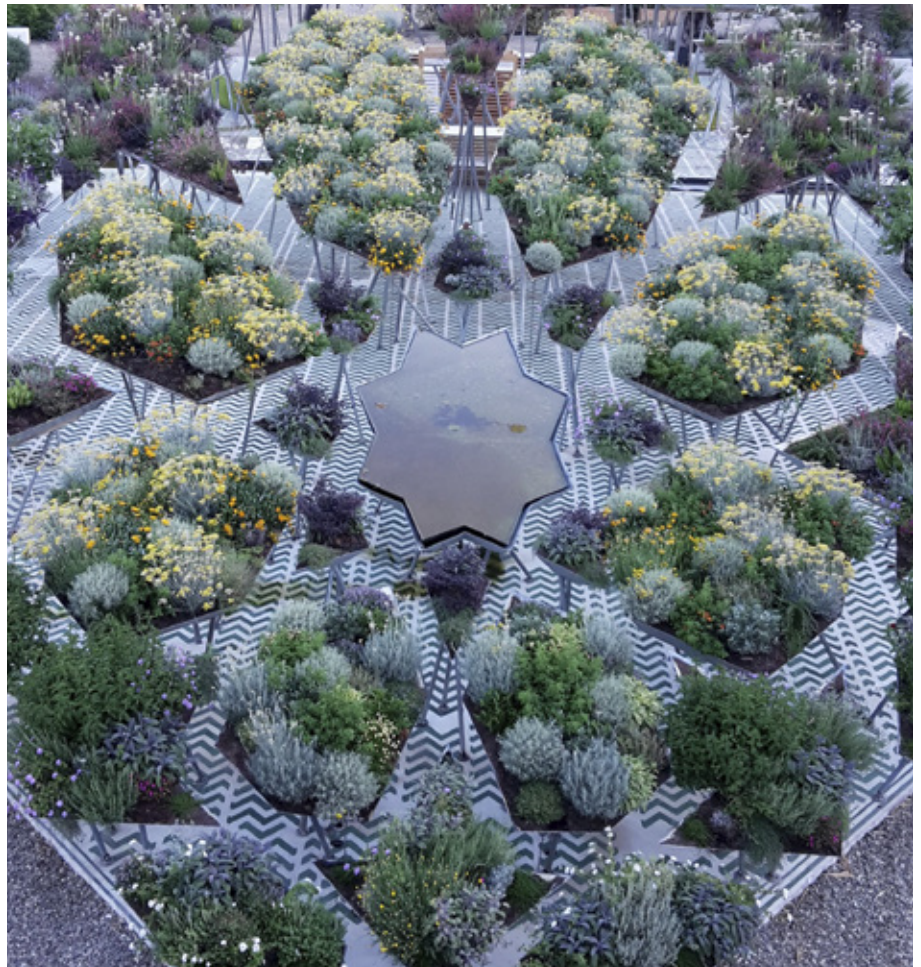
Simon Hiscock (centre) with project collaborator Dr Jon Bridle (left), Professor Antonietta Cristavolo (right) and Mario and Venerando (far left and far right respectively)

hybrids where they meet naturally at mid altitude, and it was material from this hybrid zone that was grown in the Oxford Botanic Garden by Bobart the Younger in the early 1700s. Plants that later escaped from the Garden spread across the UK via the clinker beds of railway lines and over the next few hundred years diverged from the hybrids and their parents sufficiently to become recognized as a separate species - *Senecio squalidus*, the Oxford ragwort.

During the June trip I again visited the Piante Faro estate for a private view of their Garden Festival at Radicepura (meaning 'Pure Root') a botanic park and centre for research on Mediterranean plants and horticulture. Here, chief horticulturalist Sergio Cumatini and colleagues introduced me to the show gardens created for this year's Festival. These included a stunning elevated visual trickery garden created by François Abelanet which, like all his designs, can only be seen to their optimal effect from a specific viewpoint - in this case an elevated balcony 20ft above. However, for me, and most visitors, the standout garden was the Mount Etna Garden created by James Basson (winner of Best Garden in Show at Chelsea this year) using plants from Antonietta's research collection at Piante Faro, including some *Senecios*. Mario Faro revealed that James was contemplating creating an Etna Garden for Chelsea sometime in the future and that we might wish to discuss this possibility with him.



Laying out planting plots at transplant garden 4 at 2000m



The elevated visual trickery garden created by François Abelanet

July and August proved incredibly challenging for the Mt Etna team as Sicily recorded one of its hottest summers. This meant early morning starts for Greg and Stefania, who visited the transplant gardens two to three times per week to measure the growth and general development of the plants and to collect leaf material for later genetic analysis at Oxford. A key aim of the project is to understand the ability (or not) of the plants to survive outside their normal environments, i.e. is there sufficient genetic variation and plasticity to allow high altitude plants to survive at low altitude and low altitude plants to survive at high altitude? Given that one of the key environmental variables is temperature, our findings may help us understand the biological impact of climate change.

When I visited Mt Etna again in September the temperature had dropped a little but it was still very hot (30-34 °C). Greg and Stefania were still hard at work measuring the plants and had planted many hundreds of seeds of the two *Senecio*

species at the four sites. Seeds normally germinate on Mt Etna following the first rains, usually in late October and then grow slowly through the winter before the main flush of growth in spring. They were also carrying out controlled crosses in the glasshouse at Piante Faro to generate further seed from known parents, which would be grown for planting out in spring 2018.

At Piante Faro, journalists from *Gardenia*, an Italian garden magazine, were interviewing Venerando and Mario Faro for a feature on the history of their business. Mario was keen for us to talk to them, so I told them the story of the Oxford ragwort, which they knew nothing of, quickly deciding that there was material here for another article. Award-winning photographer Marianne Majerus was also with them and took pictures of our plants, telling me how much she loved Oxford and how she had taken the photos of the Merton Borders for the article in the July edition of the *Garden* - small world.

Friends' Section News



Mary Isaac

Mary Isaac

After 9 years on the Board, Mary Isaac has decided to resign. Mary first joined the committee of the Friends in 2000 and became a Director in 2006. Almost as soon as she joined, she took over the running of the biennial plant sale, which she ran until 2008. In my opinion, this is by far the most onerous of all the regular events that the garden puts on, involving as it does persuading people to provide thousands of plants between them, somehow ensuring the quality control of the plants and the soil they come in, collecting or taking delivery of the plants, organising volunteers nearer the time to price the plants and organise them into groups, then sell them, plus volunteers for tills, teas, stalls, advice.... the list is endless. I find even thinking about

it totally daunting. Mary managed all this extremely efficiently, with apparent calm and always with a smile, and in the process raised tens of thousands of pounds for the Garden. At the same time, she organised a few 'Jazz in the Meadow' events at the Arboretum, which again were well attended and brought a new audience to the Arboretum.

After handing over the plant sale to Maura Allen, Mary took on the role of organising volunteers, initially both for the Garden and for Friends' events. She then did a swap with Carol Maxwell and took on the organising of the annual Opera event in New College, which involves getting sponsorship, promoting the event, getting the pre-performance drinks bought and served, and organising the laying out of tables for the picnic in the cloisters. This latter task I know from experience can be fraught with pitfalls. In addition to all these roles, Mary volunteers for almost every event that takes place at the Garden, whether it be May Morning or Friends' parties.

In Board Meetings, Mary has always been the voice of calm good sense and she has been invaluable in helping to push, with humour and clear thinking, for matters properly to be understood before decisions are reached. We shall miss her on the Board, but I am delighted that she will continue to volunteer for the Friends and, in particular, serve on the Events Committee. All I can do is thank Mary, on behalf of all the Friends, for all she has done and continues to do for us.

Sarah Taylor, Chairman of the Friends

Please note

The Garden and Arboretum are closed Monday mornings until 12.00 noon (excluding June, July and August).

Don't forget your membership card

when you come to visit the Garden and Arboretum. Our ticket office staff do not have access to the membership database (for data protection reasons) and can't let you in free of charge if you don't have your membership card!

Special message to all gmail users

Gmail has a disconcerting way of filtering messages into different categories. You may miss emails from us because they have been filtered into the Promotions or Update categories. It is advisable to apply a filter to move any emails from Friends' Administrator to force them into your Personal or Primary Inbox. In particular you may not receive your emailed copy of the newsletter magazine that is published three times a year. The dates this is usually sent out are as follows:

Mid-March / Early July /
Early November

If you need any help with applying a filter to move our emails into your inbox then do contact Seonaid Danziger at seonaidscd@gmail.com

Message to all email users

If you are not receiving regular e-bulletins with news of Friends' events by email, it will be because, for some reason, we do not have your current email address. Please send an email with your name, to the Friends' Administrator at friends.administrator@obg.ox.ac.uk.



A Friends' event in the Garden

Events

Friends' Giant Plant Sale

Sunday May 27th 2018, 11.00am - 3.00pm

Share the love

Divide, propagate and sow for our largest fundraising event. The Plant Sale is a biennial event held at the Harcourt Arboretum. Help us to make this a huge success again by sharing the plants you love. We can look after plants over the winter, help you divide and transplant or help with supplying pots. Our fundraising supports education, staff development, research and small capital projects in both the Arboretum and Garden. Contact Maura Allen at mea@armitstead.com or on 01865 311711



First Friday of the Month

Coffee Mornings

Friends' coffee mornings are on the first Friday of every month (except January and August) and are an opportunity for Friends to get together. All coffee mornings begin at 10.30am in the Garden's Conservatory followed by a tour at 11.00am. There is no fee and no booking is required, just turn up.

The next dates are:

December 8th, February 2nd, March 2nd and April 6th (note that there is no coffee morning in January).

Saturday 2nd and Sunday 3rd December

Christmas Fair

The Friends at the Christmas Fair

Please help us support the Garden by volunteering to be a Welcome Marshal for either Saturday or Sunday - we will be having 1.5 hour slots and there will be free refreshments to warm you up and free entry to the Fair itself. Support the Garden and the Friends this Christmas by being a part of a wonderful seasonal event.

- Please contact Maura Allen on mea@armitstead.com or 01865 311711



Christmas Fair, 2016

Garden Visits

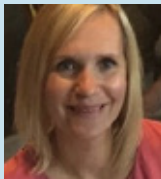
By Harriet Bretherton, Pauline Coombes,
Jane Annett and Diana Naumann

Welcome to the 2018 programme of Garden Visits, offering you the opportunity to visit a wide range of gardens in different settings.

Booking Tickets for Garden Visits: For technical reasons, we are still unable to use online booking. All bookings therefore, until further notice, will be by post. See enclosed 'Garden Visits Booking Form'.

Your ticket(s) will be sent by email, if we are given an email address; otherwise by post. We apologise for any inconvenience caused by being unable to book online and hope that this will not discourage you from joining us for what we hope will prove to be a programme of visits to some special gardens.

New Visits Ticketing Administrator



Freya Jones was appointed as the part-time FOBG Visits Ticketing Administrator in July.

Freya has a BSc in Psychology from UCL and pursued a successful career in events management, before taking a break to have children. She has already proved invaluable in issuing tickets for garden visits in September and October and next year will also issue tickets for The Bobarts Patron Group. Freya is a most welcome addition to the Garden Visits Team.

Visits Ticketing Administrator contact details:

Email: fobgaticketing@gmail.com
Mobile: 07472 365001

Freya will be checking emails and the mobile answerphone is manned intermittently. Any emails and messages will be replied to ASAP.



Colesbourne Park

Friday 9th February, 11.00am

Private visit to Colesbourne Park

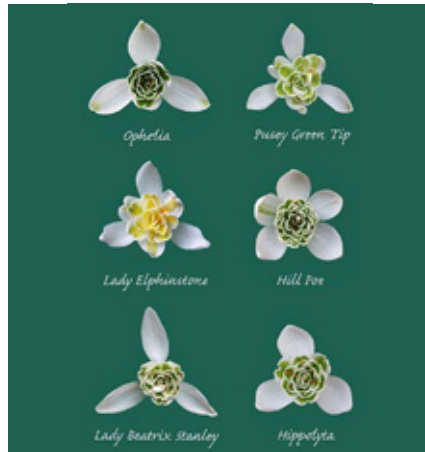
Colesbourne, Nr Cirencester, Glos GL53 9NP

By kind permission of Sir Henry and Lady Elwes

The gardens at Colesbourne Park are renowned for their magnificent display of rare snowdrops. Started by Henry John Elwes FRS (1846-1922) with the outstanding *Galanthus elwesii*, the collection has been greatly enhanced and extended in recent years by great grandson Sir Henry Elwes and his wife, Carolyn, and is now considered to be one of the best in the whole country. The tour will include a short presentation on the history of Colesbourne Park and the Elwes family and a brief introduction to the amazing diversity of snowdrops. This is followed by a guided walk around the grounds, giving the opportunity to see both the massed plantings and the collection of rare snowdrops. Morning coffee

and homemade cakes served on arrival. Snowdrops and other winter-flowering plants for sale.

- Friends £20, guest £25
- Maximum 50



The Lady Elphinstone snowdrop is unique to Evenley Wood garden

Thursday 15th February, 11.00am

Snowdrops at Evenley Wood Garden

Evenley Wood Garden, Brackley, Northants NN13 5SH

By kind permission of Mrs Whiteley

A return visit to Evenley Wood Garden to enjoy their snowdrops. The garden has over 80 different forms, some of which are quite special and unique to the wood. These include the Evenley Double, the double Lady Elphinstone and Cedric's Prolific snowdrop. They grow in vast swathes throughout the garden as this offers the best visual impact. We will be given a guided tour by the Head Gardener, Justin Litten. Refreshments included.

- Friends £17, guest £22
- Maximum 50

Saturday 3rd March, 10.00am

Magdalen College, The John Goodyer Botanical Collection

Magdalen College, High Street, Oxford OX1 4AU

By kind permission of The President

The Magdalen College Library has an extensive collection of botanical books including the entire library of the botanist, John Goodyer, which contains books printed between 1550 to 1665. Goodyer spent much of his life advancing botanical knowledge, recording plants, and searching for new medical uses for them. Liam Dolan, Sherardian Professor of Botany, will explain the importance of the books for botany and Daryl Green, College Librarian, will give an historical insight into the collection. Friends will be able to leaf through some of the earliest printed herbals. Refreshments included.

- Friends £15, guest £20
- Maximum 15

Wednesday 28th March, 2.30pm

Private tour of Shotover House with daffodils

Shotover House, Wheatley, Oxon OX33 1QS

By kind permission of Alexander and Camilla Stanier

We are privileged to have a private tour of Shotover House preceded by an introductory talk from the owner, Sir Beville Stanier, or his son, Alexander. The house, constructed by 1718, was surrounded by formal gardens, pleasure grounds and a landscape park designed in the 1730s by William Kent. We will tour the gardens to see the wonderful drifts of daffodils, followed by tea in the house.

- Friends £15, guest £20
- Maximum 60



Shotover House



Upper Green

Wednesday 4th April, 2.00pm

Private visit to Upper Green

Brill Road, Horton cum Studley, Oxon OX33 1BU

By kind permission of Mr Peter and Dr Susan Burge

A mature but informal ½-acre wild-life friendly garden on heavy Oxfordshire clay with views to the Chilterns. Dense planting in mixed borders with a wide range of herbaceous plants, shrub roses, ferns and grasses provide shape and colour throughout the year. The garden includes a small gravel garden, potager, bog garden, pond (great crested newts in residence) and rock bed. Alpine troughs are a recent introduction. In spring the garden is a carpet of colour with marsh marigolds, primroses, hellebores, euphorbias, snake's head fritillaries, crocuses, tulips and naturalised daffodils under apple trees. Plant lists are available. Tea and cake served.

- Friends £12, guest £17
- Maximum 25

Friday 20th April, 2.30pm

Private visit to the Oxford Centre for Islamic Studies

Marston Road, Oxford OX3 0EE

By kind permission of The Director and Fellows of the Oxford Centre for Islamic Studies

The Oxford Centre for Islamic Studies provides a meeting point between the Islamic and Western worlds of learning. Through scholarship it promotes a more informed understanding of Islam - its culture and civilisation. We shall have a tour of the building; its design and form represents harmonious blending of traditional Oxford and Islamic styles. The Garden Master, Hugh Dickinson, will then take us around the garden which he and the Prince of Wales designed. Tea & cake included.

- Friends £13, guest £18
- Maximum 40



Oxford Centre for Islamic Studies

The Bobarts Patron Group

By Helen Potts
and Jennie Turner

For over 13 years the commitment of the Bobarts Group has provided extra financial support to the Garden and Harcourt Arboretum. Our members enjoy all the benefits of the Friends plus a programme of small group visits to the University collections and to some of the best gardens and estates in the area. We would like to take this opportunity to thank all the owners for their continued support and most generous hospitality.

We have had another successful year with our final visit, to All Souls College to see the Codrington Library, Chapel and gardens, still to come.

Since the last newsletter, we have been to Lords Wood, an impressive garden in the Chiltern Hills with spectacular sculptures dispersed amongst the plantings. We have visited Rycote Park several times but this August not only could we admire the gardens, but also the chapel and newly restored Capability Brown Ice House as well. Upper Chalford Farm has gardens surrounding the Jacobean farmhouse with spring-fed ponds and a stream leading to a bog garden and wildlife ponds; the watery theme continued when our early evening visit was cut short by rain!

Finally, we have just returned from another very successful two-day visit, this time to Herefordshire, visiting three gardens and the six gardens of Hereford Cathedral. On the first day we travelled into the heart of the county to Aulden Farm, a garden with impressive shrubs and trees, and touches of quirkiness using sculptures from local artists. We enjoyed lunch at Monkland Dairy where we took a fascinating behind-the-scenes tour of the cheeses in production. Our afternoon was spent at Rhodds Farm, a 2-acre garden created since 2005. The 13-acre woodland was showing the beginnings of glorious autumn colour but the relaxed borders still had interesting perennials. The following day we had the great fortune to be guided through ancient parts of Hereford Cathedral and into the many distinctive gardens. Some plantings reflect biblical and Cathedral connections,

including several varieties of 'Bishop' dahlias, Rev. Wilks apples and crocosmia Lucifer! There was time for everyone to visit the Mappa Mundi and chained book library before we moved into the Malvern Hills to visit Perrycroft. Its 10 acres of formal and wild gardens and extensive views of the hill fort of British Camp and towards Wales gave us a chance to stretch our legs and marvel at the skill of gardening on a steep slope.

We are already planning next year with an exciting visit to the Plant Sciences Department with Dr Stephen Harris, Druce Curator, who will talk about the collection and plans to display many historic specimens in the Herbarium Room in the OBG. We think you will all appreciate a formal visit to the Chelsea Physic Garden in London, only 344 years old and with historic collections to see. Two gardens in Great Milton, two near Great Hampden and Kingham Hill House estate in the Cotswolds will complete the first part of next year's programme.

As we approach the 400th anniversary of the Garden and University Herbaria the extra support that the Bobarts Group provides is even more important, so please consider joining the Group.



Cloister garden at Hereford Cathedral

To find out more about becoming a member of the Bobarts Group please do visit www.botanic-garden.ox.ac.uk/membership.

Calendar

December

Saturday 2nd and Sunday 3rd
December

Christmas Fair

Friday 8th December, 10.30am
Coffee morning (note 2nd Friday)

January

No coffee morning this month

Thursday 25th January, 8.00pm
Winter lecture - Dame Helen Ghosh

February

Friday 2nd February, 10.30am
Coffee morning

Thursday 8th February, 8.00pm
Winter lecture - Jekka McVicar

Friday 9th February, 11.00am
Visit to Colesbourne Park

Thursday 15th February, 11.00am
Visit to Evenley Wood Garden

Thursday 22nd February, 8.00pm
Winter lecture - Chris Thorogood

March

Thursday 1st March, 8.00pm
Winter lecture - Jim Gardiner

Friday 2nd March, 10.30am
Coffee morning

Saturday 3rd March, 10.00am
Visit to Magdalen College, The John Goodyer Botanical Collection

Thursday 22nd March, 8.00pm
Winter lecture - Fergus Garrett

Wednesday 28th March, 2.30pm
Visit to Shotover House

April

Wednesday 4th April, 2.00pm
Visit to Upper Green

Friday April 6th, 10.30am
Coffee morning

Friday April 20th, 2.30pm
Visit to the Oxford Centre for Islamic Studies

Friday April 27th, 10.30am
Coffee morning at Harcourt Arboretum

The Friends of Oxford Botanic Garden and Harcourt Arboretum

Rose Lane, Oxford OX1 4AZ.

All Friends' enquiries, including those about Friends' events, should be made to the Friends' Administrator.



Tel: 01865 610303

E-mail: friends.administrator@obg.ox.ac.uk

Web: www.botanic-garden.ox.ac.uk

The Friends Office is staffed on weekdays.

This Newsletter was edited by Chris Thorogood and Carol Maxwell with help from Jeanne Gurr. The views expressed do not necessarily reflect the policies of the Board of the Friends or the Visitors of Oxford Botanic Garden.