



CARDIFF NATURALISTS' SOCIETY

Founded 1867

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Charity No. 1092496

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Cover: CNS 150th Anniversary exhibition, The Cardiff Story Museum

Cardiff Naturalists' Society: The first 150 years!

Cardiff Naturalists' Society (founded 1867) is marking its 150th Anniversary. As part of our celebrations, we organised an exhibition at The Cardiff Story Museum, in The Hayes, Cardiff. It ran from Monday 4th September to Sunday 26 November 2017, and showcased the rich history of the Society and the many important contributions its members have made both locally and nationally.

The exhibition was officially opened by The Right Honourable The Lord Mayor of Cardiff (Councillor Bob Derbyshire) at an event on the evening of 4th September.



The Lord Mayor with Lady Mayoress Caroline and Cardiff Naturalists' Society president Chris Franks (photo: Andy Kendall).

You can watch the Lord Mayor opening the exhibition on our new YouTube Channel (search for 'Cardiff Naturalists Society' on www.youtube.com), along with other Society videos.

Annual Cardiff Birdwatch

Sunday 7th January 2018

Led by Rob and Linda Nottage. Meet 10am on Wild Gardens Road, at the north end of Roath Park Lake. A stroll around the lake. Members of the local Wildlife Trust will be joining us for this event. If you are staying for the afternoon, when we may move to another location, please bring a packed lunch.

Indoor Meetings 2018

All meetings start at 7.30pm in Room 0.23 (ground floor) of the School of Management, Cardiff Metropolitan University, Llandaff Campus, Western Avenue, Cardiff CF5 2YB - unless otherwise stated (*).

Members' Evening

Monday 15th January 2018

CNS Members' photos showing different countries and diverse habitats. This is your chance to share your favourite wildlife photos. Please contact Hilary Wicks if you wish to contribute to the evening.

Deserts and Dinosaurs in Wales

Wednesday 24th January 2018

Cindy Howells

The recent discovery of a totally new meat-eating dinosaur in the earliest Jurassic rocks near Penarth has helped fill a gap in the knowledge of the early evolution of these iconic creatures. This and other dinosaur discoveries from South Wales help us piece together the changing environment in which these reptiles lived and evolved.

A Saltmarsh Restoration Story

Monday 19th February 2018

Corrinne Benbow

Cwm Ivy Marsh in north Gower is the site of the first saltmarsh restoration project in Wales. It is a flagship site for the National Trust and a magnet for a diverse array of wildlife. This is the story of how this gem of a site has made the dramatic transition from poor quality, rush-dominated land back into a fully-functioning saltmarsh. This talk will give an overview of the origins of the project, the management involved and the wonderful and prolific wildlife that inhabits the range of habitats to be found there.

Dr Mary Gillham: A dedicated naturalist

Monday 1st March 2018 (*)

Al Reeve

As SEWBReC's Mary Gillham Archive Project draws to its conclusion, Project Officer Al Reeve summarises the project's achievements and results.

* This is a combined meeting with the Cardiff Group Wildlife Trust South and West Wales and the Student Wildlife Society at Cardiff University. Venue: Wallace Lecture Theatre, Main Building, Cardiff University, Park Place, Cardiff.

Student Bursary award evening/
Conserving the built and natural heritage of the
Ruperra landscape
Monday 12th March 2018

Firstly, we present the annual Bioscience Prize in memory of Prof Ursula Henriques and Dr Mary Gillham, for the best second-year student fieldwork project in the Bioscience Department of Cardiff University. The prize-winner will give a presentation of their work.

Secondly, a presentation by **Pat Jones-Jenkins** of the Ruperra Castle Preservation Trust, about the history of the castle and its surrounding landscape. Trustees are proposing a Country Park, to protect heritage, and promote rural skills and tourism.

Please look online for all the latest information and additions to the CNS Meetings Programme:
<http://cardiffnaturalists.blogspot.co.uk/p/programme.html>

Deadline for next newsletter: Monday 19th March 2018

**SEASONS GREETINGS TO ALL CARDIFF
NATURALISTS' SOCIETY MEMBERS**

Prestigious Lecture: An Evening with Iolo Williams

Text and photos by Andy Kendall

On Thursday 5th October 2017, Welsh naturalists and broadcaster Iolo Williams helped us celebrate the 150th Anniversary of Cardiff Naturalists' Society. The event, at the National Museum Wales/ Amgueddfa Cymru, was sold out and a wonderful time was had by all.

Even before the event, it was clear that Iolo was a success with the crowd.



And it wasn't just the public who wanted a picture.



Once we did manage to get everyone to their seats, our president Chris Franks made the introductions and welcomed everyone to the event.

It wasn't long before lolo was entertaining us all with his tales of learning to tickle fish in his younger years.



His explanations of how he had worked with the Gurka's and SAS on the protection of wild bird nests during his 15 years with the RSPB had the whole audience in raptures. And his tales of working with the television crews on many programs including Springwatch were fascinating.



Questions and Answers would have probably gone on all night had we permitted it!



After that we went into the main hall for the private reception for members. We managed to get this picture of six former and current presidents with Iolo.



From left to right : Steve Howe, Joan Andrews, Andy Kendall, Thomas Henry Thomas (statue of the 16th president created for the museum Dinosaur Babies exhibition), Linda Nottage, Iolo Williams, Patricia Wood, and Chris Franks.



Wenvoe Orchard Walk, May 2017

Report and photos by Bruce McDonald

38 people turned up on a fine day to wander round the newly created Wenvoe orchards, numbers boosted as this was part of the Vale of Glamorgan Walking Festival. A short stroll took us to the Community Orchard and, as usual, the Bee Hotel struck a chord with many (first photo below). For comparison, the newest Bee Hotel, recently constructed at Goldsland Farm, is shown in the photo at the bottom of the page. Experience from the first suggests that concrete and tiles are not first choice for bees and are only occupied if nothing else is available. The bees prefer a sunny, south-facing aspect in holes of untreated timber. Pieces of bamboo of various sizes are also very popular. A variety of sizes will ensure different species of bee and wasp occupy them, often at different times of year. At Goldsland Hotel, sparrow boxes have been placed on the top shelf, which is too shady for the insects but ideal for nestlings.



The grass on the Community Orchard has been allowed to 'run wild' for its first few years and the contrast between the clumpy tussocks here and the adjacent smooth playing field grass could not be greater. Biodiversity is very limited where the sport is played with only the occasional daisy pushing through the grass.

After a couple of years of being left to its own devices the orchard sports a variety of plants including Yellow Rattle, Common Spotted Orchid, Lesser Stitchwort, Lesser Celandine, Orange Hawkweed, Goatsbeard and Teasel. Invertebrates and worms have clearly benefitted with a high incidence of small mammals, particularly shrew and field vole species. Windfalls from apple, pear, plum, greengage, medlar and quince attract insects and larger mammals alike. The mixed species hedgerow planted 3 years ago includes fruit such as crab-apple and berries from Guelder Rose and Spindle.

The orchard includes a large pond and an adjacent stream, so species favouring both still and moving water can be accommodated. On the surface dragonflies and damselflies do well and on or below the surface are pond-skaters, whirligig beetles and the Great Diving Beetle.



Emperor Dragonfly



Great Diving Beetle

From there we walked up to Burdons Hill to view the Elizabethan Orchard which, as with all the orchards, includes a pond, log pile for beetles and stone pile for small mammals, invertebrates and newts. The fruit tree varieties here date back to Elizabethan times. The National Trust provided a list of trees planted in the Lyveden New Bield orchard which has now been replanted. This unfinished Elizabethan summer house kept detailed records of plantings and these included varieties planted here such as Worcester Pearmain, Catshead and Dr. Harvey, and pears such as Black Worcester and Jargonelle. Again, wildlife needs little encouragement to move in. Unusual, as it is not known elsewhere around Wenvoe, is the Southern Marsh Orchid (photo p 14). A number of invertebrates and their larvae are being recorded such as the Yellow Tail moth (below).





Southern Marsh Orchid

Also of interest to botanists is the Corn Mint which grows abundantly on the site but a small patch of ploughed ground at one corner revealed some other arable weeds including the blue version of the Scarlet Pimpernel, and the increasingly scarce Round-leaved Fluellen and Dwarf Spurge.



Corn Mint

Also growing intermittently on the edge of the arable field is Hemlock, often found commonly along our coasts but in this parish more of an irregular visitor.

From Burdon's Hill we headed north, pausing for lunch near St Lythan's burial chamber, a Neolithic survivor of a chambered long barrow. From there we passed through a farmyard to enter the Welsh Orchard, the largest of Wenvoe's four new community orchards. This contains fruit trees of Welsh provenance, most originating in Wales with a few adopted from English counties.

Some were discovered growing in Welsh hedgerows and similar locations a hundred or more years ago; others like Bardsey and Nant Gwrtheyrn were 'rediscovered' on often solitary trees surviving in eponymous locations. There are pears such as Penrhyn Pear and Snowdon Queen and plums like Abergwyngregyn. Afal Coch Cynnar is one of the adopted varieties, originally Devonshire Quarrenden. This is an ideal site with good soil, surrounding fields, woodlands and mature hedgerows providing shelter from prevailing winds.

The herb garden, exhibiting flowers and shrubs used by the 13th century Physicians of Myddfai does well for small mammals and invertebrates, including Rosemary Beetle and Long-winged Conehead recorded on a previous Cardiff Naturalists' Society trip.



The adjacent old woodland, often referred to as Ravenswood, is well named with a couple of ravens putting in a ceremonial fly-past. The solitary oak on the edge of the orchard revealed at least two types of gall: Common Spangle (top) and Knopper (bottom).



The final site was the linear Wild Orchard, along the edge of an improved meadow, planted with native varieties. These include crab-apple, wild pear (*Pyrus pyraster*), wild cherry and bird cherry. Bullace (photo p 17) is also present (bwlas in Welsh), which is not that common in the Vale although enlightened councils, such as Monmouth, are including it in their tree planting regimes.



Cherry Plum can be found along with the Chequers Tree (*Sorbus torminalis* or Wild Service Tree) which does appear along the Vale of Glamorgan coastline. The fruit is edible but rarely eaten and is described as tasting like dates, although like medlars they are best when bletted. The tree is ecologically important and a good one to plant if you have some space. Wildflower planting (photo p 15) is attracting the invertebrates.

The tour of these sites confirmed why orchards are a priority habitat in biodiversity action plans both at local and national levels. With the new orchard at Goldsland Farm, this will make it 5 for Wenvoe, and with Peterston's at Lanelay Meadows and a new community orchard coming along at Dyffryn Gardens the 'Orchard Trail' might well be getting longer.

Colonel Harry Morrey Salmon **Andy Kendall**

At the 150th Anniversary exhibition at the Cardiff Story Museum, we renewed contact with the Salmon family. They joined us for the opening event, and were very pleased to see Colonel H. Morrey Salmon's camera and some of his photographs on display.

This allowed us, in principal, to agree with his family to formally donate our Morrey Salmon collection to the museum. This will enable them to spend public money on its conservation. We have to work out the "small print" of the donation agreement, but would like to build on the excellent example set by the Mary Gillham Archive Project (marygillhamarchiveproject.com). We have already said to Hugh Salmon that we would like to put information into SEWBRc's databases, making pictures and information publically available on-line,

I would like to call together a steering committee and hope the museum can host its first meeting (where the collections are held). Here we can hear from Al Reeve of the Mary Gillham project, and others with relevant experience, to gather sufficient information for a lottery (and other sources) bid. Ideally, the committee will involve CNS, NMW, SEWBRc, Glamorgan Bird Club, RSPB (local group), WWTSWW (Cardiff group) and other local groups. This will discuss the scope, objectives, terms etc. and agree the next steps.

Overall I think this would be an excellent project for our 150th year and another great opportunity to share information about the society, the museum we campaigned for and in many ways founded, and of course all of the other groups who would partner with us.

A biography, adapted from an appreciation by Mairead Sutherland in 2001, can be found on our website (www.cardiffnaturalists.org.uk/htmlfiles/150th-05.htm). Extracts:

Morrey Salmon was born in 1890 and lived for a short time in Richmond Road, Cardiff, before his family moved to Whitchurch. He was 18 when he bought his first camera, a quarter-plate Reflex. By the age of 20, he had become such a proficient photographer that he was accepted as a member of the prestigious Zoological Photographic Club.

Rarely satisfied with the performance of his cameras, Morrey usually added his own refinements. His first adaptation was an electrically-operated release so he could hide his camera in a bush near nesting birds and make exposures via a long flex. He pioneered long focal lens photography and later, with Arthur Brooke, experimented with flash photography (old sardine box filled with magnesium powder of his own formula). This "Heath Robinson" contraption produced some memorable shots of nocturnal birds.

In 1925, with Geoffrey Ingram, he revised 'The Birds of Glamorgan. With extracts from their Bird Notes they published Birds in Britain Today in 1933, which they illustrated with their own photographs. It became a best seller is still highly regarded.

With the sudden death of Colonel H. Morrey Salmon on the 29th April 1985, in his 95th year, Wales lost its most eminent ornithologist and conservationist, and the Cardiff Naturalists' Society its most illustrious honorary and long serving member and the last link with the Society's founder, Robert Drane.



Dyffryn Gardens Arboretum

Report and photos by Stephen Nottingham

On Thursday 14th Sept, Cardiff Naturalists took a tour of the arboretum at Dyffryn Gardens with the new arboriculturist Rory Ambrose. Rory started work at National Trust Dyffryn Gardens in November 2016, bringing with him many years' experience of working at Kew Gardens.

He told us of the National Trust's five-year plan to restore the arboretum to its former glory as a "woodland garden", with the clearance of overgrowth to let important Champion Trees flourish, a greater emphasis on parkland tree species, and better integration into the rest of the gardens.

Systematic tree planting started at Dyffryn back in the mid-eighteenth century. Among the oldest ornamentals are the Lucombe oak on the Archery lawn, thought to be over 400 years' old. Reginald Cory and Thomas Mawson developed and extended the gardens at Dyffryn between 1906 and 1930, including the tree collection in the form it is seen today. Unfortunately, there was a period of relative neglect for several decades, up to 1997 when Vale of Glamorgan Council purchased Dyffryn Gardens. The National Trust acquired the house and gardens in January 2013.

We started our walk by the visitor centre, stopping first at Kennel Bank to the left of the path to the house. The heather beds established in the 1970s have now gone. The area is being prepared as a wild flower meadow, with some new areas of heather being replanted. Around 80,000 bulbs are to be planted on the bank, including 6,000 crocus bulbs of several varieties. The long-term aim is for a pastoral woodland landscape, which will include native orchids.

The 22-acre arboretum at Dyffryn is divided into 37 areas for the purposes of management. Rory explained that the plan was to concentrate on restoring 5 to 6 areas, such as the Kennel Bank, each year, “to do small areas really well rather than spreading ourselves too thinly”.

Walking up the path into the arboretum from here, we pass the first of many Champion Trees: an elm. The focus is on UK Champions: those trees that by virtue of their girth, height or distinctive characteristics are considered to be the best examples of their kind. One aim, in the next few years, is to establish a new Champion Tree trail, to guide visitors to these outstanding specimens.

Pointing out some of the characterful and quirky tree shapes, Rory noted that Victorian nurseries often let seedlings become pot-bound before planting. “Today’s nurseries are too good”, lamented Rory, as they result in more uniform trees!

Unfortunately, some of the Champion Trees have suffered through insufficient woodland management. At least three UK Champions in the *Crataegus* (hawthorn) collection, for instance, have died amidst the overgrowth; the clearing of which is a major management challenge for Rory and his team.



Among the other UK Champion Trees pointed out by Rory were a magnificent hornbeam (*Carpinus betulus* 'Fastigiata'), and Dyffryn's famous *Acer griseum*, grown from a seed bought back from Asia by the plant collector Ernest Henry 'Chinese' Wilson. This tree is now approaching the end of its life, and ropes prevent people walking on its root plate. However, the main aim is to propagate a new tree from its seeds and plant it nearby, not an easy task as the germination rate is relatively low.

Rory showed us where he and his team are creating a natural play area from the timber of fallen mature trees. Nearby, and off limits to the public, a large concrete pad has recently been laid in the composting area. The plan is for Dyffryn Gardens to be 100% self-sufficient for green waste (compost and mulch) in the near future.



The tall yews that formed the boundary between the arboretum and the formal gardens have gone, opening up views and enabling the team to integrate the woodland area better with the garden as a whole. Other plans for Dyffryn Gardens include the creation of a heritage orchard.

We looked at a particularly fine Metasequoia, near a delightful gourd tunnel in the walled gardens, before finishing at the Rock Garden – another area where there are plans for creating much more botanical interest within the next five years.

Back at the entrance, we thanked Rory for a highly informative and entertaining tour of the arboretum. I am sure we will all be returning to see how the National Trust's ambitious plans transform this area back toward the vision of Dyffryn Garden's founders.



Acer griseum

From Aleppo to Lindisfarne

Bruce McDonald

Summary

The use of Oak galls in the production of gall ink is well documented. What is less clear, particularly as far as Britain is concerned, is where the galls came from. A widespread assumption that they were simply collected from the local countryside appears untenable. Likely sources are suggested here but further research is needed to fill in the gaps and address outstanding questions.

Background

Galls have been used for hundreds if not thousands of years in the production of gall ink and used on documents such as The Lindisfarne Gospels, Magna Carta, and the Declaration of Independence. Gall ink required tannin and galls were the source of that tannin in most cases. It follows that the higher the tannin content, the better. Numerous sources describe how gall ink was and can still be made.

Oak Apple vs. Marble Gall

The first area of confusion is between the Oak Apple Gall (*Biorhiza pallida*) and the Marble Gall (*Andricus kollari*). The Oak Apple is quite large (up to 5 cm), but irregular, soft and spongy. The Marble Gall is smaller (up to 2 cm) and harder. Possibly because the Oak Apple is more commonly known (e.g. Oak Apple Day) and the Marble Gall is common in the countryside, the two can often get mixed up. For example, John Wright's 'A Natural History of the Hedgerow' (1) includes a photo (p. 208) of what is almost certainly a Marble Gall but is entitled the Oak Apple Gall. Stewart Wild (Stephens Collection) (2) gives a perfect description of a Marble Gall - "mainly dark tannin and resembles a Malteser" but refers to it as an Oak Apple.

The Oak Apple Gall has been around for some time in the British countryside and was (and still is) included in Oak Apple Day celebrations, which have their origins in festivities linked to the restoration of the monarchy in 1660.

Articles on gall ink usually show the Marble Gall as a constituent. The Tudor Merchant's House in Tenby has a small display on gall ink and includes some marble galls. The Woodland Trust ran a gall ink project in 2017, again featuring the Marble Gall. With the Marble Gall very common and widespread in the countryside, many jump to the conclusion that they would have been easily collected in the surrounding area in earlier times.

However, this assumption does not take account of the fact that the Marble Gall would not have appeared in Britain until the 19th century. This is because the gall-causing insect has a two-part life cycle and one of these requires the presence of the Turkey Oak which was only introduced in 1735. The gall wasp was not introduced until the 1830s in Devon, so the Marble Gall would not have been widespread for some time.



Oak Apple Gall



Marble Gall

Tannin Content

Even when they did arrive, the British marble galls would have had a relatively low tannin content, probably around 17%. In contrast, the Aleppo Gall from the Middle East had at least three times this level (see Cecidology article by Leach). Some estimates put it as high as 75%. Oak Apples have less than 5%. John Hill (1751) (3) contrasts the European and Aleppo galls commenting that the former are “of much less value ... both in manufactures and in medicine”. He also states the Oriental' galls are “brought from Aleppo”. This suggests that a source, if not the principal one, is the import of Aleppo galls. Support for this can be found in a variety of records. Leach (4) notes that as late as 1861 some 800 tons of Aleppo Galls were still being imported annually into the UK. Briggs (4) finds the volume to be 50,000 cwt (2,500 tons) in 1880.

Could the monks on Lindisfarne have been using imported Aleppo galls? Further research might confirm or refute this but it does seem plausible. Redfern (5) reports that Aleppo galls were a “common article of trade” for the Egyptians in the 5th and 4th centuries BC, as well as the Greek in the 3rd and 2nd centuries BC. Pliny (1st century AD) suggests that for black dyes there was no substitute for the Aleppo Gall. Redfern again - “Aleppo galls were exported all over Europe ... Large quantities from the Mediterranean arrived in London”. Some of these were exported on to America which, although it had its own sources of galls, did not appear to use them for dyeing or ink-making. By 1914, the US was importing some \$17,174 worth of Aleppo galls from Baghdad.

Conclusion

Before the 19th century there were no local sources of galls that could have provided sufficient tannin to make gall ink effectively in Britain. Even when the Marble Gall began to appear in the 19th century it was nothing like as productive as the Aleppo Gall.

With evidence for the trade in Aleppo galls dating back some 2,500 years it seems reasonable to assume that they were the source of the ink used in the Lindisfarne Gospels, Magna Carta, and the Declaration of Independence. Hopefully further research will provide additional data on the trade in Aleppo galls.

1. A Natural History of the Hedgerow by John Wright, Profile Books, 2016.
2. Online by Stewart Wild, Trustee of the Stephens Collection
<http://www.stephenshouseandgardens.com/assets/ugc/docs/WhatsInkMadeOfJan2016revd.pdf>
3. A History of the Materia Medica by John Hill, MD. 1751.
4. Cecidology. The Journal of the British Plant Gall Society. Vol. 1. No 1. Spring 1986. pp 6-7 - Historical Uses of Plant Galls by Jonathan D Briggs. Pp 10-11 The Phenolic Contents of Some British Cynipid Galls by Dr. C K Leach.
5. Plant Galls by Margaret Redfern. Collins, 2011.

Bruce McDonald, Wenvoe Wildlife Group, October 2017
Photos sourced online

Rhian Kendall adds:

I have some gall ink which I use for drawing. It's curious stuff to use as it starts off almost transparent and becomes darker in contact with the air!





Llandegfedd Reservoir. The venue of a CNS outdoor meeting in June 2017 (Front & back cover photos: Stephen Nottingham).

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