



Tree Watch

Issue 18

August 2013

On 28th August 2013 we had **6690** trees in our database and **7873** photographs

Welcome to the August issue of Tree Watch. I hope you all enjoyed our brief, but very hot summer. I'm pleased to say that our surveyors have been active again, particularly in Arborfield, Barkham and Shinfield. Congratulation to Janet Firth and her team in Barkham. They have added over 100 trees to our database this month! A great achievement.

We have quite a variety of articles this month. As well as reports on our activities, there is news of an exciting new scheme to recognise heritage trees in a similar way to that for listed buildings. Fee continues her Science column; Janet reports on the Oak Processionary Moth and Barbara promotes the work of the charity TreeAid. All this and a new feature on acronyms. As you are all too well aware, there are lots of acronyms around and when I came across REINFORCE (REsource INFrastructures for monitoring and adapting European Atlantic FOREsts under Changing climate) I thought perhaps I should start a new feature and include a different acronym in each issue.

As the planning applications relating to the four SDLs are submitted, we are all very concerned about the loss of green-field sites within the Borough, and the consequent effect on our trees. Unfortunately there are other planning applications in the pipeline, not confined to the SDLs (in spite of the assertions made in WBC's Core Strategy). It is particularly gratifying therefore to learn that WBC has served an area TPO covering "all trees of whatever species" on the Bearwood Estate (currently up for sale). It "prohibits anyone from cutting down, topping, lopping or uprooting any of the trees on the land at Bearwood Estate bounded by Mole Road, New Road, Bearwood Road, Coombes Lane and Gravelpit Lane".

So far there are 179 trees in this area on our database, all recorded by Diana Thorne, our very diligent Arborfield and Newland coordinator. The photos on this page show just three of them - MRNS 5613; 5579 & 5581. TROBI (The Tree Registry of the British Isles) lists 12 county champions for height, girth or both at Bearwood. Three of them qualify for entry into our database - MRNS 6469, 6470 & 6476.

The next issue of Tree Watch will be November 2013 and the copy deadline is 31st October. All comments and contributions please to: Elaine Butler datamanager@wdvta.org.uk



Main items in this issue:-

- p2 Events planned for Sept - Nov
- p2 Diamond Jubilee Trees project
- p3 Heritage Trees
- p4 Our Largest Tree
- p5 Hedge Tree project
- p5 Tree Aid Charity
- p6 Traditional Orchards

- p7 Profile - Derek Oxbridge
- p7 Genetic Variability, Cloning and GM
- p8 Favourite Tree - Wellingtonia
- p9 Sadly Departed - Horse Chestnut
- p9 Oak Processionary Moth
- p12 Fee Young's Tree Science Column
- p13 FAQ - web browsers
- p13 Did you know? - new camera

Events planned for *September-November*

- ❖ Saturday 7th September - Photographing Trees - fully booked.
- ❖ October *date tbc* - Autumn visit to Winkworth Arboretum (details will be circulated when confirmed)
- ❖ October 1st - 31st - Queen's Diamond Jubilee Oaks display at Shute End, Wokingham.

Non-WDVTa events:

- ❖ Sunday 8th September, 14:00-17:30, Harris Gardens Open Day, University of Reading (£3)
- ❖ Monday 9th September, 19:00, Discovery Centre, Thatcham: Talk on Orchards by Andy Howard
- ❖ Saturday 21st September, 10:15 Thames Valley Park Walk - Reading Tree Wardens
- ❖ Saturday 28th September, 09:00 - 16:30, The Oracle, Reading: TVERC Berkshire Recorders' Day
- ❖ For up-to-date information - see the events page on our website - wdvta.org.uk/events.php

DIAMOND JUBILEE PLANTINGS

All 50 trees have been "welcomed", with the last two "Welcome Ceremonies" being held on Friday 12th July - at Addington School in Woodley and St James Church, Ruscombe. All photos taken at these ceremonies are on the Yahoo site, with details and selected photos of all trees on our website via the interactive map. There will be a public display at Shute End in October, along with a leaflet describing the project. Many of the ceremonies have been reported in the local press. Our last ceremony featured in the 'Twyford Advertiser', along with this photo (taken by Graham Hook).

A report of the planting of this tree (#43) in 'Twyford and Ruscombe News' included the following description by Graham Hook:



Ruscombe's tree is in a particularly fine setting. It tops the broad green sward immediately west of the churchyard. This grassy area, once part of a much larger village green, has been the site of many traditional events, notably the annual Maypole dancing, in Tudor dress, by the children of Polehampton School. Beyond the open green area is a fine copse of very old, tall oaks. The Jubilee tree stands between these veteran oaks and the even more ancient yew beside the church porch. This venerable yew is listed in a register of the most significant trees in Britain. One of the cluster of veteran oaks is now dead and will have to be cut down this year; although it will be left as a tall stump, which has great wildlife benefit. So this is a very fitting time to be planting a significant new tree in the historic heart of Ruscombe.



We'd like to collect descriptions such as this for all the Jubilee Oak sites. Please let us know if you have any information that we could add to our site descriptions. E-mail jubileetrees@wdvta.org.uk

HERITAGE TREES

Our yew event in June was excellent. As well as a talk on yews, visits to local yews (and recording a new one for our database), we had an inspirational session on a proposal for listing trees as heritage trees in a similar way to the current listing of buildings. For details of the proposals and criteria used to assess trees for heritage status, along with some useful examples, see the TreeAH website: www.treeaz.com/tree_ah TreeAH stands for 'Tree Assessment for Heritage status'.

So far we have had 5 nominations - Wellingtonia Avenue, Jubilee Avenues, Montague Plane (MRN 76), Finchampstead Church Yew (MRN 3972) and Barkham Oak (MRN 6932). All completed forms and supporting images are on the Yahoo site, in the HERITAGE TREE NOMINATIONS folder. Do let me know if you have any additional information about any of these nominations. We are particularly interested in historical associations and local significance (such as the maypole dancing mentioned on page 2).

There is a nomination form on our Yahoo site or you can download it from the TreeAH website. Most people have a (free) pdf reader program and the form is easy to complete providing you use the right one!!! Adobe Reader version X1 or PDF-XChange Viewer both work well. [Others may do too, but these are the only two I've checked.] Do NOT use earlier versions of Adobe. It does not save properly with version X. [To check which version you have, just click on 'Help', 'About'. If you are asked to sign the form, you are using the wrong version. Version X1 has a message saying "Please fill out the following form. You can save data typed into this form."] Please don't sign the form because it can't be processed properly if you do. Alternatively you can print the form and fill it in by hand.

If you are using a pdf reader you won't be able to copy images into the requisite boxes. Instead type in the filenames of the photos and maps and then either upload them to the Heritage Trees Nominations folder on the Yahoo site or send them to datamanager@wdvta.org.uk (also the contact for any queries).



I was surprised to learn that China already has a heritage tree register. Since it was set up in 2004, 527 trees have been registered, but 10% have since succumbed to typhoon damage or disease. This week 'The South China Post' featured a plea to let members of the public nominate heritage trees. Currently nominations only come from official and professional groups.

"Certain trees are of such importance and sensitivity as to prevent development occurring or to substantially modify its design"

British Standard 5837- Trees in relation to design, demolition and construction - Recommendations

OUR LARGEST TREE - MRN 5845

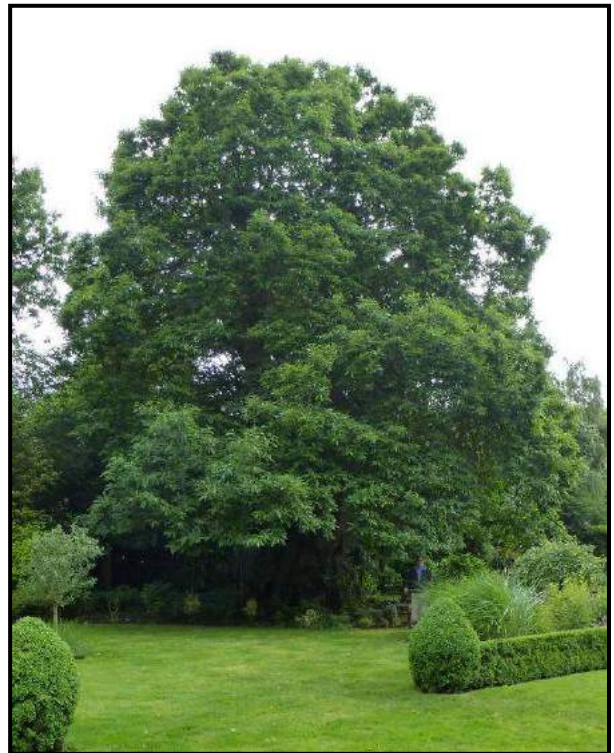
As you may know, our largest tree is a sweet chestnut (*Castanea sativa*) in the Old Vicarage, a private garden in Wargrave. This garden along with several others was open in June as part of the amazing Wargrave Festival. If you missed it this year, then do check it out next year. Just Google 'Wargrave Festival'. It gave me a chance to verify seven trees in private gardens as well as admiring that fantastic chestnut. It really is a very special tree and I think it should be nominated as a heritage tree (see page 3). We'd like to discover more about the Vicarage and its garden, so do let me know if you have any information about it. Of course the first question that most people ask is "How old is the tree?" The age estimate for a maiden sweet chestnut with a girth of 10.4m (from White's equations based on his ring counting of sweet chestnuts) is:



How does our tree compare with others?

There is a "Monumental Trees" website which lists 214 *Castanea sativa* in 13 different countries, with three from the UK. They have girths of 12.3m (Cowdry Park); 11m (Cwmdu, Powys) and 9.6m (Fredville Park, Nonington).

The Tree Registry of the British Isles (TROBI) lists three sweet chestnuts in England as 'Country Champions: Girth', with girths of 12.1m (Cowdry Park), 13.4m (Wimbourne) & 17.1m (Windsor Great Park). As well as the Windsor one, there are two other Berkshire 'County Champions: Girth', each with a girth of 7.85m (in Theale and Kintbury). There is also a 'County Champion: Remarkable' at Silwood Park with a girth of 10.3m at 0.6m. The TROBI website recently featured a 9m sweet chestnut under the title



- ☀ 823 years if grown in a good site (defined as open grown and sheltered)
- ☀ 951 years if grown in an average site (garden or parkland)
- ☀ 1407 years if grown on poor ground and/or with some exposure
- ☀ 1580 years if grown within woodland

So if these estimates are right, it's probably 950 years old, meaning it germinated around 1060!! Pollarded trees are older for a given girth than maidens, so it could be even older. On the other hand it has got a lot of burrs which make it larger, and so it could be younger; but either way its age is quite staggering!



"The biggest tree on the estate!" going on to say that "Burghley Estate boasts more than its fair share of 8m plus girthed Sweet Chestnut but this is the first one recorded over 9m. It is the 34th largest Sweet Chestnut ever recorded in Britain and Ireland. Some of these may be described as multi-stemmed or coppiced, promoting this tree into the Top 25 for maiden Sweet Chestnut."

So where does that leave our pollarded tree - with its girth of 10.4m? A definite Heritage Tree nomination I think.

HEDGE TREE PROJECT

Don't forget to check on your hedge trees this summer and take photos of them to show how they are progressing. Report any damage so that our records can be kept up-to-date. Some of our jubilee hedge trees have fallen victim to the dreaded hedge flail; but spare a thought for a diamond jubilee wood in Yorkshire. An area of 1.25 acres was planted with 2,000 saplings in December last year - in Nidd Gorge near Harrogate. All except 2 were mown down last month when a council workman turned left instead of right! The saplings were small, described as being "at grass level" and were not protected by stakes or tubes to avoid attracting vandals. Harrogate Borough Council plan to replant the area later this year.

TREE AID CHARITY

TREE AID is an international development charity that was founded in 1987 by a group of foresters in response to the African famine of the same year. Its aim is simple: to provide long-term solutions to the challenges of poverty and environmental decline across the drylands of Africa. This is achieved using one of the greatest natural resources on earth, trees.

TREE AID works in the region south of the Sahara called the Sahel. This is an arid region, heavily affected by drought and desertification linked to climate change and over-exploitation of the land. These harsh conditions make life very difficult for the 325 million people who live there.

Crops often fail and with little income from anything else adults and children face malnutrition and months without food. They are forced to further exploit the land by chopping down trees to sell as firewood, just so they can eat.



TREE AID helps villagers unlock the potential of trees to break this cycle of poverty by establishing additional food supplies and income from tree foods and other tree produce such as soap and medicine. TREE AID supports villagers to set up enterprises and businesses, so maximising the income potential from tree produce. In turn, the trees planted restore the local environment and bring agricultural land back into production.

To support TREE AID please visit www.treeaid.org.uk or call 0117 909 6363.

Tom Urry (Tree Aid) & Barbara Stagles

CIRCLE - Centre for the Integration of Research, Conservation and Learning.

One of their latest projects is developing a strategic action plan for the Udzungwa Forest in Tanzania. Their aim is the long-term ecological and socio-economic stability of this area of exceptional biodiversity. Udzungwa is the largest and most biodiverse of a chain of a dozen isolated, forested massifs forming the Eastern Arc Mountains, often called the African Galapagos because of their diverse range of endemic plants and animals. Currently Udzungwa is the only one accorded national park status. The unbroken forest ranges from 250m to 2,576m and includes many trees over 100' tall.

TRADITIONAL ORCHARDS

Some years ago, a few of us were involved in surveying orchards for PTES (People's Trust for Endangered Species). The project started with a desk study. Maps and aerial views were examined for potential orchard sites. Details were then sent to surveyors in each parish and they checked the potential sites. Such confirmation is referred to as "ground truthing". The results are mapped on their website (see left), with red dots indicating ground-truthed sites and blue dots showing those sites not ground truthed yet. You can click on the dots to get any information about the orchard.

They have records for about 200 traditional orchards in Wokingham Borough, but only two of these are recorded as having veteran fruit trees. They are both in Sonning - in an area marked as Pool Court, north of Thames Street (SU 75971 75713 and SU 75985 75787). They cover an area of 0.5 ha (1.2 acres) and 0.11 ha (0.27 acres) respectively. Neither has young fruit trees, although one is actively managed and the other is not (and is overgrown). No trees in this area have been recorded in our database. Although veteran fruit trees won't grow to the same size as veteran oaks, we do want to record them. Old fruit trees often show very obvious veteran features, but may be overlooked by our surveyors.

The project is on-going and they still want reports of any traditional or relic orchards not already recorded. You just need a group of six trees to qualify as an orchard. Let me know if you want a copy of their current database (Excel file).



Last month Diana Thorne discovered this orchard in Arborfield, whilst surveying the 9-hole Bearwood Golf Course (which is being sold for development and destined to become football pitches). The relic orchard comprises mostly old apple trees, growing in two long rows, and still producing apples. A pear tree spearheads the two rows and has a girth of 3.2m at 0.5m (MRN 6837), making it the largest pear tree recorded in our database. The orchard may be Victorian in origin and probably part of the Walter Estate at Bearwood Mansion. Being part of the Bearwood Estate, these trees are now covered by a TPO. Will they still be there next year?

Survey snapshot

0.4%

Trees in relic orchards

3

Parishes with relic
orchards

3m

Girth of largest
apple tree

1

Damson

Prunus instititia var.
syriaca

PROFILE - DEREK OXBROUGH

Derek is a comparatively new, but very enthusiastic member, who surveys in Barkham as well as being on the management committee. He's a tree warden, has contributed to Tree Watch, was very involved with the Jubilee Oak project in Barkham and has nominated an oak in Elizabeth Park as one of our Heritage Trees.

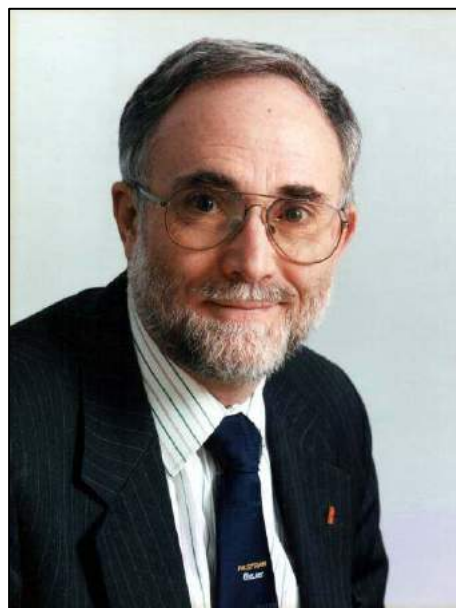
I have always been interested in the "outdoors" and my first close contact with trees was climbing and falling out of them at an early age.

I was born and brought up in Winnersh, when it was nearly all fields and countryside, and have nearly always lived within 3 miles of Wokingham. In my childhood there were plenty of trees around as my parents had more than 20 apple trees; plus pears, plum and quince trees. As a teenager I worked on a local farm and in a radio/TV repair shop. The later gave me an interest in electronics which led me to work for Radyne once the largest employer in Wokingham (800 employees), which was located in Molly Millars Lane. I started as an apprentice and went on to become the R&D Director.

Outside work I became involved with the Scout movement and was a Scout Leader for a total of 20 years which was followed by 10 years as Mountaineering Advisor to Wokingham District. I have an interest in most outdoor pursuits including hill walking, rock climbing, caving, canoeing and windsurfing.

Since moving to Barkham 17 years ago I have become a Parish Councillor and am Vice Chairman on the Village Hall Management Committee. As a local Councillor I have responsibility for local footpaths, litter, fly-tipping prevention and now trees.

It is my interest in the outdoors that motivated me to become involved with the Veteran Tree Surveying and more recently acting as a Tree Warden. I must admit that I am not a natural "tree hugger", but I have great interest in and respect for trees in general. I have a lot to learn about trees so any help would be greatly appreciated.



Derek Oxbrough

GENETIC VARIABILITY, CLONING AND GM

Various long-term trials have been established to investigate the genetic variability of our native trees. Naturally disease-resistant stock offers a better alternative to treatment, especially so in the case of ash die-back, where effective treatment is very unlikely. The REINFFORCE project (see page 1) is looking for individuals genetically suited to climate change.

Disease resistance is also a candidate for genetic modification, especially for fruit trees. In addition to GM trees as fossil fuel replacements (see issue 16), eucalyptus are having their lignin composition altered to facilitate paper manufacture and non-flowering varieties of silver birch are being developed.

We of course are particularly concerned about the loss of ancient and veteran trees and their contribution to the gene pool. Trees that have survived for 1,000 years or more, have weathered the industrial age and episodes of climate change. Cloning can help here. It has already been successful with 75 American species, including redwoods, giant sequoias, Monterey cypresses and the Monterey pine, as well as the Methuselah bristlecone pine, thought to be the oldest tree in the world at over 4,500 years old (see issue 12). Last year the Fieldbrook Stump was successfully cloned. It is the remains of the largest coastal redwood ever recorded, with a girth of 30.8m, but was felled 130 years ago. All 22 of the great oaks of Ireland have been cloned and now the man behind all these successes, David Milarch, is proposing a £2million scheme to clone Britain's biggest, oldest, tallest and most

ecologically important trees and then offer thousands of their genetically identical offspring to schools, cities and other landowners. He is backed by Tim Smit and Richard Branson.

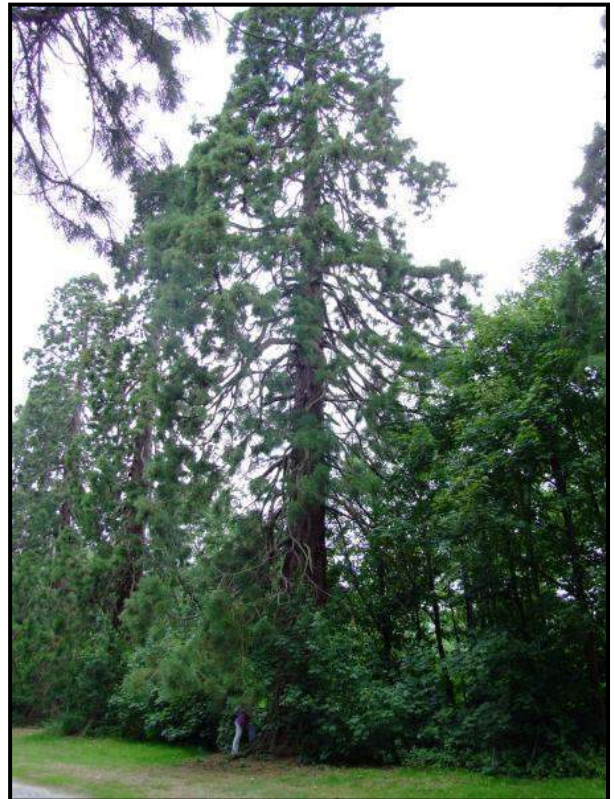
Of course, the practice of producing genetically identical copies of trees is not new. Typically, the tips of branches are cut, dipped into a rooting hormone and then fed, watered and kept warm. The stem cuttings go on to form roots and the new plant is genetically identical to the plant that the cutting came from. However, that doesn't work easily with the world's largest trees and it can take 5,000 pieces of plant to get two or three to root. From one redwood, 15,000 attempts were needed to get three clones.

MY FAVOURITE TREE - THE WELLINGTONIA - *SEQUIADENDRON GIGANTEUM*



Actually I am cheating by choosing a whole avenue of trees that stands out along the crest of the hill in Spencers Wood. The double line of Wellingtonias can be seen on the skyline from across the Kennet valley and from the M4 when driving back from the west into Reading. In this avenue you are sheltered from the wind and driving rain. It was here that my young children and grandchildren enjoyed their scooters and cycles, and where we collected punnets of blackberries and handfuls of the round cones.

Birds that eat the insects which live in the crevices of the bark, and the nuthatch that walks both up and down the tree trunk, came frequently to our garden. I am enthralled by the history of these trees, discovered only in 1852 in North America and named here after the Duke of Wellington, who made his home a few miles away at Stratfield Saye. The tree was first planted in Britain in 1857, but the Local History Society has not found out when 'my' avenue was planted. The Wellingtonias are within an outer avenue of oaks (*Quercus robur*) that are mentioned as grand old trees by Mary Russell Mitford a local writer in the 1820's. Many of these oaks survive and are on our Veteran Tree register. The Wellingtonias have grown much taller than the oaks and are much bigger in girth, averaging about 4.8 metres. The largest one in the avenue measured 5.9 metres three years ago (MRN 4356 - see photo right). I have not measured it since then to see how much it may have increased. The trees are well-known to be resistant to high winds despite their height, and this may be because of the very wide spread of their base and the density of the branches. It is a special feeling to walk amongst these giants and look up through their branches to the sky.



Patricia Green

SADLY DEPARTED (ALMOST) - Death of a Horse Chestnut tree.

Whilst out walking my dog I noticed a horse chestnut tree wilting on the first hot day of summer. Assuming this tree is still *in situ* (I have reported it to the Trees and Landscape at WBC) visit it at the corner of London Road and Rances Lane, Wokingham.

This tree is being killed by honey fungus (*Armillaria* sp.). Under the bark can be seen the tell tale symptoms of rhizomorphs aka bootlaces.

Honey fungus is easily spread from tree to tree and prevention requires removal of the stump.



Fee Young

OAK PROCESSIONARY MOTH

These creatures are named because of the habit of the caterpillars to travel *en masse* in a nose-to-tail 'stream' on infected oak trees (as shown here). From 2003-4 they were found in this country on a few single trees in Leeds and Sheffield, in five main areas in London from Brent southwards, in Richmond and Hyde Parks, Wimbledon, notably in the grounds of the Bethlem Hospital, into Surrey and Kent and in 2010 on a few oaks in Pangbourne. As a result, the Forestry Commission (FC) came to a meeting in the village hall there in early June arranged by Dick Greenaway, which was attended by a number of tree professionals and a few of the interested and curious, like me.

Ten members of FC staff are studying this pest; Martin Townsend and Andrew Hopkins have particularly specialised in the study of the Oak Processionary



Moth (OPM) *Thaumetopoea processionea*. They each gave a talk and brought some excellent free-standing posters which are partially reproduced here. Although it is now unlikely that this pest will be wiped out in the London areas, they are keen to inform as many people as possible in order to minimise the spread.

OPM was possibly imported into this country on young oak trees from Europe where the creature is endemic, mostly in southern Europe, but it is found as far north as Denmark. In Berlin 200 infested trees were discovered in late May this year. In the far south at least, it is also found on hornbeam and sweet chestnut, but prefers oaks, particularly those native to those areas such as Holm, Turkey and Cork oaks. The outbreak in Pangbourne was blamed on the import of a log with 5-6 metres of OPM egg plaque in 2008, one month before legislation was enacted restricting the importation of oak only from European OPM-free areas.

The infestation has implications for both tree and public health. As far as the tree is concerned, the caterpillars will cause massive defoliation, eating every part of the leaf to the midrib between April and July. This causes stress to the tree which may also become susceptible to other predators, such as winter moth, and die within 2-3 years.

The hairs of the caterpillar are attached to little sacs which exude a substance that can be very irritating to human skin, eyes and the respiratory system, causing rashes, conjunctivitis and asthma. It can also cause similar reactions in dogs and horses. Steroid creams can alleviate the rash, but only slowly. One of the exacerbating problems is that the caterpillar moults five times in its cycle before turning into the pupa, and then the moth between July and September, leaving hairs at each moult. These hairs remain irritant for up to five years.

The distinctive white silken nest (which become discoloured after a short time, see illustrations) may be



low down on the infected oak, but since the caterpillars are very mobile, damage may be first seen high up. Each female moth may lay several hundred eggs hence the urgency to eradicate it. The tell-tale signs are the grey egg plaques which are obvious for some years. We were shown photographs of some of the devastation caused to oak trees in Germany, which was dramatic. No wonder every authority is anxious to try to eradicate the pest. Richmond Park is spending £200,000 per annum

on the spraying and removal of OPM nests; the Dutch Government spends eight million euros annually.

The caterpillars often cluster together (as shown here). Birds are put off eating them because of the hairs, but there are natural predators, such as parasitoid wasps which, so we were told, will eat the caterpillars from the inside! The treatment of infected trees is usually contracted out by a local authority and ranges from hanging pheromone traps on branches to catch the male moths, which are active over an area of several hundred metres from mid-July or even earlier, to more drastic treatments earlier in the year. Operators unsurprisingly wear protective gear whilst spraying whole trees with insecticide using lances; sometimes they also use a cherry-picker. This is carried out between April and the end of May. This year spraying from the air using a helicopter took place over the dense canopy of ten hectares of woodland in Pangbourne where the caterpillars would have been high in the trees; making spraying from the ground less effective.



Following treatment, Forestry Commission surveyors will survey the area again from May to the end of July and then once more at the end of November.

As recorders of veteran trees in the Borough of Wokingham, I hope that no one will come across an infestation of OPM. However it is worthwhile looking at the illustrations carefully. More information can be obtained from forestry.gov.uk/opm. If you do find any, fast action is required.

We were given clear guidelines by the FC, which I've adapted slightly for our own WDVTA use:

1. Report sightings at www.forestry.gov.uk/treealert and to Wokingham Borough Council via Andy Glencross 0118 934 2016 andy.glencross@wokingham.gov.uk and to our Datamanager, Elaine Butler datamanager@wdvta.org.uk
2. Avoid touching or getting close to the caterpillars or their nests (having identified them!); don't let children or animals touch them.
3. See a doctor or vet if you or your animals have been affected.
4. Call a pest control officer if your oaks are affected.

The data on OPM is stored by the University of Southampton.

We were assured that the treatment carried out in the Pangbourne area was most likely to have been effective. However we must control this pest, so that we can continue to enjoy our trees, parks and woods.

Janet Firth - Coordinator for Barkham

UPDATE ON SOME OTHER DISEASES

We were initially alarmed by Acute Oak Decline, then re-assured, but now concern is being raised again. It causes weeping patches on the stems of mature trees and more cases are being reported, especially in the South East and the Midlands. Although no formal surveys have been conducted, the Forestry Commission believes thousands of trees are affected. The exact cause is still unknown, but a beetle is believed to be responsible for the spread of the disease. The FC is still trying to isolate and identify the causative organism, presumed to be a bacterium. Defra have allocated £1.1 million for research into its causes and possible prevention.

On a brighter note, a 10-year study has determined that the horse chestnut leaf miner (*Cameraria ohridella*) does not cause serious damage to the trees. The infection does not weaken them or make them more susceptible to other diseases, including Bleeding Canker Disease (BCD). However, BCD is a serious threat with an increase in the number of cases across Europe.



Bluetit feeding on *C. ohridella* -
Rafał Konieczny



There are currently 15 tree diseases listed by the Forestry Commission as being present in the country, with another five suggested as not yet present but as having the potential to arrive.

What's in a name?

Every species on the planet has a Latin name but how do we assign these names?

Part Two: Is it a species unknown to science?

We begin with a flight of the imagination - the discovery of a novel oak species whilst tree surveying. Out with the GPS, camera and secateurs to register its location, take images and plant material for closer examination, how exciting!

What I will describe now is a brief induction to the world of literature research. This process may take several months or years!

We believe the tree is not a native oak or any variation thereof but it could be an introduced species. The first book to peruse is Crawley M J (2005) *The Flora of Berkshire*. Currently undergoing revision if you wish to contribute take a gander at <http://bsbi.org.uk/berkshire.html>. Our second book from the horticultural world is the Hillier Manual of Trees and Shrubs 2007 edition. Our tree is not amongst the entries of either book.

Just to deviate for a moment I forgot to mention in Part One that Horticulture has its own species naming rules - the International Code of Nomenclature for Cultivated Plants (ICNCP). These rules are not accessible online but to purchase a copy visit the International Society for Horticultural Science web page: www.ishs.org/scripta-horticulturae/international-code-nomenclature-cultivated-plants

Moving online we consult the Species2000 & ITIS Catalogue of Life (CoL) (www.catalogueoflife.org). A search for *Quercus* (oak Latin name) generates 4,638 records. This taxonomic scrutiny was by Rafaël Govaerts on 11 November 2003. Many of these records are not valid or accepted but are synonyms from a time before our rapid internet data exchange when numerous collectors named a single species multiple times across its distribution range, for example, *Quercus petraea* subspecies *petraea* produces 151 synonyms! Govaerts' CoL listing propagates 585 valid oak species. Thank goodness we do not have to identify them all!

What we require now is a recent monograph with diagnostic key. Let's check Peter Steven's Angiosperm Phylogeny website, a comprehensive critique of plant systematics (www.mobot.org/MOBOT/research/APweb). This leads to a figure of 400 oak species and a reference to Govaerts R/Frodin D (1998) *World Checklist and Bibliography of Fagales (Betulaceae, Corylaceae, Fagaceae and Ticodendraceae)* by Kew Publishers. In case you unaware oaks are a member of the Fagaceae (beech) family.

Now we have two listings: CoL and the World Checklist. As these sources cease at 2003 and 1998 respectively we search for more recent names at the International Plant Names Index (www.ipni.org) and the RHS Plant Finder (<http://apps.rhs.org.uk/rhsplantfinder/index.asp>).

Armed with our names list, requisition of species diagnostic characters is essential. In combination with the original descriptive species discourse on CoL (click on the book icon) we also discover many oak descriptors in articles relating to specific world regions. Thankfully these publications are available electronically rather than wading through a huge pile of printed material! Resource examples: the Biodiversity Heritage Library (www.biodiversitylibrary.org), JSTOR (www.jstor.org) and Elsevier (www.elsevier.com). If unavailable online seek out the library catalogues of the Kew Herbarium (<http://www.kew.org/library/>) and Natural History Museum, London (<http://www.nhm.ac.uk/research-curation/science-facilities/library/index.html>).

Okay so we have our 585 oak species descriptors. We may need to consult the type images to ensure no diagnostic errors. The types are the original collected plant material and stored in herbaria across the globe. To pinpoint any herbaria explore Index Herbariorum at <http://sweetgum.nybg.org/ih/index.php>. The type specimens are undergoing digitization. Take a peek at the Global Plants Initiative at <http://plants.jstor.org/search?family=Fagaceae&genus=Quercus> but be aware that full data analysis requires password access.

The final stage is to write a multi-access identification key using Lucid software from www.lucidcentral.org (details on how is outside the scope of this article). Our key demonstrates we have a novel species of oak.

Now we get to the fun bit - writing the first treatise on our novel species, but you will have to wait until the next Tree Watch issue!

Fee Young

Fee has given us a lot of references to follow up and the first one I looked at was the Lucidcentral website. If you are interested in keys, do check it out. Their multi-access keys allow you to indicate those features you know, and then give you a list of possibilities. As Fee says you can build your own, but there are several already written. Unfortunately there is only one for trees and that is for cultivated pines, but it is free. [There's a security warning, because it's an unsigned Java application, but I have ignored it with no adverse consequences.] - <http://tinyurl.com/pinekey>

Hopefully more tree keys will come. Apart from a predominance of Australasian keys, there are a lot of insect ones. Some are rather specialised, such as "*Drosophila* of Ecuador" (I spent several years weighing *Drosophila*, although not Ecuadorian ones - mine came from Kaduna in Northern Nigeria!), but of more general interest is one for "Insect Orders", which is also available as a phone app.

If you want to build your own keys, you need the program. You can download a trial copy of the latest version (3.5), but to celebrate the 10th anniversary of Lucid's initial release, you can download a copy of Lucid v3.3 free (from <http://tinyurl.com/lucidfree>). So you can have a go at developing your own keys. Do let me know how you get on.



FREQUENTLY ASKED QUESTIONS - I'M USING CHROME, SO WHY DOES THE WEBMAP TAKE SO LONG TO LOAD?

Two year ago (see issue 10) Chrome was so much faster than other browsers, but not now.

In a recent PCPro benchmark test comparing the top 5 browsers, Firefox (ver 22) came top. It is followed by Internet Explorer (ver 10), Opera (ver 15), Chrome (ver 28) or Safari (ver 5) - in that order. Internet Explorer 10 performed better than previous IE versions. Firefox is faster and more memory-efficient than the others.

I use it because it has the most efficient ad blocker and I don't like ads!

DID YOU KNOW? You can buy a camera that allows you to refocus and change perspective after you've taken a photo.

The world's first consumer 'light-field' camera is now widely available, for £400 from retailers such as John Lewis and Amazon. A series of micro lenses captures the angle of incidence of the light, as well as its colour and intensity, which means you can refocus images after you've taken them, or change the perspective. Truly revolutionary. There are even four different colours to choose from.

It's rated as 11 megapixels, or megarays.

At this stage, it's very much a toy, not producing top quality photos; but no doubt improved models will appear soon.



MORE AMUSING PHOTOS

Spotted in Bearwood Road, Barkham and Wilsford Close, Shinfield North.



Some recommendations from the Yahoo Group:

WEBSITES: - *referenced in this issue*

- ① <http://tinyurl.com/pinekey> - multi-access key for cultivated pines
- ① <http://tinyurl.com/orchardsmap> - PTES map of traditional & marginal orchards in England & Wales
- ① www.monumentaltrees.com - Monumental Trees worldwide

READING:- *on websites this month*

- ① http://www.treeaz.com/tree_ah/ - TreeAH: Guidance on its use for assessing heritage trees.
- ① <http://tinyurl.com/Std5837> - overview of latest BS recommendations on trees in relation to design, demolition and construction.
- ① www.forestry.gov.uk/opm - information about oak processionary moth & its current status

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The views and opinions expressed in Tree Watch are those of the authors and do not necessarily reflect the views of the editor or the official policy or position of the Wokingham District Veteran Tree Association.

Don't forget: The latest database and all the latest files relating to the survey are on the Yahoo site:

groups.yahoo.com/group/WDVTA

Details of all trees in our database are available via the web map pages: wdvta.org.uk/WDVTS

Finally, and most importantly,
THANK YOU to everyone who is out there recording our trees.
We wouldn't have a database without you.