

Report from the Chairman

Colin Hall

Partnership achieves great results

The public launch of the Ancient Tree Hunt took place last June, with much fanfare orchestrated by our partners at The Woodland Trust. Press, TV and website coverage, encouraging one and all to go out and record special trees, has been unprecedented. Some 20,000 trees have now been recorded online, including trees already on the Tree Register, which have been added to give the Hunt an initial boost. What is particularly encouraging is that over 100 volunteer verifiers have been recruited, whom we are pleased to welcome as members of The Tree Register and with whom we look forward to a long-term relationship.



Chairman Colin Hall getting to grips with The Prince of Wales

Our Patron, HRH The Prince of Wales, kindly invited all at the Tree Register, together with guests from the Woodland Trust and Ancient Tree Forum, to a reception at Highgrove earlier this summer to celebrate the Ancient Tree Hunt. It was a most enjoyable day where we were all able to meet our Patron and see the marvellous Highgrove garden.

On a sad note, John Workman, one of our founder trustees and later a Joint Honorary President, died earlier this year. John had close connections with The National Trust and Westonbirt Arboretum and was a major figure in the world of trees and forestry. John made a major contribution to the Tree Register, being much valued for his wise counsel.

Dedication

As ever, we are very grateful for the support of you, our members, throughout the year, without which we could not keep up the good progress of The Tree Register. I must also thank David Alderman, our registrar, Owen Johnson, Aubrey Fennell and all our other tree recorders, and not to forget our secretary, Pamela Stevenson, for all their voluntary work and dedication throughout the year.

Award for Pamela



Congratulations are due to our secretary, Pamela Stevenson (centre), who has recently been given the Pride of Bedford's Environmental Award for 30 years involvement with trees.

An appreciation of John Workman

Victoria Schilling (co-founder of the Tree Register)

It is with great regret that I record the passing of John Workman OBE retired Trustee and one of our honorary Presidents. I had the pleasure of knowing John from my early days as a dendrologist long before the Tree Register existed. So it gave me great pleasure when he accepted my invitation to become one of TROBI's first Trustees.

Conservationist

There are many stories that could be told about John. He surely was an amazing character and maverick. A conscientious objector during the war then later a rising star in the world of politics carrying on to being a first class forester and conservationist, one of the many hats he wore being Forestry Advisor to the National Trust for years.

Character

My favourite story about John has to be of how he burned down the family home when he inherited it. Phoning the local fire brigade to tell them to come out to practise putting out the blaze, they told him he couldn't do that, his reply of "too late I've done it" tells you a lot about his character. He told me he disliked his family home intensely and it gave him great pleasure to see it go up in flames.



John Workman (Copyright: © NTPL/Paul O'Connor)

Real gentleman

He was always a pleasure to visit and have a conducted tour of his amazing beech woods. A tour of Westonbirt with him was a great learning experience. He was a great man, a real gentleman and so reticent and modest that very little has been written about him and he was so erudite and knowledgeable. It just leaves me to say – in the words of our retired patron The Dowager Duchess of Devonshire "A very dear man, so loved by all.....what a charmer he was, how clever and knowledgeable, I wish I had known him better"

Registrars Report

David Alderman

Reaching new heights

This year we are planning to expand our on-line champion tree database by including county and country champions. This will increase the number of records available to over 35,000! More information on location and access will also be shown. For example, if searching for the biggest girthed London Plane trees, data will include:

9.16m Lydney Park – largest girthed in county Gloucestershire, country England and champion of Britain & Ireland

6.57m Llanover Park - largest girthed in country Wales and county Monmouthshire

8.75m Wooburn - largest girthed in the county of Buckinghamshire

Our tallest broadleaves

Since our tall trees expedition in 2003, which confirmed the Scottish Douglas Fir, named Doughal Mor, at Reelig Glen, the tallest tree in Britain and Ireland and now 64m, the desire to discover our tallest broadleaved trees has not gone without notice.

Ben Jones, a Forestry Commission arborist at Westonbirt Arboretum is also a keen tree climber in his spare time and has been looking for challenging trees to climb, hoping to use his passion and experience to further our knowledge of tall trees.

Latest technology

For some years, the tallest broadleaved tree has been a London Plane at Bryanstone School in Dorset at 48m. It is one of several trees planted as an avenue in 1749 to celebrate the centenary of the execution of Charles I. Despite earlier calculations possibly being exaggerated, the middle tree of three tall trees was measured in 2005 by American tree recorder Robert van Pelt, who using latest laser technology, confirmed a top height of 48m.

Historic elm

This by far exceeds records for any other tall broadleaves. Historical records include that of JC Loudon who mentions an Elm in 1836, the metric equivalent of 46m, in Coombe Abbey Park, Warwickshire. We have to presume it had gone by the turn of the next century as Elwes & Henry made no reference to it at that time. They did describe another Elm of the same height at Forthampton Court, Glos. This tree blew down in 1895 and was measured along the ground with a tape by the gardener. However, due to the weight of branches it is likely to have been less than this when standing. In recent times the tallest trees have been recorded in Ireland by Aubrey Fennell. A 44m *Populus x canadensis* 'Serotina' and the trees most likely to become future champions the Eucalypts with specimens of 43-44m including *E.globulus* at

Killruddery, Wicklow and *E.viminalis* at Mount Usher, Wicklow.

Accurate measurements

Recording the height of broadleaved trees is especially difficult using traditional methods. Identifying the tallest branch and a point directly below that on the ground is usually best carried out in winter months. By far the most accurate measurements are by climbing and dropping a vertical line to the ground, whilst adding on any small un-climbable branches above this point. This extra height may be recorded by extending a light telescopic pole or by laser. Alternatively, with a clear view to the ground, the climber can take a laser measurement to the ground below, which alleviates any possible stretch in the rope or tape measure and trying to keep it vertical if windy.

Results on web site

Despite poor weather conditions Ben and his team attempted to climb the Bryanstone Plane tree in March 2008. Identifying the tallest branch from the ground before climbing is crucial so the correct route is chosen and saves time traversing and re-ropeing to navigate across what can be a vast area of branches. On this particular occasion the climbers were unable to get to the very highest part of the tree but could confirm that the tree is above 45m. Having gained permission to climb the tree again, their next assault is in August. Look out for the results on the Tree Register web site!



London Plane at Bryanstone School, Dorset. At 30m it is still a long way to the top of our tallest broadleaved tree (Ben Jones)

Think small in the uplands - The Ancient Tree Hunt

Katherine Owen – Senior Verifier for the Woodland Trust

Managing a UK wide network of volunteers has certainly been challenging, yet very rewarding, over the past year. Forums with the volunteers throughout the UK have taken me to some fantastic trees and helped build relationships with a great group of volunteer verifiers. The main theme of the training forums has been to help identify tree form, to refresh on girth measurements and to highlight growth rates across different sites and regions.

In the early stages of the project we knew that in some parts of Britain trees are growing slower, and old trees of the same age vary greatly in girth. Hunting for “fat” trees does not have the same impact in Scotland and other upland areas as it does in the south of England and yet the trees are equally important and need recording.

Research

Using existing data and research, including the vast resource of the Tree Register archives, we found a wide range of girths for 300-400 year old Oak. Ranging from 7m, where open grown on fertile sites, to less than 3m in woodland and on more upland sites. Recognition of this has enthused our volunteers to look for and record smaller trees where the site conditions dictate slower growth.

Growth comparisons

Regional differences vary between species. Rowan favour sites that are particularly poor for many others and the majority of champion Rowan are on what may be considered upland sites. From the records already being recorded on the Ancient Tree Hunt, it appears that there is a difference of more than 1m in girth between southern England and Scotland. So, the message is not to compare regions directly and look for smaller trees the further north you go!

Struggling to survive

This was brought home to me in Scotland when after the forum in Dundee, where local Tree Officer Eric Hamilton gave us a guided tour of the trees in Camperdown Park, I visited several sites on Cairngorm and the Rothiemurchus estate. Above Loch an Eilean (pronounced lock-an-yellin) are several magnificent Scots Pine over 3m in girth described as being ancient and they certainly look old! Whether they date back before 1700 and the beginnings of mass upland clearance is unknown. Later, on Cairngorm, I saw small Scots Pine growing above 500m and in Glen More “bog pine”, trees that are struggling to survive, bonsai-like in two contrasting but equally adverse conditions.

Revelation

The revelation came during a visit to the Northern Forest Research Station, Roslin, when Forestry Commission dendrochronologist, Colin Edwards, confirmed from research that the ages of the trees on all three sites visited were likely to be between

200-300 years old. The oldest trees currently discovered are in Glen Loyne, Invergarry, the oldest now 568 years, and 448 years at Creag Fhiaclach south of Loch an Eilean, Aviemore.



Recording Scots Pine at Rothiemurchus (Tree Register)



Scots Pine at high altitude on Cairngorm. A similar age to the tree above. (Tree Register)

Enthusiastic volunteers

Building our knowledge is part of the excitement of being involved with the Ancient Tree Hunt and it is a privilege working with so many enthusiastic volunteers across the whole of the UK. I specially would like to thank all Tree Register volunteers who are making such a valuable contribution to the project. For further information on recording Ancient Trees, go to the Ancient Tree Hunt website www.ancienttreehunt.org.uk

Metasequoia

Owen Johnson

The Dawn Redwood at sixty

Asked to name my favourite tree, any number tend to spring to mind which I have recently been looking at. But a good candidate must be the Metasequoia. Few trees have such drama to their discovery, and few oblige so readily in gardens up and down the country.

Young adventurer

When James Harry Veitch sent Ernest Wilson to China in 1899 to find the Dove Tree, he wrote to the young adventurer: 'do not spend time and money wandering about. Probably almost every worthwhile plant in China has now been introduced into Europe.' Veitch will not have been the first plantsman to say this, and certainly not the last; but it is still astonishing to reflect that the Dawn Redwood, discovered almost simultaneously in 1941 as a fossil and then as a living relic in eastern Sichuan, is every bit as desirable as any of the many hundreds of trees that had come out of the East before it. In the Red Data Book it is 'critically endangered', so by growing one you are also doing a tiny bit for worldwide conservation.

Diamond Jubilee

2008 marks the Diamond Jubilee of the Metasequoia in cultivation. At the start of the year there were 1407 specimens on the Tree Register; only a handful of trees are more fully represented. Dawn Redwoods have already exceeded a metre in trunk thickness in 16 counties, and 25m in height in 15. Only the north-west fringe of Scotland and Ireland is too chilly for them to do well, and only raw chalk in south-east England gets too dry. (Like their 'redwood' allies, they detest maritime exposure). A few plantings refuse to grow well, or sulk as bushes after early top-damage. There have only been a handful of losses to date, some of them due to other trees falling and crushing them. This is the only conifer (I exclude the Ginkgo) to be used as a street tree in London; those around Onslow Square have reached 18m, despite the challenges of compacted soil, heavy London Clay, ozone pollution and low rainfall, though a few others in pavements around Kensington have started to die back ominously.

Long-lived

No one knows how big the Dawn Redwood will grow here. In the wild it is long-lived, and tops 40m. In cultivation it gets away best and adds girth quickest where summers are hottest, in south-east England and the south Midlands, but my guess is that like most conifers it will do better in the long-term - certainly for height - in the wetter west, and as far north at least as Brodick Castle.

Champions

John Gilmour at the Cambridge University Botanic Garden stole a day's march by getting a gardener to plant out his 'original' seedling while he hosted a dinner to distract the other garden superintendents who had also received plants directly from Dr Silow of the British Council in Beijing. But the rest soon caught up: astonishingly, the national 'champions' Metasequoias are now both second-generation trees which may not have been planted until 1960. At Wayford Woods in Somerset, the tree by the main trail in Heron's Wood has been measured since 1967, when it was 10m tall, and is the only tree to have continued to grow fast through 100 feet (32m by 2006). At Woking Park, a tree by the leisure centre was 453cm in girth by 2006; I had first found it six years earlier.



Like most open-grown examples, its fox-red trunk is fantastically buttressed, a growth-form that is best encouraged by leaving the lower branches for a decade, and then pruning them to show off the results.

(Left) Metasequoia at Woking Park (O. Johnson)

Exclusive

Like most trees from humid Continental climates, Dawn Redwoods need plenty of summer heat but also plenty of rain. In Britain these two regimes tend to be mutually exclusive; for a Metasequoia as good a compromise as any seems to be offered by the climate of Cheshire and Lancashire and it is the only tree I can think of that performs at its best in this part of the country. Manchester's Wythenshawe Park received an 'original seedling' via Kew and cuttings from this are growing like grass-green rockets in public parks all across the conurbation. Tatton Park near Knutsford has more top-sized trees than any other British garden; the largest, in a grove of six 'originals', was 28m x 324cm girth in 2004.



The Metasequoia grove at Tatton Park

Historical records

Owen Johnson

Looking in the Tree Register archives

Second to the thrill of finding brand-new trees comes the excitement of rediscovering ones which have not been visited for many years. In the middle of Ashampstead Common above Goring last September, for example, I came across a huge hollow Silver Maple. I had this down as a short-lived species or certainly an accident-prone one, but a check through the records revealed this to be very probably a tree last measured by Henry Elwes and Augustine Henry exactly a century before.



The Silver Maple on Ashampstead Common (O. Johnson)

The Tree Register's historic records are not visible on the website, but provide the basis for our understanding of how long different trees can live and how fast they grow. They include 4945 sets of measurements made before 1900, another 10450 made before 1950 and nearly 38,000 more by 1975.

J C Loudon

The first person to amass tree measurements on a significant scale was John Claudius Loudon, who sent out enquiry forms to hundreds of estates across Britain and Ireland and published the returns in the eight volumes of *Arboretum et Fruticetum Britannicum* in 1835-8 (now accessible online at Google Books). Excluding some common trees too young to have been significant, Loudon describes nearly 2000 specimens across 270 taxa.

Supreme champions

The intelligent tree-hunter learning of this will raise all kinds of questions. How many of Loudon's 2000 survive today? Which species show the best survival-rates? Have any 'champions' reigned supreme across 170 years?

238 of Loudon's taxa were too short-lived for there to be any survivors. Of the remaining 32, about 140 individual trees are (probably) still alive. These include, perhaps surprisingly, the only *Magnolia grandiflora* Loudon thought worth an individual mention – a freestanding 9m plant at Powderham Castle which is very probably the tree Elwes and Henry also cited in 1908 and today's national 'champion' on the castle lawn.

Uniqueness

Loudon seldom quotes his correspondents directly, or gives their names. For Audley End in Essex, however, we know that the measurements were made by the head gardener George Young; his returns are transcribed verbatim in an appendix to Lord Braybrooke's *History of Audley End* (1836), which was brought to my attention by Mark Hanson. This is fortuitous in revealing that a record hidden among Loudon's 40 Lucombe Oaks is actually for the original 'Audley End Oak' (*Quercus x audleyensis*), 'in the Mount Garden'. Young calls it a 'Leucombe's Oak', suggesting to me that an aural tradition existed of its coming from Lucombe's Exeter nursery (around 1772). Elwes and Henry were the first to recognise this tree's uniqueness; it remains the champion *Q. x audleyensis* and until recently was the only one, being hard to propagate successfully.

Re-discovered

Three kinds of tree have two records each in Loudon and one survivor. One, bizarrely, is the Medlar (hanging on to life by the lakeside at Syon by one branch in 2002 at least); one is the very rare original clone of the Turner's Oak (*Quercus x turneri* 'Spencer Turner'), assuming today's champion in a front garden in Sawbridgeworth to be the one cited by Loudon from Rivers' nursery. The third is the champion Silver Lime in the park at Highclere, which Elwes and Henry, Maynard Greville and Alan Mitchell all missed but Steve Young rediscovered last year. (Loudon, admittedly, says that his tree was just one of 'a great many' planted here.)

Meaningful analysis

Of the trees with enough records in Loudon for an analysis to be meaningful, the champion survivor, predictably, is the Yew. However for a tree that can very probably survive for 5000 years, it is illuminating to discover that, of Loudon's 110 significant examples, only 30 are there today.

Historical records

Owen Johnson

(Loudon's total includes numerous younger yews in gardens. A yew's life expectancy probably increases with maturity; of the ancient churchyard trees measured before Loudon's time, 50% survive.) Mr Dovaston's original Westfelton Yew, recorded as a unique tree by Loudon, is another which is still the champion today.

Long-lived

Also long-lived are Ginkgo (two survivors out of five in Loudon), Oriental Plane (5 out of 14, though only 4 out of 25 for the London Plane) and Swamp Cypress (5 out of 20). Among the commonest trees, probably 16 Cedars of Lebanon survive out of 70, 11 out of 50 Sweet Chestnuts, 4 out of 24 Sycamores, 5 out of 42 Tulip Trees, but only 21 of the 187 notable native oaks.



166 notable oaks have been lost since c. 1800

Larger than any known

Tree-hunting was in its infancy in Loudon's day, and so were many of the exotic trees he was recording. Nevertheless, it is interesting to find him recording trees larger than any known today: the Sweet Chestnut at Wymondley Priory in Hertfordshire, recorded as 42' 6" in girth in 1789 and 19' in trunk diameter in 1913; the Great Beech of Sunning Hill in Surrey, with a trunk 3.5m thick at 2m; *Gleditsia aquatica* 24m tall at Syon and *Gleditsia macracantha* 90cm in diameter, along with trees scarcely known today: *Yucca aloifolia*, *Aristolelia chilensis*.

Elwes and Henry

Compiling *The Trees of Great Britain and Ireland* in 1906-13 (accessible as an ebook from the University of Georgia Library's website, www.fax.libs.uga.edu/QK488xE4), Elwes and Henry included many more trees of many more kinds, and ranged more widely. 38 of the trees which were the largest or tallest they knew are still 'champions' today, including the tallest Sweet Chestnut at Petworth, the biggest Blue Gum at Garron Tower (photo right), the largest Small-leaved Lime at Dallam Park (assuming this to be the tree they list as Common Lime), and the *Quercus castaneifolia* at Kew. The Tulip Tree at

Esher Place was so pre-eminent by 1906 that it must have been the biggest in Loudon's day if he had known of it; the great Pencil Cedar at Painshill Park was also measured for Loudon, although it had not prevailed as the champion until 1912.

Longest-reigning

Our longest-reigning champion tree remains the Fortingall Yew, recorded in 1769 by both Thomas Pennant and Daines Barrington and now unmeasurable. It is however moot as to when this tree gained the title from the yew at Brabourne in Kent, which John Evelyn taped as 58' 11" in girth before 1664 but of which no trace remained by the 1890s.

Mount Stuart

Neither Elwes and Henry nor Alan Mitchell ever managed to get to Mount Stuart on Bute. The measurements I made last summer were the first for this major collection since the 1890s, and the eight champions (including the biggest *Sciadopitys*) were all new trees.

Stockbridge Oak

The prize for recording a tree after the longest gap seems likely to go to whoever measures the Stockbridge Oak in Dorset for the Ancient Tree Hunt. No-one seems to have taped it since it was recorded as 22 feet in girth in Loudon, though Oliver Rackham (*Woodlands*, 2006) confirms that it is alive, and it is marked on Ordnance Survey maps at ST638107.



Champion Blue Gum at Garron Tower, Co. Antrim

Cranborne Chase

By Peter Andrews (Extract from www.ancient-yew.org)

The study of an ancient yew wood

Thomas Hardy wrote of Cranborne Chase in his novel, *Two on a Tower*, 'a country of ragged woodland, which though intruded on by the plough in places, remained largely intact from prehistoric times, and still abounded with yews of gigantic growth and oaks tufted with mistletoe'.

Historically Cranborne Chase, a hunting domain of kings and nobles, covered parts of Wiltshire, Dorset and Hampshire. To gain an impression of the large size of the Chase, the area forms a rough quadrangle with Shaftesbury, Salisbury, Ringwood and Wimborne at the four corners. Physically this region is a chalk plateau bordered by the valleys of the Stour and Avon. Where clay with flints mantles the chalk, the Chase is heavily wooded. Cranborne Chase was disfranchised in 1829 and remains a relatively unknown and therefore less frequented part of England.

All the ancient yews are found in an area of the eastern Chase and here the wealth of yews includes all of the following: an ancient yew wood and other huge trees on downland hilltops, yews growing in a hidden grove, yews next to sites of antiquity, and also those in hedgerows by footpaths and those marking boundaries. Westwards in the vast woodlands of Rushmore and Ashmore, and on the chalk heights of Win Green and White Sheet Hills, ancient yews are presently unknown. Ancient yews are slow growing trees, particularly those in exposed places and on poor soils. A Chase hillside yew, 22 feet in girth has only increased by one inch in the last 88 years. From the late Saxon period the ancient yews growing here were protected when much of the land became large ecclesiastical estates, and doubtless as excellent horticulturists, the monks planted others. When the monastic lands were dissolved, the yews fell under the guardianship of wealthy landowners, a situation which continues to the present day. Other yews were planted, including many in the 18th and early 19th century to shelter the droeways, as well as landscape specimens, trees for our future appreciation.

Hidden along footpaths and in woods of the Chase, other yews await discovery. One private estate is reported to have at least one large ancient yew. An elderly naturalist wrote in 2000 of her father's work on the estate and of her lost childhood: 'This great park, the playground of my childhood, a paradise of chalk wild flowers and butterflies is no more. The great expanses of grassland are now partly arable and partly used for pheasant rearing and there is no public access. However I imagine the oldest yew known to me is still there. It was hollow in my childhood and I used to play house in it. It was

seldom visited, in fact solitude and silence, save for the humming of bees and high pitched serenades of grasshoppers and bush crickets in the grassland around my 'yew', are what I remember of summer in that vanished parkland.' For now this and other yews must remain hidden.

The Yew Grove

Near Cranborne in rural Dorset there is a yew grove of great antiquity. Five of Thomas Hardy's 'gigantic yews' grow with others in a small wood which lies on a calcareous loam. The impressive size of these woodland yews and a close examination of their trunks reveal them to be of considerable age. The largest yew here is 23 feet in girth and has a big internal stem inside a hollow shell that has disintegrated. The few pieces of the inner shell that remain have become encompassed by new wood over a long period of time. Close by a pollarded yew is only slightly smaller in girth.



The largest yew in the grove at sunrise, with the strange Butcher's Broom growing beneath it.

At the north end of the copse above a farm, there is a storm battered yew with broken branches and a thin foliage; this tree seems to be struggling. The aged trunk with a girth of over 20 feet, also contains a large internal stem. Nearby in a dell is a contrasting yew that is strong and healthy. This male yew has a clean reddish bole measuring over 18 feet around its base, but the girth rises steadily to give this tree a huge appearance. The thick vines of traveller's joy, known locally as devil's guts, hang from its many branches. The fifth and last ancient yew in the grove is another fascinating example of the yew's regeneration ability. The trunk of this yew has completely disappeared leaving a substantial central inner stem surrounded by a ring of others.

These internal stems are all that remains of a possibly much larger yew. A number of other yews in the copse, some reaching 14 to 15 feet in girth, are likely to be descendants of the far older trees.

Safeguard

During the first half of the last century, the yews grew here in hazel coppice with oak and the occasional field maple and ash. The coppiced woodlands of this area were traditionally used for hurdle making, but with the decline in this trade, the coppice was replaced with cash crops of quick growing conifers. Only the woodland margins and other small areas survived the clear felling, a sad reminder of their former glory. Thankfully the yews were spared in what must have been a deliberate policy of the estate to safeguard these ancient trees. Today, with incentives from the government, the estate is replanting parts of its woodlands with the original hardwoods.

Ancient woodland

When I found the yews in the summer of 2005, they were almost hidden by larch trees, but a year later many of these had been felled. Revisiting the yew grove in the spring of 2007, the felling of many of the closely planted conifers had brought forth a spectacular resurgence of the ground flora. A beautiful carpet of bluebells lay throughout the woodland with a fine mixture of other wild flowers including wood spurge, ramsons and woodruff. All these wild flowers in southern England are recognized indicators of ancient woodland and in the past a regular rotation of hazel coppicing would have produced similar displays. The most unusual plant here is butcher's broom, which is able to grow under the dark shade of the yews. Butcher's broom is a strange evergreen member of the Lily family, with very sharp leaves and large shiny red berries.

Extensively studied

Ann Horsfall is a widely experienced field naturalist, botanist and lecturer who has extensively studied the distribution of the Dorset flora and a history of the county's woodland. The yews she has seen in other Dorset woods are not ancient and appear to have been planted or introduced by birds.

Mysterious Wood

Early one morning before dawn, I walked up from Cranborne to the yew grove. The clear sky held a promise of watching the rising of the sun. A low mist hung across the fields in which hares and roe deer were busy feeding. As I approached the wood a group of fallow deer moved away from the shelter of a yew. Entering this mysterious wood, I sat beneath an ancient yew and listened to the crescendo of the dawn chorus with the scent of thousands of bluebells sweetly perfuming the air. As the sun rose slowly on the horizon and shafts of light pierced the woodland, transforming the aged trunks of the yews from darkness to a reddish glow, I took a series of photographs. Satisfied, I rested again to contemplate the yews, thinking that perhaps in the distant past of a forgotten age, others once visited these trees at sunrise.

The Great Yew

Not far from where Hudson visited, in a remote hilltop field, a great ancient yew looks out to a panoramic view of the downland and woodland of Cranborne Chase. Despite growing in an exposed situation, this is a magnificent tall and spreading yew. The extraordinary bleached and skeletal trunk has a girth of over 26 feet at its base, but there is evidence that it was once larger. A more accurate measurement for this male yew is I believe at a height of both two and four feet, either side of a bulge, where the bole reaches 28 feet in girth. During a recent visit, I found that in the severe gales of the previous few days, a branch had fallen from the upper canopy, which is thinning out due to such occurrences. I also saw that the spray had been cut right back on the upper bole and it was now possible to look inside its hollow interior. At the very heart of the yew were two large squat internal stems. The vast hollow trunk together with the internal growth help to anchor this mighty tree during the frequent storms which sweep across these chalk uplands.



The Great Yew of Cranborne Chase

The great yew grows on clay with flints, which in this location cover the chalk. Gorse growing on these chalk hills is a good indicator of this type of slightly acidic soil and here the plant occurs in quantity along the borders of the adjacent woodland. Growing on this windswept downland on a poor soil, the great yew must have a very slow growth rate. This is highlighted by another large yew growing in a similar situation on the south-eastern boundary of Cranborne Chase. Here an ancient yew is also growing on an impoverished soil, the acidic Reading Beds, which in this region intrude into the chalk. In 1919 the writer and archaeologist, Heywood Sumner (1853-1940) measured this fine yew and recorded a girth of 22 feet at a height of four feet. At the same height in 2007, I found that the girth had only increased by one inch. In the 88 years since Heywood Sumner came here the yew appears to have been practically dormant on its hillside, and how long the tree has remained in this state is impossible to say. Dating ancient yews, by whatever means, cannot take into account that the tree's girth might not increase for decades or even centuries, while the tree is sustained by growing internally. In my estimation, the great yew may have an age of at least two thousand years.

Trees in High Places

Owen Johnson

Trees that grow well at altitude

Climbing 100 metres is equivalent, in weather terms, to moving 200km north - or, I suppose, to winding the clock of global warming back to the 1950s. Tree-hunting in the Scottish Highlands last year was an interesting antidote to looking at half-hardy species along the south coast; during my visit Callum Pirnie (Head Gardener at Crathes Castle) took me to the Tillypronie estate which, at 350m on the skirts of the Cairngorms, is close to the limits at which any kind of tree can be expected to do well.

The benefits of growing at altitude include less in the way of competition and relative freedom from pests and diseases. Challenges include the wind, the cold in winter, and the need to metabolise at lower temperatures.

Pampered

As a rule of thumb, the chemical reactions of photosynthesis work faster the higher the temperature, and the plant will grow so much faster and bigger. Even Bird Cherry, a high-latitude specialist native to northern Britain (with one outpost on the Norfolk heaths) has for its 'champions' pampered planted examples of the selection 'Watereri' in Sussex and Gloucestershire. The trees that do perform best in Scotland are in a small minority and include conifers whose reliance on year-round humidity is probably more significant than their tolerance of low temperatures. One good example of a high-altitude species that really relishes the cold is Tibetan Cherry: a specimen on the lawn at Burnside, at 135m in Angus, is twice the size of any in England.



Tibetan Cherry, Burnside, Angus (O. Johnson)

Star of the garden

Tillypronie is so interesting because the Astor family spared no expense in planting trees of all kinds, and not just the Silver Firs, Spruces, Pines, *Chamaecyparis* and Birches that could be anticipated to thrive here (and which include a fine Transcaucasian *Betula medwediewii*).

Informatively, a Katsura in the garden is 12m tall, and perfectly content; *Athrotaxis cupressoides*, one of three Tasmanian cedars and not the hardiest, is a good 7-metre bush. *Podocarpus salignus* from the Andes is always considered tender, but just survives in a shady spot. And the star of the garden, the best in Scotland, England, or Wales, turns out to be a high-altitude New Zealand conifer, *Phyllocladus trichomanoides* var. *alpinus*, with its curious flattened phyllodes and masses of crimson females florets.



Phyllocladus trichomanoides var. *alpinus* (O. Johnson)

Natural distribution

Also at 350 metres, though on the richer soils of Perthshire, a little group of conifers was planted in a valley called 'Rosemoor' on the Dirnanean estate above Enochdu; Callum was again my guide. On a small island in the Allt Doire nan Eun, the only mature *Tsuga chinensis* discovered in Scotland is a good tree, 15m tall, while on the rocks by a small waterfall is the national champion *Abies mariesii*, much-broken by storms but 260cm in girth. Natural distribution is a good pointer here: of the four Japanese *Abies*, *A. firma* grows in the temperate forests and is one of few Silver Firs to perform best in the southernmost counties of England. *A. homolepis* and the very local *A. veitchii* occur higher in the mountains, and in cultivation their champions grow near sea level in Ireland and Scotland. *A. mariesii* has the highest and most northerly distribution. Not many of us grow a Maries' Fir, or even aspire to see one, though, in its element, it is a glamorous and luxuriant tree. A hundred years from now, perhaps, none of us will be able to.

Arboreal epiphytes

David Alderman

The amazing aerial trees of Geltsdale

Geltsdale is an upland wood pasture east of Carlisle in Cumbria, at the north end of the Pennines. It covers some 5,500ha of upland fell, ranging from 447-547m above sea level and blanket bog covers one third of the site. Access can be gained by public footpath with some areas having open public access allowing a more detailed look at the trees. Private land and that owned by the RSPB is clearly marked on maps available from Carlisle City Council.

Research

Local expert is Iris Glimmerveen, Woodlands Officer with East Cumbria Countryside Project, whose enthusiasm for the trees in Geltsdale is infectious. The reason for this is immediately apparent when one visits. What makes Geltsdale so special are the large ancient Alder (*Alnus glutinosa*) growing along the valley of the River Gelt and Old Water. The trees are clearly of great age for their species and further dendrochronology research may reveal more if a recent Heritage Lottery Fund bid is successful.

Natures miracles

For this species, the conditions and climate in Geltsdale appear to be just right for the Alder to decay in such a way over a particular period of time, that allows for one of nature's miracles to occur - arboreal epiphytes, also referred to as either "air", "bird", "cuckoo" or "aerial" trees. Epiphytes are plants that live attached to another plant and not in the ground. Air plants can use the host plant for support only, whereas aerial trees obtain nutrients from the decaying host tree and can develop large roots inside hollow trees when the conditions remain damp and conducive.



Rowan growing on mature and decaying Alder

Epiphytic shrub species such as Elder, Budleia and Rhododendron are frequently seen as are tree species in sapling stages. To see a larger growing tree reach maturity as an epiphyte is less common, the most frequently seen being Rowan (*Sorbus aucuparia*) usually growing out of forks and crevices of Oak (*Quercus spp.*). But where do you see the epiphyte outliving the host tree

species and surviving? This is where the relationship between Alder and Rowan in Geltsdale have come together to create some of the most amazing aerial trees you are ever likely to see.

Remarkable Rowan

Here you can find various stages of aerial tree, with the most spectacular being where aerial roots have developed into supporting stems and with the host tree completely decayed now standing independently. One remarkable Rowan appears to have sent a serious of roots around a decaying Alder stem. The Alder has long-gone leaving a perfectly round, hollow container, looking like a clay pot. And now out of the centre of this, a young self-set Rowan is growing up from the middle, which in time will surely create a tree of even greater mystery!



Aerial roots now strong enough to support this Rowan also created an interesting debate on measuring girth!



(Left) Rowan taking advantage of nutrients within an ancient Alder stump (Right) The Clay-Pot Rowan, a ring of aerial roots creating an empty pot where an Alder once grew

Surfing for champions

Richard Goodrick

Tree hunting on the internet

A vast quantity of tree photos, made viewable thanks to the internet, have enabled me to discover some great and previously un-recorded trees over the last 18 months, providing an alternative to the years of on-location tree hunting.

I have been ploughing through the photo-sharing websites (such as the excellent Flickr.com site) and manipulating image search engines on Yahoo and Google. The resulting finds have included some gems such as a 9.85m girthed *S.giganteum* at Newton Castle in Perthshire along with a 9.11m girthed tree of the same species at Shalstone Manor in Shropshire, which had just been discovered and measured by a Redwood specialist. The 7.70m girthed *Quercus robur* at Cotswold Wildlife Park and the nearby ground-sweeping 40m tall *S.giganteum* were also exciting finds and trees we were subsequently able to visit and confirm.

Largest Sitka

England's largest ever girthed Spruce, a 41m x 7.03m specimen Sitka near lake Windermere, deserves mention in the same breath as those at Scone Palace in Perthshire. Three Norfolk oaks with girths of between 7m and 8.5m have also been added to the records as has a 7.55m girthed (at 1m) oak at Leigh in Surrey.

Legendary

A particularly compelling find was the only known photograph of Sherwood Forests legendary Greendale Oak which had an archway cut into the trunk large enough to allow a horse-driven carriage to pass through.

Magical

Internet research is also responsible for finding one of the largest girthed Oaks in all Wales, a 9.3m (at 0.5m) girthed Sessile Oak which somehow escaped previous attention. To view the tree in the month of May with a white flowered Hawthorn growing up through the crown, is a magical, almost surreal sight – see below.



9.3m Sessile Oak in Powys

Potential

By contacting the original photographers I have persuaded many to re-visit and measure the tree, in many instances confirming it is as big as the photo suggested! The list goes on, and with several other potentially huge trees awaiting measurements, we can only keep looking forward.



"The Woodthorpe Oak", Lincolnshire with a girth of 7.22m @ 1.5m



Silver Fir (*Abies alba*) 4.75m girth in Merkland Wood, Brodick, Isle of Arran