

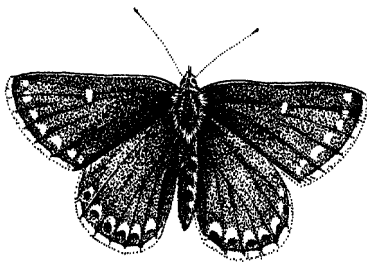
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THE VASCULUM

**The North Country Journal
of Natural History**

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THE VASCULUM

The Vasculum is a journal concerned with the Natural History of North-East England. Founded in 1915 as a privately-published concern, from 1942 to 2006 it was the published organ of the Northern Naturalists' Union.

THE NORTHERN NATURALISTS' UNION

The Northern Naturalists' Union (NNU) was founded in 1924 to promote co-operation between natural history societies, and to collect and collate local records.

The NNU published *The Vasculum*, and several past publications included a series of *Transactions* published between 1931 and 1953 and three separately published supplements to *The Vasculum: Sources of Information on the Natural History of County Durham* (1972) and parts I and II of T.C. Dunn & J.D. Parrack's *The Moths and Butterflies of Northumberland and Durham* (1986 & 1992).

From the Editor

This represents the second issue of the electronic Vasculum. This is intended to replace the paper-based journal that was published up to December 2005 by the Northern Naturalists' Union, which ceased to exist in that month. The purpose of the Vasculum remains the same i.e. recording and celebrating aspects of the natural history of Northumberland and Durham. There will be some changes. The journal can now include images and other multi-media elements. Distribution will be purely web-based.

Contributions are invited from anyone with an interest in natural history. Contributions can include articles, papers, notices, images, sound or similar. The editor would also like to expand the content to include celebratory/descriptive material such as visual art, prose and poetry and such contributions are also invited.

Publication will work as follows. A web page will be constructed over a year containing the contributions sent to the editor. At the end of each year the page will be compiled into a printable version of the journal as a volume and added to the archive (non-printable elements will also be added to the archive as separate components). All the volumes in the archive are available for download.

Giant Redwoods of Northumbria

S. Robbins, Burn Valley Lodge, Elwick Road, Hartlepool, , TS26 9NP

Introduction

There have been thousands of plants introduced into this country for a variety of reasons such as food, forestry, or ornamental purposes. One of the ornamental trees introduced was the Giant Redwood (*Sequoiadendron giganteum*) of California. Although described as extensively planted throughout the country I became interested in finding how it was doing in the north-east. This survey is a record of the trees found.

It was a surprise to find over 740 trees in 137 locations in the region. Most are individual trees but some were planted in greater numbers. This article gives locations and where possible the numbers seen and some observations on how the tree is doing.

Earlier Surveys

This survey follows on from two others carried out in the region. The first were trees found in the Tees Valley where over 200 specimens were found. Following on from this I looked at specimens south of the river Tees as far as the A19 to Thirsk. This revealed a similar number. This survey includes the area from the river Tweed and follows the Northumbria boundary to include part of the lower Tees area south of the river Tees. I was surprised at the number found and in some instances the quantity although some areas have no records.

Area Surveyed

Maps of the region produced by the Northumbria Tourist Board extend in the north from the river Tweed southwards to an irregular boundary from the east coast just north of Staithes, westwards along the Pennines from North Yorkshire. It includes Northumberland, Durham, Tyne and Wear, and the Tees Valley. This survey has also included Alston which although missed out by the irregular boundary of the county along the line of the A689.

This area incorporates a wide range of soil types and climatic variations. No correlation has been made with soil type, climatic variations, or altitude. Trees were found throughout the area. There was a lack of trees in the lower Tyne Valley and around the lower Wear Valley. There may be many factors for this absence such as air pollution in the 19th century.

Paper Exercise

Before embarking on this survey I carried out a paper exercise to see if any similar work had been carried out. There were some references in the Tyneside Naturalists' Field Club Transactions but except for other odd references very little else. I also wrote to the Forestry Society and received some records from their secretary and members in the north-east. I am

indebted for their help. Tourist photographs of historic estates also revealed a few trees. The rest were sought out by car. I believe more can be found and any records will be appreciated as they can be easily missed.

Finding the Trees

The trees grow to become huge specimens and I could not understand why they were missed on earlier journeys through the area until I started to look for them for this survey. It is difficult to find specimens when other trees are in full leaf. They might be visible from some distance away, or as solitary individuals in an open area, but once they are in with other trees they can be hard to find. As an example, I recorded the tree in the field below Middleton House on the west side of Middleton-in-Teesdale. It was in the open and clearly visible from the road. It however, took some time before I found the second specimen and it was only as I was returning to Middleton from a visit to the west of the area that I saw the conical top of a tree that looked like a Giant Redwood. Approaching the village from that side I saw the tree directly ahead. Once in the village I could not see it. Large buildings, houses, and other buildings, plus trees in full leaf obscured any views. I walked into the churchyard and saw Limes and various Cupressus trees but no Giant Redwood. Following the path back into the village via Wesley Terrace I saw the dark bark of tree. It was hidden by Limes, a blue Atlas Cedar and a Scots Pine. It was the second *Sequoiadendron* for the village. It was well concealed.

Survey

The earlier surveys had saved reworking the Tees Valley and the southern area. I also had odd references to other sites such as Wallington and Craggsdale. Although only introduced into this country in the late 1850's the tree is already above the existing tree canopy and was easily seen from some distance. Getting close to them was a problem as the majority are on private land. They have all been recorded from the road or public footpath. At Minsteracres I was allowed access to inspect the main avenue. Recording the trees when others were in full leaf caused problems so I believe there are trees not recorded. Any information on the tree will be welcomed. This survey took much longer than expected because of the restrictions of the Foot and Mouth epidemic and was suspended until the all clear was given.

The Tree

Sequoiadendron giganteum is the Giant Redwood. It has been described as the worlds most spectacular tree growing to a huge size. It is found growing naturally in 70 or more isolated groves on the western slopes of the Sierra Nevada in California U.S.A.. Most are at altitudes between 1370 and 2290 metres. There are a few growing at lower altitudes.

The large trees attracted the attention of loggers who took days to cut down individual trees with axes and saws. Conventional saws were not long enough. They were cut down and sawn into 24 ft sections and rolled to teams

of oxen to get to the felling site. Sixteen animals were yoked to pull the 20 ton loads.

Discovery in the Sierra Nevada, California.

The first record of the Giant Sequoias of Sierra Nevada was by Zenas Leonard who was one of 40 men who crossed the Sierra mountains to California in 1833. Leonard was described as 'the chronicler for the Joseph Redderford Walker party' which crossed the Sierra Nevada in the Autumn of 1833. Walker was a trapper, explorer and guide and set off from Fort Osage in May 1832. In July 1833 he went on to Walker Lake, scaling the Sierra Nevada reaching Monterey in November. They are believed to have been the first whites to cross the Sierra from the east and the first to see the Yosemite Valley. He returned by another route across the area in February 1834. He stayed in the mountains for nine years. He noted 'very large trees' in his diary with some estimates of size. He published an account of his journey in 1839 but it went unnoticed.

The first recognized discovery date for the tree appeared in the Senora Herald of June 1852. This was produced in the Durham Advertiser. In 1852 the Californian Gold Rush there was a boom period in the region and a local hunter A. Dowd was hired to live with the workman of the Union Water Company of Murphy's Camp and obtained their food. One day he wounded a grizzly bear and chased it through the forest before he lost its' track. He discovered a large tree and on his return to the camp described it. They referred to it as the 'big tree yarn'. Dowd went out again and came back reporting he had shot the biggest grizzly and needed all the men in the camp to bring it back. It was a Sunday and the men followed him to bring back the great bear. He led them to the large tree. Further large trees were discovered.

In an address to members of the Tyneside Naturalists' Field Club on the 4th April 1857 John Hogg called members attention to the recently discovered forest tree, 'in the uncultivated waste of California, North America'. It grew to an altitude of 4-500 metres and described it as a mammoth tree 3-400 ft high with a diameter of more than 30 ft. The circumference was 90ft. The bark alone was 18 inches thick. He had seen a portion of the tree at a private exhibition in London.

Collecting

William Lobb was a plant collector who had been sent out by James Veitch and Sons, a famous horticultural business, who sent out plant collectors to introduce new plants into cultivation through their business. In 1852 he was in San Francisco and was at the California Academy of Science and heard about a hunter named A. Dowd who had descriptions of a new tree.

As soon as the meeting was finished he made his way to the Sierra foothills and found the trees. He reported that there were 80-90 trees within a mile which were 250-350 ft tall and 10-20 ft in diameter. He collected seed,

botanical specimens, vegetative shoots and two seedlings. He then quickly arranged passage on a ship and arrived in England in December 1853. Veitch was ecstatic with the find. By the summer of 1854 the nursery was offering seedlings at 2 guineas each at 12 guineas a dozen. The Victorians planted the tree throughout the land. The Durham Advertiser printed the descriptions of the trees in January 1854.

William Lobb (1809-1863) was born at Perran-at-Worthall in Cornwall. He started his career as a gardener for John Williams at Scarrier House. In 1837 he joined the Exeter nurseryman Veitch and Co, along with his brother. Three years later he was sent to South America as their first plant collector. He explored the Argentine, Andes, and the Chilean Forests. In 1845 he made a second visit traveling through Chile and Patagonia. His final expedition in 1849 was to California . He remained there until 1857 when his employment with Veitch ended. He died of paralysis in San Francisco.

Lobb was however not the first person to introduce the plant to this country. J.D. Matthews had been the first to send a small consignment of trees in 1853. These were sent to Scotland.

Other Sources

One reference also states that seed was introduced by the Rev. William Dodds of Chillington and given to John Collingwood of Lilburn Tower. The seed sown all produced plants. Mr Collingwood counted 14 trees in his grounds and all were described as 'thriving and vigorous'. I saw only 9 trees at Lilburn.

Wellingtonia

The name of the tree has been changed several times. When it was first decided in this country by John Lindley, the co-writer of William Hutton's Fossil Flora and librarian, it was called Wellingtonia. This name is still one used by many lay people today. It may have been the association with the Duke of Wellington that was reason for its popularity. History however says that in later years Wellington was not such a popular person as after his famous battle with Napoleon at Waterloo. He later became a politician but his popularity dropped after he was Prime Minister.

Seed Production

In the wild the tree produces globular cones from 10-14 years old. Leathart (1991) states it is about 18 years in this country. These seeds have a 35% viability but this varies from season to season and its locality. About 2000 cones can be produced on a large tree in a year. Each cone can produce 4-7 seeds (Hartesveldt) when they are mature after two years. These cones are retained on the tree for many years and eventually turn from green to brown. As they get older they lose their viability (Hartesveldt). When they lie on the ground they may only survive a few days.

Germination

Experiments carried out to test the conditions required for germination reveal that the seeds prefer a mineral soil. Fire removes the organic content of the uppermost layer of the soil allowing the seed to fall between the soil particles. Optimum temperatures of 50-68 °F during April, May, September, and October produce good germination. Soil moisture, light, soil ph and texture are also important.

Seed raised by horticulturalists in this country germinated well. The Rev William Dodds stated 'many seedlings are promising and most likely be able to bear the changes in our variable climate'.

Reasons for Planting

The tree was planted for several reasons.

1. Family Trees

William Ward Jackson in his diary for 1861 stated he planted a tree as a memory for his mother' in the park around his house at Normanby. He paid £1-05p (£1-1s) for the tree. It was planted on the east side of the house on rising ground.

At the Dukes House, near Hexham, are a number of trees. Durham County Record Office has a sketch plan of thirteen trees planted on the estate. The first two trees near the house were planted to commemorate E. Backhouse in 1858 or 9. The third tree had already died by 1864 when the plan was made. The fourth and fifth trees, on the east side, were planted to commemorate Mary and E. B. Mounsey in 1861. Further trees were planted for Mary, Emile and Edward Mounsey in 1863 and further trees were planted for KB and ES in 1861.

2. A Royal Wedding

In 1863 the Prince of Wales married Princess Alexandria in London. It was time of great rejoicing and many local celebrations were made throughout the country. In the north-east each town and city enjoyed the event. At Darlington, besides other events, the two Giant Redwoods growing on the lawn in front of the park were planted on the 10th March 1863 to commemorate the wedding. They were planted by Colonel Scurfield, commander of the Darlington Volunteers, and Mr Francis Mewburn, the Chief Baliff at Darlington.

3. A Special Occasion-A Park for the People

From the main gate at Albert Park, Middlesbrough, the centre walk runs (750 ft) southwards through the park. On either side of the (25 ft) walk were originally planted with *Sequoiadendron giganteum* (Wellingtonias) forming an avenue down the park. They were planted at a special ceremony by different individuals at the invitation of Mr Bolckow who had paid for and presented the park to Middlesbrough. The South Durham and Cleveland Mercury reported that in early February on the Thursday forenoon the first

trees were planted –by Mrs Bolckow, H.W.F. Bolckow, Mr and Mrs C. Bolckow, Miss Dean, Mr and Mrs Vaughn, Misses Elwon, The Mayor, (George Watson), the Town Clerk (J. S. Peacock), the Borough Surveyor (J. Dunning), Mr and Mrs Fallows, Misses Fallows, Rev C. Bailey, Mrs Bailey, Marton and William Barrett. The latter had laid out the park. It was also announced that the park could be called Albert Park (SD and CM 10 Feb 1868).

It was known as the Wellington Walk. There were also Wellingtonias planted by the gravel walk that ran on the left hand side of the entrance gates. At the time the trees were expected to form a beautiful avenue. Moorsom states the weather conditions following their planting caused failure and in 1871 the general condition of these, and other trees, in the park were described as being poor.

In December 1872 the curator at the park reported that 12 Wellingtonia trees had been presented to the park by C.F.H. Bolckow. On the 6th January 1876 it was reported that two additional rows of trees were to be planted. They were put in clusters as protection to the best trees until grown up, the inferior ones removed and the choice ones kept. The Chestnuts eventually replaced the Wellingtonia and in this survey no trees were recorded in the park.

4. Association with the Duke of Wellington

At Wynard a stone monument was erected by Lord Londenderry who was with the Duke at the Peninsular War. There are also sequoia trees planted near the lake but it is very difficult to prove these were planted to honour the Duke. I believe there were many planted to celebrate Wellington and no written proof has yet been found by the author.

5. An Unusual Species

The tree was considered a novelty and grew to a remarkable size. Many were probably put in because it was fashionable. In the same way today unusual, weird, or a feature in the press or TV specimens are planted e.g. *Metasequoia glyptostroboides*, *Taxodium distichum*

6. Timber Qualities

At Tower Hill, Middleton-One-Row near Darlington, there is a large group of trees forming an impressive clump. The owner of the house when the trees were probably planted was John Chapman who was a colliery owner. No written record has been found but I feel the trees were planted because of the quality of timber each tree had.

Kyloe Woods

At Kyloe Woods, near Lowick, several kms south of Berwick on Tweed, there is a stand of 97 Giant Redwoods. They were planted in a block covering 0.6 ha about 1902. This makes them younger specimens than most of the trees referred to in these notes. As far as I am aware it is the only stand planted as a wood in Northumbria. The only other redwoods planted as a wood in this country that I know is owned by the Royal Forestry Society and is situated near Welshpool, Powys, near the English/Welsh border. These are the Coast

Redwood (*Sequoia sempervirens*) and the original 33 trees were planted by John Naylor in 1857. Further trees were planted later and some of these included the Giant Redwood. The Giant Redwoods at Kylloe Woods were planted by relatives of Naylor.

Kylloe Woods once formed part of the Haggerston Estate which for over 700 years belonged to Haggardston, later Haggerston, family. The house was situated a few kilometers to the north of the wood. Although the house that replaced the castle was rebuilt it was destroyed by fire. Subsequent houses occupied the site but these were also destroyed by fire. Only the large tower clearly visible from the main road is all that is left. The site is now a caravan site. The last possessor of the castle was the widow of Sir Thomas Massey Stanley, the only daughter of Sir Carnaby Haggerston. She died on the 20th August 1857 and the estate covering 9300 ha (23000 acres) was sold in London in December 1858 to John Naylor.

John Naylor of Leighton Hall, near Welshpool, Powys, is probably better known as the raiser of *Cupressocyparis leylandii*. It was a hybrid raised in Park Wood on the estate from a cross between *Cupressus macricarpa*, the Monterey Cypress from California, and *Chamaecyparis nootkatensis*, the Nootka Cypress from Western North America. Found in 1888, several cuttings were planted at Leighton Hall and much later at Haggerston. One of the hybrids raised is called 'Haggerston Grey', the commonest clone in cultivation.

Naylor had acquired an estate at Beal a few years before and the estate at Haggerston increased his property in Northumberland. He did not move to Haggerston but left the management of it to his land agent. On Naylor's death in 1889 the estate passed to Richard Christopher Naylor who had changed his surname to Leyland a few years earlier. He built a new house, large conservatories, introduced exotic creatures like North American Bison, Wapiti Deer, Axis deer, Afghan Cattle, Ostriches, Emus in his own private zoo. He also planted millions of trees on the estate enhancing the parkland and nearby Kylloe Woods.

Leyland, an ex-sea captain, had traveled to many countries and at Kylloe he decided to establish a wide selection of trees under natural woodland conditions. Leathart (1970) states he planted 146 species and varieties of conifer over 30 years. One of the species planted was Giant Redwood.

The trees are situated in the middle of the wood sheltered by ridges and the Kylloe Hills. The area was once used to extract stone, limestone and coal from a mine in the area. Timber was also extracted to use on the estate. Although local directories state the soil in the area is loamy it varies in the wood from boulder clay, fell sandstone, quartz dolerite to peat. The trees are doing very well and are generally strong upright specimens. Competition from other exotics are cleared to give the trees good space. Access into the wood is by permission only. There are a couple of footpaths through it; one of these being St Cuthbert's Way, but enjoyment of the trees means a closer inspection than be given from the footpaths.

The Quaker Influence

During the survey along the Tees Valley it became apparent that many trees were growing in the former estates of leading people in Darlington who were also Quakers (society of Friends). At Darlington there was Polam, West Lodge, Greenbank, Larchfield, Southend, Elmwood, and Beechwood owned by members of the Backhouse family; Woodlands, North Lodge, East Mount, Woodsend, Pierremont, Woodburn, Mowden, and Elm Ridge, owned by members of the Pease family. There are other Giant Redwoods at the former Pease House Middleton-One-Row and at Hutton Hall, near Guisborough; the Backhouse estate at Middleton Tyas, the Dukes House near Hexham and estates in Weardale. No trees were found on their former estates at Sunderland.

At the village of Great Ayton there was, until a few years ago, a school for the children of the society of Friends. There is a large tree in the cemetery and on land nearby.

Middleton-One-Row belonged to the London Lead Mining Company. In front of Middleton House is another large tree.

Interest in Trees

In the Belford area there are several trees. I believe these were planted through the influence of Prideaux John Selby (1788-1867). The Selby's were an old and influential family in the history of Northumberland and the borders area of Northumberland. Prideaux was educated at Durham Grammar School and then by private education until he entered University College, Oxford. He settled at Twizell, near Belford, marrying Lewis Tabitha, of Mitford, and became a magistrate and a deputy lieutenant of the county of Northumberland. In 1823 he was made high sheriff of the county.

At Twizell he spent his life as a country gentleman and spent much of his time in the study of natural history. He collected botanical, entomological, ornithological, and zoological specimens and house them in a museum at Twizell house. He wrote a 'History of British Forest trees' and was an enthusiastic aboriculturalist planting many conifers at Twizell.

Cost of the Plants

I have already briefly referred to the cost of the plants. It was an expensive tree compared to species like Beech and Oak. John Bowes bought many trees from different sources and the records held at Durham County Record Office give some details of the costs involved. In December 1869 Mr Bewick was paid his expenses, by rail, to Hexham to buy trees for the Bowes estate. This was £11-7 (£11-1s-4d). In December ten *Wellingtonia gigantea* trees were bought from Ralph Robson, nurseryman and seedsman of Hexham at £2.50 (£2-10s) each. Five extra were given free. It was not the most expensive tree bought. *Cedrus atlantica* trees were £3.75 (£3-15s). The carriage for the tree order was £8-11s-6d. Thomas Bewick and eleven men were employed in lifting and planting trees in the (Bowes Museum) Park. Bewick was the most expensive as he was paid 4s 4d a day for 8 days whilst the lowest was James Guy who received 7p (1s 6d) a day. He only worked two and half days in the park.

The Bowes Papers also contain an 1898-9 catalogue of Forest Trees and Ornamental Shrubs. It was produced by Thomas Matheson of Morpeth. The nursery was at Shaw, Chantrey, Stobwell and Parish heugh, Oldgate, and Collingwood Nurseries. I would welcome the location of these nurseries. Wellingtonia trees were available in three sizes
(12-18 inches) high were from 7-12p (1s6d to 2s 6d)
(18-24 inches) high were from (2s 6d to 3s6d)
(24-36 inches) high were from 17-25p (3s6d to 5s 6d)

Besides the trees bought in 1869 further additional specimens were bought in 1872 and 1874. The former came from John Harrison in Darlington and cost £5. The latter came from Little and Ballantyne cost £1-57p (£1-11s-6d). It was a variegated form. The nursery was described as the north of England Seed Warehouse and Nursery of Knowlesfield, Stanwix.

The trees for Dukes House near Hexham, were purchased from James Backhouse of York. Specimens 0.3m (1 foot) high were £1-05 (a guinea) whilst 2½ft high were £2-10p (2½ guineas).

Elliot 2002) states that one nursery of Rochester New York shipped 2000 potted trees to nurseryman in Liverpool.

Hardiness

Although the tree grew at high altitudes in the Sierra Nevada, California, there were concerns that the species would not survive in this country. In December 1861 Ralph Carr gave a lecture on the 'Effects of the Severe Winter of 1860/61 upon Evergreen Vegetation in Northumberland'. Carr stated that 'in this district in the Vale of Wooller the Wellingtonia has been successfully cultivated. The extreme cold of last winter (1860) and the two trying winters preceeding had not even scorched or discoloured its verdure. At Roddam, on the very skirts of the Cheviots Carr believed was the largest specimen. It was about 1.2m (5 ft) high. At Lilburne, a place of great intensity of frost, and close to a stream flowing direct from Hedgehope Hill- there were 15 fine Wellingtonias about 1.2m (4 ft) in state. At Hedgelay they were very robust and healthy. At Chillingham, I have no positive information but have reason to believe they are safe, though the spot where the castle stands is one of the frostiest sites in the county'. One plant on slightly higher ground than the castle, he did see was in good health.

He believed the Wellingtonia in the northern climate would exhibit healthy and robust growth but would not exceed in stature of a large arbor-vitae or of our Italian Cypresses of Devon. He believed that it would not achieve gigantic proportions but he considered it would be a conical tree of secondary stature or perhaps only a tall and stately shrub. He considered it as well adapted to adorn our lawns and arboretums but not able to brave the severity of our insular winters or our tempestuous winds.

To give some idea of the cold conditions experienced at this time he wrote that 'At Belsay the snow was 16 inches deep and the frost varied from 25 down to 10 over 11 days, there was one night of 32°F followed by another 11 days, one night to 10°F, another at 35°F followed by another 4 nights of frost.

P.J. Selby of Twizell House, south of Belford, stated that the Wellingtonia was uninjured by the bad weather of 1860/61.

Growth Rates

During my search I came across work carried out by G. C. Atkinson. He had carried out a tree survey of Northumbria and below are some of his observations. He visited many sites but below are the references on *Sequoiadendrons*.

Chillingham Park

Girth at 5ft (1.5m) 3ft 5 ins (1.04m); spread 4 yards (3.66m) height 57 ft (17.3m) 16 years old. Raised from seed sent from California (Dated 23rd October 1872 Earl of Tankerville)

Lilburn Tower

Girth 3ft 9ins (1.14m) Height 27¾ft (8.2m); breadth 4 yards (3.66m) Planted 1858. Described as robust and healthy.

Minsteracres

February 14th 1873 Henry Silvertop. Girth at 2ft (0.6m) 4ft 7 ins (1.3m) breadth 5 yards (4.5m) height 32 ft 6 ins (9.9m). Planted April 1857. Another almost as large.

Lambton Castle

6th April 1874. G.C. Atkinson. Height 35ft 10 ins (10.7m) girth 4 ft 3 ins (1.2m). Atkinson split these into separate areas;

- A. on terrace
20 yards (18.2m) north west of the house. Girth at 5 ft (1.5m) 4ft 4 ins (1.3m); height 32½ft (9.9m). Spread 4 yards (4.2m)
- B. halfway along the west carriage approach and on the south side
Height 36½ ft (11.0m)
- C. 200 yards from the house (60.9 m) and 60 yards (18.2m) north of the western carriage approach
- D. Girth at 5ft (1.5m) 3ft 9ins (1.1m), height 32 ft 9ins (9.9m) Spread fair. Measured in October 1874

In October 1874 he stated ' all these trees were massive at the base of the stem and taper rapidly upwards'.

No other work on the tree has been found since the Atkinson survey. My own research did not involve measuring the trees. I have however been very surprised at the size of some of the specimens. One large tree by the side of the road in Allandale, near Whitfield Hall is already a huge specimen. The trees near the carriageway where the footpath crosses the drive at Dukes

House, Hexham, is another huge tree. The avenue at Minsteracres leaves an image of awe. They are not yet 150 years old and are a sight to be remembered.

Types of planting

The tree has been planted as a specimen, in groups of two or three or more, in lines, in avenues and in woodland pattern. I did notice what I have referred to as a regimented line. This can be seen at Minsteracres. In front, to the south, of the lower avenue is a group of three trees. It reminded me of a military style with officers in front and troops marching behind. At Forcett Park there are 5 trees; 4 forming a line on one side of the entrance drive, and the remaining one on the other side. At Lartington, west of Barnard Castle, the trees were planted on one side of the road as the road curves ninety degrees around the rear of Lartington Hall, and when it turns another ninety the trees have been planted in two or more lines. North are several solitary trees set in parkland. Near the road near Beaufront Castle, near Hexham are three lines of trees interplanted with other deciduous species.

Below are some of the specimens seen not previously referred to:-

1. Minsteracres/Lartington

Minsteracres belonged to the Silverton family and Lartington to a relative, William. I counted 140 trees in the avenue and around the house. The best sight however was the main avenue from Hexham road up to the house. There is an avenue of trees which rises in height and curves with the road. This avenue comprises of 64 trees with thirty one on one side and thirty three on the other. On the south side of the avenue is another group of three trees. Near the house are more trees; single lines and two smaller avenues add another sixty one trees. Other trees can be seen to the south west of the house in the Barleyhill area which is 900 ft above sea level. The trees can be seen from some distance outside of the hall. It is a grand sight as the Rev Llanders stated 'it is a view which once seen, one can never forget and wishes only for an opportunity to admire again'.

2. Chillingham Park

There are 26 trees at Chillingham. Most from the avenue from the house westwards to the boundary wall. A section of the wall has been opened up by a metal fence. This gives a good view from the house across the valley to the Cheviots. A large statue now stands near the wall.

3. Whitfield Hall

There were thirty three trees seen at Whitfield Hall in the East Allen Valley. Whitfield Hall is situated along the river West Allen and several kms from Hexham. The house, orangery and ancillary buildings are situated at the north end of a triangular flat area defined by the river, Carrs Burn and the A686 from Haydn Bridge to Alston. North of the area on the west side is the church. The house belongs to the Blakett Ord family.

Whitfield Hall, situated along the West Allen river has several trees in the area and show different styles of planting with Giant Redwood to the north of the house, where the A686 goes to the village of Whitfield is a solitary tree

in the steep sided field. On the south side of the house, near the small bridge that crosses the Carrs Burn is a very large tree by the houses situated on the bend and a line of trees along the trackway going north westwards. In the parkland on the south side of the house between the A686 and the river West Allen are two mounds on which are several Giant Redwoods. One is situated adjacent to the road whilst the other is some distance east of it. These were the only trees seen on the survey that were on raised mounds. The purpose of the mounding is not known. Horticulturally, mounding gives height to plants or to lift plants above the surrounding high water table. The trees are now a good height and easily seen whilst the river West Allen and the nearby Carrs Burn are several metres below the existing ground level.

The trees in the Whitfield Hall area surprised me. There were numerous coniferous trees planted alongside the steep sides of the West Allen river and then suddenly a large flat area at the bottom of the valley. The hills on either side rise to 522m on Whitfield Moor on the west and to 516m at Black Hill on the east. The area has an altitude of about 220m.

4. Public Cemeteries

There are 12 trees forming a central avenue at Hexham cemetery whilst at Corbridge cemetery there are 44 specimens.. The cemetery has been extended westwards but no other plantings have been made. At Alston there were six trees forming an avenue. There were two trees in the west cemetery in Darlington.

5. Other Cemetery Trees

There were very few Giant Redwoods planted in graveyards. A small avenue of six trees, three either side, at Yarm Parish church of St Mary Magdelene was probably the largest number found in a cemetery. In many instances there were only single specimens e.g. Kirkwhelpington, Longhawton, Holy Trinity Darlington, Sadberge. At Ponteland the tree stood either side of the entrance.

6. Public Parks

There are a number of specimens found in public parks. At Jesmond only one specimen was seen; at Darlington's south Park there were three trees planted along the terrace and more throughout the upper level of the park; at Marton Park in Middlesbrough there were several trees. It was pleasing to notice a number of younger trees growing in the area. At Bowes Museum Park, Barnard Castle, there are two larger trees on the north side of the museum and several younger specimens on the banks beside the carriageway up to the museum.

The estate of Marton lodge was bought by Henry Bolckow in 1850's. He erected Marton Hall in 1853 but did not move in till 1856.and developed a landscaped park around the property. Bulmer (1890) describes it as a large and imposing brick mansion situated in a spacious park and surrounded by pleasure grounds. The house was started in 1858 and completed in 1875. It stood on the spot of a previous house erected by Bartholomew Rudd in 1786 but destroyed by fire in 1832. Marton Lodge itself was engulfed by fire in 1960. The building was pulled down in 1960. Only the stone balustrade

remains of the structure. There is a large specimen on the west side of the terrace that led to set of steps leading down to the arboreteum area, and to the west hidden by more mature deciduous tree specimens. Further south of this is a Coast Redwood (*Sequoia sempervirens*). This is a very unusual tree in the north east of England and is another species that comes from California. In the arboretum there are several older trees forming a line from the stables block to the site of the old house. Several younger trees have also been planted in the grounds. It is good to see these younger trees. Near to the northern entrance to the park can be seen a taller specimen of the Giant redwood in front of the Ladle Public house.

Condition

The majority of trees look strong straight specimens with the lower branches missing. Many trees have side branches lower down. A tree alongside the road at Whitburn has a branch coming up from near the base. At Corbridge cemetery a couple of trees have side branches. Trees on the top terrace at Darlington South Park have several branches lower down.

Many of the trees look in a reasonable state. There are a few which are stag headed. The reasons for this in ordinary trees is due to climactic problems and water availability. Leathaty states that the Giant Redwoods are being affected by lightning in this country but no trees obviously affected by this factor were seen.

The bark varies in colour and texture. At several locations it is reddish in color and of a very spongy nature. This is clearly seen on the tree on the north east side of the pond at Wallington. At other sites the bark is dark and deeply furrowed. At Corbridge cemetery all then trees show this colour and show a variation in bark covering. Some are straight whistl others are very convoluted.

Although the trees are straight with a conical shaped top several have odd branched coming out of the tree at unusual angle. It is not a double leader as the branch arrangement occurs slightly lower down the tree. The reason for this is not known.

Survey of Trees

Acomb	8	Haughton Castle, N. Tyne	4
Addestone Twizell	1	Hexham	9
Allendale	2	-cemetery	12
Allenheads	3	High Warton	1
Alnwick	3	Holeyn Hall	4
-Hulme Priory	3	Kirkeharle, St Wilfred	1
Alston		Kyloe	67
-the Firs	5	Lartinhgton	33
-cemetery	6	Lastingham	1
-Bowles Hall	1	Lauder Grange nr Hexham	1

Barnard Castle		Lilburn Hall	9
-Bowes Museum	5	Linden Hall	91
Richardsons Fields	1	Longhaughton-St Peter and Paul	1
School	5	Long Horsley-Embleton Hall	1
Barningham	2	Low Dinsdale	4
Beanby	2	Matfen	2
Beaufront Castle	40	Mellon Pk nr Morpeth	2
Black Bitchburn	1	Middlesbrough	3
Broomhaugh	6	Marton Park	16
Wentworth Grange	2	Minsteracres	140
Capheaton	2	Middleton-One-Row	1
Chesters	1	Tower Hill	10
Chillingham	26	Middleton-in-Teesdale	2
Chipchase Castle	2	Morpeth	1
Corbridge	11	Mowden Hall	5
-cemetary	33	Newcastle-Jesmond Dene	1
Cragside	3	Nunwick	1
Croft	1	Oakwood/The Ridings, nr Hexham	12
Darlington (24 sites)		Ovington	4
Blackwell	7	Piercebridge (Croft)	1
Elm Ridge	1	Ponteland	3
Carmel Rd Convent	5	Preston	1
Polam	3	Raby castle	6
South Park	3	Ravenston nr Hexham	17
West Cemetary	2	Riding Mill	6
Denwick	1	Rokeby	2
Dilston Hall	8	Romaldkirk	2
Doxford Hall	8	Sadberge churchyard	1
Dukes House, nr Hexham	57	Hall	4
Elton	6	Sandhoe nr Hexham	2
Durham Botanic Gardens	1	Saltburn	1
-School	1	St Peters Lee nr hexham	4
Eaglescliffe	2	Startforth	1
Easington-Grinkle Park	8	Stockton-Norton lodge	2
Eglington	2	Sudbury Hall	2
Eggleston	4	Temperley Grange nr Hexham	4
Ellingham	1	Thorpe Hall nr Wycliffe	2
Eshott	1	Twizell	1
Etal	1	Upleatham	1
Falldon	1	Wallington	1
Forcett Park	5	Warke	2
Glandon	1	Whitfield	35
Gilling West	1	Whorlton Graveyard	4
Gt Ayton	3	Wilton	1
Guisborough Hall	4	Windlesham Hall	1
-Hutton Hall	8	Wolsingham	2
Hamsterley	10	Wooler	1

Haltwhistle	1	Humbleton Buildings	4
Hartlepool	4	Wycliffe	7
Haydon Bridge	2	Grange	2
Harperley Hall	3	Wynyard	1
Hartburn	4	Wylam	4
		Yarm	6

Notes and Records

The Mud Snail *Omphiscola glabra* Müller (Lymnaeidae) in Upper Teesdale



Omphiscola (formerly *Lymnaea*) *glabra* is a rather distinctive member of the pond snail family (Lymnaeidae) with an elongate shell and an attractive horn or amber shell colouration. It is a habitat specialist, associated with shallow, often seasonal, nutrient-poor soft-water pools and ponds (Kerney, 1999). Although sometimes found in enclosed pastures, *O. glabra* is essentially an invertebrate of unimproved land; in lowland Yorkshire, for example, most sites are associated with remnants of former Common land.

This mollusc is vulnerable to land drainage, agricultural intensification and eutrophication from artificial fertilizers. For this reason it has declined severely during the past century and

it has recently been added to the extended list of UK Biodiversity Action Plan Priority Species. It is also a key species in the Local Biodiversity Action Plan for County Durham.

Omphiscola glabra has a widely scattered distribution in Britain with strongholds in South-west England, Cheshire and the Humberhead Levels and Vale of York. However, modern records are relatively sparse with only around 67 post-1960 hectads mapped by Kerney (1999).

The sites from which I have previously known *O. glabra* – Strensall Common, Skipwith Common, Pilmoor near Thirsk and Heslington Tilmire near York – are all below 30 metres AOD. I was therefore interested to see it recorded (as *Lymnaea glabra*) in J.C. Peter's detailed study of the ecology of Tarn Dub, a sub-montane pond in Upper Teesdale (Peters, 1972). Tarn Dub (NY 854 286) is a complex of natural pools and ponds formed between the foot of Cronkley Fell and a low ridge of moraine known as Tarn Rigg. Water levels fluctuate so that it forms a single elongate water body in spring and recedes to a few perennial pools in autumn. Peters (1972) provides much information on its water chemistry and nutrient status.

Peters recorded *O. glabra* during the period 1965-67, though he did not single the species out for any special mention in his report. It was pleasing, therefore, to find it in good numbers at Tarn Dub on 24th October 2007, including both juveniles and mature adults. A number of empty shells were found under stones in a dried-up part of the tarn, presumably individuals which had died during aestivation. At an elevation of 418 metres, Tarn Dub contrasts with the very low-lying sites in which *O. glabra* occurs in the central lowlands of Yorkshire. However, its association with

impermanent oligotrophic standing water seems consistent (my water sample produced an electrical conductivity measurement of only 70 $\mu\text{S}/\text{cm}$, which indicates solute-poor – though not necessarily acidic – conditions).

Tarn Dub lies within the traditional biological recording Vice County of North-west Yorkshire (VC 65) but is in Teesdale district, County Durham.

I am grateful to Robert Merritt for checking my identification, and to the North East office of Natural England for arranging access permission for Tarn Dub, which is part of Moor House National Nature Reserve.

References

Kerney, M. (1999). *Atlas of the land and freshwater Molluscs of Britain and Ireland*. Harley Books: Colchester.

Peters, J.C. (1972). The ecology of Tarn Dub. *The Vasculum*, 57 (3): 42-50.

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Corn buttercup in a Middlesbrough garden

Corn buttercup (*Ranunculus arvensis* L.) is a formerly widespread arable flower which has declined massively resulting in its being listed as a Priority Species for conservation in the UK Biodiversity Action Plan.

A very small population has occurred for at least five years in my mother's garden on clayey soil in Acklam (NZ 47- 17-), varying from one to six plants amongst a herbaceous border. No wildflower seed mixtures have been sown here, so its origin is a mystery. The house is post-WWII and possibly on former arable land but plants have been swapped with other gardeners or bought from garden centres and bird seed is provided during winter. Consequently the population could have originated from the soil seed bank, as an accidental introduction with herbaceous plants or as a bird seed contaminant.

It would certainly be difficult to claim this as an indigenous population of corn buttercup but then arable weeds have often spread as a result of human movement of grain and soil. These corn buttercups are nurtured for their attractiveness and curiosity value if nothing else.

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