

Quercus ✱ 21 July

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The International Dendrology Society (IDS) and the International Oak Society (IOS) organized a *Quercus* Study Day at Chevithorne Barton in the UK. The event sold out shortly after tickets were made available and was very well attended (particularly for a Friday during a train strike!) by over 40 participants. While most attendees were IDS members from the UK, the IOS was represented by a handful of members, both from the UK and overseas (US and Uruguay).

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View of the Rifle Range

A little history

Chevithorne Barton is an ideal site for a study day focused on oaks. It is one of four National Oak Collections in the UK (accredited by Plant Heritage in 2009) and, with 398 taxa (220 species, 13 subspecies, 19 varieties, 32 hybrids and 114 cultivars), it is the largest and most comprehensive *Quercus* collection in the country. It was created by Michael Heathcoat Amory (1941–2016), who started collecting oaks in his ‘spare time’, as he put it, around 1984. What began as an interest became over time an obsession, and one that gave him much pleasure. Michael had inherited Chevithorne Barton at the age of 25 in 1966 and planted his first oaks in the 5-hectare garden by the house. This soon proved too small and the planting area was extended to orchards, small woods, and fields adjacent to the garden, so that the quercetum virtually encircles the house (Heathcoat Amory 2009).



Auditorium in the barn

Chevithorne (as it is known to friends) is located in Devon in south-west England, which enjoys less sunshine than counties to the east but considerably higher rainfall. In winter Chevithorne tends to suffer one or two cold spells, interspersed with warm periods. It receives its fair share of snow and frost, and on occasion sub-arctic winds that have caused some damage. But Michael was confident from the start that oaks would grow well at Chevithorne, based on the knowledge that *Quercus robur* (English oak) was the dominant hedgerow tree in his part of Devon (Heathcoat Amory 2012). Michael chose to collect oaks, as he wrote in the preface of his 2009 book, *The Oaks of Chevithorne Barton*, because the genus has such variety and encompasses so many outstanding species, and also because oaks through the ages have been of vital importance to man in so many different ways: "I thought then it would be an interesting, if challenging, genus to collect and a quarter of a century later I have not changed my mind" (Heathcoat Amory 2009).

The first oaks were bought from UK nurseries, initially from Hillier Nurseries and from James Harris of Mallet Court Nursery, just when James was transitioning from a focus on *Acer* (which earned him the nickname 'Acer Harris') to one on *Quercus* (which earned him a Lifetime Service Award from the IOS in 2018). Other UK suppliers were used later, including Burncoose Nurseries, Susan Cooper, Dulford Nurseries, Bluebell Nursery, Junkers Nursery, and Pan-Global Plants. Many of the rarer oaks, however, come from expeditions that Michael helped finance. The first expedition was carried out by Michael Hickson, Head Gardener at Knightshayes Court, an estate nearby with Heathcoat Amory family connections. Hickson went to Mexico in 1994 and brought back a good selection of acorns, not all of which had names. Thus began the collection of Mexican oaks at Chevithorne Barton, which today represent about a quarter of the collection. An important contributor to increasing the

number of taxa in the collection was Allen Coombes, who Michael contacted when he was botanist at the Sir Harold Hillier Gardens and Arboretum. Many oaks were received from friends and acquaintances, at first within the UK, but later from abroad, especially after Michael joined the International Oak Society (1994). He became a life member of the IOS in 1996 and continued to support it generously for the rest of his life. Through the IOS, and the expeditions he helped to finance, he was able to receive material from plant collectors including Béatrice Chassé, Shaun Haddock, Michael Heseltine, Tom Hudson, Eike Jablonski, Thomas Methuen-Campbell, Keith Rushforth, Guy Sternberg, and others, as well as make contact with many European nurseries.

A little phylogeny

The Oak Study Day began in the cleverly adapted barn, where bales had been set out for rustic seating and tarpaulins had been hung to sufficiently shut out sunlight for the presentations. Our host for the day, Ed Amory, welcomed us and introduced his vision for the future of the Chevithorne Barton oak collection started by his father. Together with his wife, Alice, they have already made significant changes to incorporate the whole garden into a cohesive design, rather than a series of sectioned off 'rooms'. They have also planted *Betula* (birch) and *Hamamelis* (witch-hazel) collections that will add considerably to the garden's future. As for the oaks, Ed is keen to maintain the quality of the existing collections and plans to extend Chevithorne's oaks by creating an oak woodland in a new section of the grounds across the road from the house.

Following the introduction, we got into the hard-core 'study' part of the day, with a presentation by Roderick Cameron that introduced the genus and summarized the currently accepted taxonomy. A handout with the key chart from the ground-breaking paper by Denk et al. (2017) had many participants scratching their heads but nevertheless laid the groundwork for understanding what we were to see as we visited the collection. The main subgenera and sections in *Quercus* were outlined, each with its main distinguishing features and examples: sections *Cerris*, *Ilex*, and *Cyclobalanopsis* in subgenus *Cerris*, and sections *Quercus*, *Lobatae*, *Protobalanus*, *Virentes*, and *Ponticae* in subgenus *Quercus*. Roderick also described current thinking regarding the origin and evolution of the genus. The mostly British audience was somewhat shocked to learn that the iconic oaks of the UK's woodlands and parks (*Q. robur* and *Q. petraea*) derive from a lineage that originated in North America. Despite its technical density, the presentation was well received and several participants requested electronic copies, made available following the study day.

Ready for some fresh air after the studious start to the day, we ventured into the collection itself, split into two groups for convenience and comfort. Each group counted with two leaders to guide, inform, and to answer the many good questions asked by the stimulating group of participants. Tom Christian,

botanical horticulturist and dendrologist, currently Assistant Editor of the IDS's monumental online encyclopedia, *Trees and Shrubs Online*, teamed up with Chevithorne's Head Gardener Greg Watson to lead one group, while we led the other. Setting off in opposite directions, we covered roughly half of the collection, leaving the other half for the afternoon's outing.

The collection

The oaks are planted in clearly defined areas which radiate out from the house, named according to their main feature or previous use, with further subdivisions distinguished by compass point. The older plantings, closer to the house, can be found in the areas by the Sheep Dip Hedge, Tennis Court, and Swimming Pool. Emerging from the improvised auditorium, our group began from behind the house with a marvellous *Q. schottkyana*, which has grown remarkably fast (currently the British Champion). It was adorned with attractive maroon new growth that commanded attention, as did a shrubby, suckering *Q. intricata*. A Mexican hybrid oak, *Q. rysophylla* × *sartorii*, planted here in 1992, is another British Champion, reaching a height of 12 m in 2017 (Tree Register 2024); a *Q. acherdophylla* nearby also holds the equivalent title for its species (14 m tall in 2014), while next to it grows a *Q. durifolia* planted in 1989, the first Mexican oak to be planted at Chevithorne, outsized by an imposing *Q. castaneifolia* 'Green Spire' planted three years earlier.



Quercus eduardi

Moving along a row of *Q. phillyreoides* planted as a hedge (a use not uncommon in Japan where it is native), now formidable in size and in need of some judicious pruning to hold it back, we advanced towards the tennis court and reached a monumental *Q. affinis*, which has put on a few more metres in height since it was measured by Owen Johnson at 13.5 m in 2017. Of the Mexican oaks it is probably the one with the most vigorous growth, but due to its dense canopy can sometimes be prone to snow damage. Beyond the tennis court awaited an attractive

group of section *Lobatae* (Red Oaks) from the US: *Q. incana*, *Q. nigra*, *Q. texana*, *Q. rubra*, and the rarely seen cultivar *Q. palustris* 'Umbraculifera'. Originally



Quercus lamellosa

described as a variety in 1920, this cultivar, with an attractive, rounded canopy, is one of seven *Q. palustris* cultivars in the collection, while the species itself was one of the first to be planted at Chevithorne in 1977. Though North American section *Quercus* (White Oaks) have not grown very well at Chevithorne, mainly because they require a longer period of sunshine in autumn, section *Lobatae* oaks generally thrive and, in some years, produce spectacular colour. Small differences in local weather and soil conditions can have a significant impact on colour: a species at Kew in London, about 250 km to the east, can be showing a startling red and yet be a dull brown at Chevithorne.

The oaks are not grouped according to section or region of origin, meaning that participants could test their understanding of oak systematics acquired during the introductory presentation and try to place the trees according to leaf lobing, acorn maturation, type of bark, etc. Next we moved into the welcoming shade of the Woodland Garden, which is divided into North and South sections by the stream that runs across it. The trees here have grown into a dense canopy allowing for an attractive understory of smaller shrubs. In this section grow several large oaks, including *Q. ×hispanica* 'Ambrozyana', planted in 1995, *Q. crassifolia*, and *Q. rehderiana*, both planted in 2003. North of the stream we saw a magnificent *Q. lamellosa* from the Himalayas, certainly one of the highlights of the whole collection, with a fine globular habit and delicate, pink new growth.

From the Woodland Garden we moved out into the large open space of the Rifle Range, an area which in the past was used for target shooting. Here the

south-facing slopes have created perfect conditions, especially in combination with the usually good rainfall. The landscaping in this area reflects the former sporting use of the land: straight, wide walks follow the lines of sight between shooter and targets, dividing the area into shapes that have been named as two triangles and a pentagon, all filled with widely spaced oaks that display their assets as specimen trees.

On entering the Rifle Range from the Woodland focus was drawn by a magnificent Red Oak, formerly known as *Q. texana* New Madrid Group, displaying the vibrant wine-red spring flush the ortet was selected for. It is worth pointing out, as Roderick reminded us, that the pronunciation of the name is not what non-US folk would expect: the stress is on the 'a' of MAD-rid, not as in the capital of Spain. In any case, the group of seedlings from a tree found by Guy Sternberg in New Madrid County, Missouri, US, can no longer be referred to by the name 'New Madrid', which is reserved for plants that have been propagated vegetatively from the plant that Guy selected from the seedlings of the tree he found. Siblings of the original 'New Madrid', together with its seedlings, are now known as *Q. Red Flush Group* (Russell et al. 2021). The tree at Chevithorne has grown vigorously, with a striking, uniform pyramidal crown, another characteristic of the original tree.¹

Here too we admired many of the Mexican oaks that have grown so well, including *Q. crassifolia*, *Q. rugosa*, *Q. sartorii*, and *Q. acutifolia*. Again, the Red Oaks from Mexico tend to perform much better in cultivation here than the White Oaks, which are more common in hotter and drier areas in Mexico and need a lot of heat to ripen the wood (Battle et al. 2017). But most Mexican oaks have grown well at Chevithorne and their drought tolerance certainly make them tree species to be considered for future planting.

The Rifle Range includes many hybrid oaks and so provided a good opportunity to discuss oak promiscuity and its consequences. A notable one is *Q. ×vilmoriniana*, an intercontinental hybrid between *Q. dentata* and *Q. petraea*, mostly sourced from a tree that used to grow at the Arboretum National des Barres in France (the two specimens at Chevithorne, one of which is a British Champion, 8m tall measured in 2017, are in fact grafted).² The tree in the Rifle Range was laden with acorns and growing more vigorously than either of its parents. We learnt how its seedlings tend to display widely ranging characteristics, allowing for selection for attractive leaves (from *Q. dentata*) and hardiness (from *Q. petraea*). Other hybrids of note we saw include *Q. ×morehus*, *Q. ×bushii*, and a British Champion *Q. ×sternbergii*, the recently named hybrid between *Q. buckleyi* and *Q. shumardii*.

Returning towards the house we entered an area which was formerly orchards, now known as Walnut Orchard and Tapir Orchard (the last due to

¹ It has recently been determined that the tree Guy Sternberg selected is in fact a hybrid, so the correct name of the cultivar is now *Q. palustris* × *texana* 'New Madrid' (Russell 2021).

² The original tree, now dead, has been named 'Maurice de Vilmorin'.

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Quercus guyavifolia



Quercus poilanei

the fact that some of these charming and affectionate animals were kept there by Michael's wife Arabella, before the Dangerous Wild Animal Act of 1976 made it impractical to keep them). Here another ambience has been created, reminiscent of the orchards that preceded the oak plantations, with large trees starting to form a canopy but retaining open spaces. Several rare Asian species were to be admired here, including *Q. rehderiana*, *Q. longispica*, *Q. hildebrandii*, *Q. griffithii*, *Q. oxyodon*, *Q. monimotricha*, and *Q. kiukiangensis*, collected by Allen Coombes in Yunnan in 2004, and later identified by Min Deng. The standout Asian oak is a young seedling of the Critically Endangered *Q. marlipensis*, extremely rare in cultivation, propagated as a cutting off a tree grown by Tom Hudson at Tregrehan. Of particular interest is *Q. tungmaiensis*, originally received as an unidentified species collected by Keith Rushforth at 3,000 m in Tibet. For many years it defied identification until Allen Coombes was able to match it to a specimen he found on the Chinese Virtual Herbarium, incorrectly labelled as *Q. leucotrichophora* (Battle et al. 2017). Also Asian is the British Champion *Q. guyavifolia*, another star of the collection, whose beautiful leaves, dark glossy green above, are covered in tawny tomentum below. A few other Asian species share the feature of golden undersides, many of which we saw at Chevithorne (eg *Q. aquifolioides*, *Q. pannosa*, *Q. poilanei*), as do a few non-Asian species, like, for example, *Q. alnifolia* from the Troodos Mountains in Cyprus.

A final (or initial, depending on the group one was in) treat was a visit to the greenhouse and polytunnel. Traditionally this was always a highlight



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Critically
endangered
Quercus
marlipensis

of Michael's oak weekends, when he would invite a select group of oak cognoscenti to admire his latest acquisitions and exchange views and plants. On a raised bed next to the greenhouse we saw rarities like *Q. baloot*, brought by Shaun Haddock from the mountains on the Afghanistan/Pakistan border, and *Q. euboica*, found on the Greek Island of Euboea and recently determined to be distinct from *Q. trojana*, which it closely resembles but differs from in its shrubby habit and leathery leaves with white, tomentose undersides (Coombes and Cameron 2021). In the polytunnel, which is packed with young plants waiting to be planted out, we discussed a Himalayan plant that appears to be the true *Q. lanata*; for many this is the same as *Q. leucotrichophora*, but for others it can be distinguished by its larger, wider leaves with dense golden-yellow tomentum, in contrast to the lighter, white to light yellowish tomentum of *Q. leucotrichophora* (Verma 2020).

This extensive and fascinating tour of the oaks was punctuated by a buffet lunch laid out in the barn, after which we attended the second talk of the day, given by Head Gardener Greg Watson. In his presentation, Greg gave an intelligent appraisal of the techniques being used to propagate oaks in the collection. When the *Red List of Oaks* came out in 2020, James MacEwen went through it and found we had nearly 20 species in the collection that were listed as being under threat. We decided to instigate a policy of propagating these species to distribute to other arboreta. Grafting was not considered an ideal option as several of our oaks have failed when their grafts snap, as a result, perhaps, of the wind that is now coming in stronger gusts and changing directions. A sad example of this is the beautiful *Q. 'Maya'*: we had two specimens, planted in different locations, both of which were twisted off at the graft. So we decided to take cuttings from our threatened oaks to try to propagate them. Will Woodman (Head Gardener at the time) started the process and in the first year had some success with *Q. insignis*, *Q. uxoris*, and *Q. sagraeana*. Greg has now built an enlarged and more professional propagating unit. Successful cuttings have mainly been from evergreens, but we hope other species will take in the future. Greg demonstrated the best way to take the semi-hardwood cuttings, and described which substrates have given good results. It is important for a collection the size of Chevithorne's not

only to be an interesting quercetum for people to visit and learn from but also to have a strategy for conservation and research.

A note of colour and worthy of mention is the remarkable gift that one of the participants presented to the President of the IOS. Chris West is a woodturner and a recent member of the IOS. For this event, he had made two large acorns (about 7 cm long), one turned from *Q. robur*, and the other from offcuts of around 15 different exotic woods. For this second acorn, the pieces of wood were sanded and glued to each other before being turned. The different woods used are of contrasting colors and grains, and they include *Juglans regia* (walnut), *Q. robur*, *Buxus sempervirens* (box), *Peltogyne* sp. (purple heart), *Dalbergia melanoxylon* (African blackwood), *Dalbergia latifolia* (Indian rosewood), *Fagus sylvatica* (beech), *Olea europaea* (olive), *Casuarina* sp. (she-oak) and stabilized, dyed *Acer negundo* (box elder) burl (West 2023). Indeed a unique gift to be treasured!

Our Study Day ended with tea and cakes in the barn, by then a welcome respite following an active and intellectually stimulating day. The event was closed off in style by Chevithorne's Vegetable Gardener John Black, formerly a Pipe Sergeant in the Scots Guards, who warmed our hearts with a stirring performance on the bagpipes.

We would like to thank Ed and Alice Amory for receiving the IDS and the IOS at Chevithorne Barton for this study day.

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