



Oak News & Notes

The Newsletter of the International Oak Society, Volume 21, No. 2, 2017



Twenty-six participants from ten countries plus local hosts at Plaček Quercetum © Guy Sternberg

Oak Open Days in Czech Republic Celebrate IOS 25th Anniversary

by Shaun Haddock

Twenty-six participants from ten countries arrived to take part in the European celebration of the IOS's 25th birthday at Dušan Plaček's Quercetum near Poděbrady in the Czech Republic. The main event ran from early afternoon on July 21st to the afternoon of the 23rd, but some members arrived as early as the 19th, and by the evening of the 20th there was a quorum sufficient to dine together in the event hotel, Hotel Golfi, where we lodged. After our night's stay we departed by bus the next morning to view the gardens within the grounds of Prague Castle, which offer superb and enticing views over the city. The next stop for the group was for lunch just outside the entrance to Průhonice Park, where excellent logistics by Dušan's team ensured that the remaining participants were able to join us to complete the group for

our first "official" visit of the event in the Park itself.

From the entrance, a modest garden leads into Průhonice Castle. After passing through an arch, we found ourselves on a terrace overlooking a steep-sided valley with a lake, beside which was a tree of enormous significance for Dušan and thus for oak collecting in the Czech Republic. Our mentor for the entire event, Ondřej Fous, described how this *Quercus imbricaria* showed Dušan that oaks have great diversity of leaf shape, and that a collection of oaks would be much more rewarding in terms of interest and variety than *Fagus*, Dušan's original preference. We wandered along paths through forested hills and riverside meadows in this delightful landscape park before returning to the hotel, where during dinner we enjoyed a showing of Dan Keiser's excellent collation of IOS events

over the years, *Quercophiles Abroad*. After dinner, Allen Coombes, who had come all the way from Mexico to participate, made a presentation.

The following day was our much-anticipated visit to Dušan's Quercetum in Kanín. The property has had a checkered history, having been inherited by the daughter of a Czech Prime Minister between the wars, before being used during the Communist era to contain a range of aeries designed to block the signal of Radio Free Europe. Dušan acquired it in 1998, and work commenced both on the house and on returning some sort of order to the garden, including the removal of overgrown and dead trees.

Winter cold limits the range of oaks that can be grown in the open ground: whilst mild winter lows are between -10 and -15 °C, -29 °C has been measured, and this spring there was frost in May, with two late frosts at a three week interval. However, a protected bed, a new "trench" area (to be covered in winter), and a large greenhouse extend the range of possibilities.



Twenty-fifth Anniversary Banquet at Poděbrady Castle. During the splendid six-course dinner, Guy Sternberg recalled some IOS history and IOS President Charles Snyers offered warm words of gratitude to Dušan and his team, then announced the recipient of the Michael Heathcoat Amory award (see p. 12). As the evening was drawing to a close, Dušan presented all participants with a gift box containing two Bohemian-crystal tumblers with the IOS logo engraved in the base. © Christof Van Hulle



Dirk Benoit and Dušan Plaček plant *Quercus xschuettei* 'Silver Shadow', in commemoration of IOS's silver (25th) anniversary, while Dan Keiser documents the event. © Shaun Haddock

Annual rainfall is a miserly 480 mm, but there is groundwater.

Many of Dušan's trees come from expeditions he has sponsored, the first being to Turkey in 2008. Planting from this expedition has been carried out in closely planted groups of the same species from the same location, and thinning will be carried out as necessary – an interesting idea and one that remains close to nature. Josef Souček, who also accompanied us during the event, had recently made an expedition to China (2013).

Of course Dušan had to have a *Q. imbricaria*, and paid a very significant sum of money for some large plants. However, the adage that one should plant young was clearly borne out, as young plants have already caught up these veterans. (For a detailed account of Plaček Quercetum, see *International Oaks* No. 26, pp. 77-88.)

Poděbrady Castle is only a short walk from our hotel, so in the evening we arrived on foot at this suitably grand venue for the IOS's superb "birthday party" dinner, where happily we could thank Dušan and his team Ondřej, Josef, and logistical star Adéla Kratochvilová. Dušan's sponsorship of all the transport and of the birthday celebration was more than generous.

The next morning we returned to visit the woodland which surrounds Dušan's Quercetum, a floodplain forest of *Q. robur* and home to much wildlife, with management to encourage two rare species of butterfly. Next was Žehuň Park, an interesting natural savanna on a bluff overlooking a river valley where *Q. cerris*, *Q. petraea*, *Q. pubescens*, and *Q. robur* grow in proximity, mixed with *Crataegus*. This was followed by lunch there in hunting lodge ambience (deer



The new "trench" area for tender oaks in Plaček Quercetum
© Christof Van Hulle

being much in evidence in the Park). The afternoon took us to the superb Kostelec Arboretum, whose Index Plantarum runs to 172 pages: sadly our visit was all too short; however the sorrow of our departure was mitigated by generous libations of *Aronia* wine and *Sorbus domestica* slivovitz.

Thus ended the “official” Oak Open Days, to be followed by two “unofficial” days. Next morning we were at the Průhonice Dendrological Garden, where a discussion about weeding prompted a quote I can’t resist from Lloyd Kenyon: “How can you tell a weed from a rare plant? If you pull on them, the rare plant comes out easily.” The Garden combines research into and preservation of plants suitable for the region with educational and environmental awareness programs.

It is impossible in such a short newsletter article to do justice to the kaleidoscope of experiences which awaited us in the Czech Republic, but much fuller coverage will appear in due course in the Journal, and more photographs of the event can be viewed on the IOS website. 🌿🌿

9th International Oak Society Conference - October 22-24, 2018

by Emily Griswold

We are delighted to announce that the UC Davis Arboretum and Public Garden will host the next International Oak Society Conference on the University of California, Davis campus. The Conference Committee is planning a full slate of field trips, engaging speakers, hands-on workshops, a massive seed exchange, and Pre- and Post-Conference Tours to California’s most magnificent oak landscapes.

Conference Theme

“Adapting to Climate Change – Oak Landscapes of the Future” will be the theme of the Conference. The global issue of climate change has hit home in California as we have endured extreme heat, historic drought, and record rainfall over the last decade. These climate conditions have significantly impacted natural and cultivated oak landscapes in our region and forced us to reconsider strategies for how we approach urban forestry, natural areas management, biodiversity conservation, and sustaining our culture and values. The Conference Program will span these broad topic areas as well as how research into climate models, oak evolution, and oak natural history can



Cork oak (*Quercus suber*) avenue at UC Davis © UC Regents

give us fresh insights into how we can learn from the past to prepare for the future.

Call for Session Proposals

The Conference Committee is currently seeking proposals for oral presentations, poster presentations, lightning talks, and hands-on workshops. We are introducing lightning talks for the first time this year as a fast, fun way to hear and share a diversity of ideas. These strictly timed five-minute talks consist of 15 slides that advance automatically every 20 seconds. Please visit the Conference webpage at <https://goo.gl/ntW2JL> to download Conference Session Topics, instructions for the Call for Session Proposals, and to access the online submission form. Proposals must be submitted online and will be accepted until December 1, 2017. Presenters will be notified by March 15,

Donations Sought for Silent Auction

The first IOS silent auction was held at the 8th IOS Conference in 2015 at the Morton Arboretum. By all accounts the auction was a success, raising \$2,138 in total, with the proceeds going towards a scholarship fund to help students get to the next Conference. Members really made this event special, donating items such as books, rare oak seedlings, jewelry, photographs, *International Oaks* Journal sets, and artwork. In anticipation of the 9th Triennial Conference in 2018 at UC Davis, we would like to solicit donations from the membership once again. If you have items you would consider donating, please contact Ryan Russell at russellry76@yahoo.com or Emily Griswold at ebgriswold@ucdavis.edu for more information.

2018 at the latest about the acceptance of their proposal, and the full Conference Schedule will be released in spring of 2018.

Conference Tours

Two sequential Pre-Conference Tours and two sequential Post-Conference Tours are being planned to allow options for varying travel schedules and budgets. Tour destinations will include a variety of wild and cultivated oak destinations in California's diverse and spectacular landscapes of the Sierra Nevada, Central Valley, North Coast Range, San Francisco Bay Area, and Central Coast. More details on tour dates and itineraries will be posted on the IOS website as they are finalized.

About the Conference Host

The University of California, Davis is a public land-grant university with top-ranked research programs in agricultural and environmental sciences. The UC Davis Arboretum and Public Garden encompasses the landscape of the full 5,300-acre campus, including a 100-acre arboretum, an urban campus core, natural areas, and agricultural lands. In-Conference field trips will explore the management of oaks in these diverse settings, ranging from wild populations along Putah Creek to urban street trees on the campus core to the research and conservation collections in the Arboretum. Oaks figure prominently across these campus landscapes and have shown resilience in our changing climate. The crown jewel of the campus oak collection is located in the Arboretum's Peter J. Shields Oak Grove, where over 100 species and hybrids grow in a grove of mature trees started in 1962.

About the Conference Venue

The Conference will be held at the Conference Center on the University of California, Davis campus. Lodging will be available within walking distance of the Conference Center at Hyatt Place Hotel and the Hallmark Inn.

Davis, California is a small city of 70,000 residents with a friendly, walkable downtown and growing art, music, and food scenes. A true college town, Davis life revolves around the university, but the community is also known for its year-round Farmers Market, bicycle-friendly culture, and extensive parks and greenbelts. Davis is centrally located in California near the Sacramento International Airport and is also within easy driving distance of the Napa Valley and the San Francisco Bay Area.

Conference Committee

Committee members include Emily Griswold, Shannon Still, Stewart Winchester, and David Muffly. Questions about the Conference may be sent to :

conference2018@internationaloaksociety.org 🌿🌿

OAK ARTISTS

Harriet Blum's Live Oaks

by Roderick Cameron

The subject of the latest addition to our Oak Artists series is Harriet Blum, whose work straddles the media of photography and painting: her idiosyncratic technique involves infrared film photography and hand-coloring with translucent oils and pencils.

Harriet was born in Philadelphia, Pennsylvania, USA, grew up in Miami, Florida, and moved to New Orleans, Louisiana after college. It was here that she came across the ancient live oaks (*Quercus virginiana*) that would become one of her favorite subjects, along with nineteenth-century houses, commercial buildings, and churches.

She describes herself as a self-taught photographer, and became fascinated with the darkroom process while working in a hospital's darkroom in New Orleans. She began using black-and-white infrared film and later added hand-tinting, creating a unique personal style.

Despite the important role the darkroom process plays in her work, for Harriet the key is in seeing the image and moment she wants to capture. "Many artists create art from a blank canvas or a chunk of clay," she says. "For me, the art is first in "seeing" something special, whether it is as mundane as rotting boards on a house, or as beautiful as the landscape in a swamp. After "seeing" that special something, I record it on film. Only then do I have an idea of where that "moment in time" will take me."

Photographing large live oaks presents specific challenges. "Most of my experience photographing oaks is in Louisiana," she says. "These Southern live oaks



The Fairchild Oak by Harriet Blum



Live Oak with Fern and Moss by Harriet Blum

spread their branches out in many directions and it's impossible to get a good photograph of the whole tree without a wide angle lens—a very wide angle lens—unless you are far away. In most of the photographs I have taken of oaks, I have used black-and-white infrared film. This film gives the pictures a soft, dreamy, ethereal look. I then hand-tint the photograph using transparent oils. I have found with this film and other black-and-white films, it's best to shoot on a cloudy or overcast day as detail in the shadow areas will be more visible if not in harsh shadows. Of course, digital has changed everything and the problems with using infrared film are often less of a challenge or can be manipulated later in the computer. I still prefer the look of infrared film, but since I have moved and don't have my darkroom anymore, I am not using film like I used to.”

Harriet Blum's photographs can be found in the collections of several museums in Louisiana and other cities in the United States, and her series *Swaying Softly: Trees of the South* was featured in a one-woman-show at the Ohr-O'Keefe Museum of Art in Biloxi, Mississippi. She has received numerous awards in competitions around the US (see her website www.harrietblum.com for details). Prints of Harriet's works are available in a variety of sizes, on paper or canvas. Some original hand-tinted photos of the trees pictured are available, but not as many size options as the prints. More information on her website or etsy shop: www.etsy.com/shop/HarrietBlum



Frost Damage in Aiken

by Ryan Russell

Following a very mild South Carolina winter, many species of plants had begun to break dormancy by mid-March, nearly a month ahead of schedule, setting the table for a potentially disastrous situation. On the night of March 15, overnight lows dipped to 17 °F in the county and around 19 °F in the City of Aiken. Many species of trees and shrubs had already begun pushing growth and some, such as azaleas, rhododendrons, and oaks, were already in flower. That temperature drop reduced many of those plants to droopy, blackened representations of their former selves, more closely resembling wilted lettuce than valuable landscape plants. Bob McCartney took a tour around the

Species that remained dormant, largely unharmed by the frost at Aiken

<i>Q. acerifolia</i>	<i>Q. engleriana</i>	<i>Q. laeta</i> (Mexico)	<i>Q. saltillensis</i>
<i>Q. acherdophylla</i> (Mexico)	<i>Q. faginea</i> – pendant form	<i>Q. ×leana</i>	<i>Q. senescens</i>
<i>Q. ×alentejana</i> – pendant form	<i>Q. faginea</i> subsp. <i>alpestris</i>	<i>Q. longispica</i> (China)	<i>Q. similis</i>
<i>Q. aliena</i> (Vietnam)	<i>Q. geminata</i>	<i>Q. look</i>	<i>Q. sinuata</i> var. <i>sinuata</i>
<i>Q. arizonica</i> ¹	<i>Q. gravesii</i> ¹	<i>Q. lusitanica</i>	<i>Q. ×sternbergii</i>
<i>Q. arkansana</i>	<i>Q. grisea</i>	<i>Q. michauxii</i>	<i>Q. suber</i>
<i>Q. bicolor</i>	<i>Q. greggii</i> (La Siberica strain)	<i>Q. montana</i>	<i>Q. texana</i>
<i>Q. boyntonii</i>	<i>Q. havardii</i> × <i>stellata</i>	<i>Q. nigra</i> × <i>myrtifolia</i>	<i>Q. tomentella</i>
<i>Q. buckleyi</i>	<i>Q. ×heterophylla</i>	<i>Q. obtusata</i>	<i>Q. tristis</i> (Guatemala)
<i>Q. ×comptoniae</i>	<i>Q. hinckleyi</i>	<i>Q. palmeri</i>	<i>Q. turbinella</i>
<i>Q. candicans</i>	<i>Q. hinckleyi</i> hybrid	<i>Q. prinoides</i>	<i>Q. ×turneri</i>
<i>Q. castanea</i>	<i>Q. hypoleuroides</i>	<i>Q. pungens</i>	<i>Q. ×undulata</i>
<i>Q. coccifera</i> (Greece)	<i>Q. ilex</i> (Portugal)	<i>Q. pyrenaica</i> ¹	<i>Q. vacciniifolia</i>
<i>Q. durata</i> (Durango, Mexico)	<i>Q. imbricaria</i>	<i>Q. rotundifolia</i>	<i>Q. ×vilmoriniana</i>
<i>Q. ellipsoidalis</i>	<i>Q. invaginata</i>	<i>Q. sadleriana</i>	<i>Q. ×warei</i>

¹ Swollen buds appeared to be unharmed

Species that were damaged the most

<i>Q. acutifolia</i>	<i>Q. dentata</i> subsp. <i>yunnanensis</i>	<i>Q. john-tuckeri</i>	<i>Q. polymorpha</i> (South Texas)
<i>Q. acutissima</i>	<i>Q. dolicholepis</i>	<i>Q. laurifolia</i>	<i>Q. pubescens</i>
<i>Q. afares</i>	<i>Q. emoryi</i> ²	<i>Q. laurina</i>	<i>Q. pumila</i>
<i>Q. affinis</i> (Central Mexico)	<i>Q. fabri</i>	<i>Q. libani</i>	<i>Q. robur</i> (Fastigiata Group)
<i>Q. affinis</i> (Northern Mexico)	<i>Q. fabri</i> × <i>dentata</i> subsp.	<i>Q. lobata</i>	<i>Q. ×rosacea</i>
<i>Q. aliena</i> – near full leaf	<i>yunnanensis</i>	<i>Q. macrolepis</i>	<i>Q. rotundifolia</i>
<i>Q. aliena</i> (Vietnam)	<i>Q. faginea</i> subsp. <i>broteroi</i>	<i>Q. marilandica</i> var. <i>ashei</i>	<i>Q. rugosa</i> (New Mexico)
<i>Q. alnifolia</i> ¹	<i>Q. frainetto</i> ‘Trump’	<i>Q. mexicana</i>	<i>Q. rysophylla</i>
<i>Q. canariensis</i>	<i>Q. franchetii</i>	<i>Q. mohriana</i> × <i>stellata</i>	<i>Q. sartorii</i> (Northern Mexico)
<i>Q. canbyi</i>	<i>Q. fusiformis</i>	<i>Q. mongolica</i>	<i>Q. sartorii</i> (Southern Mexico)
<i>Q. castaneifolia</i> (full leaf)	<i>Q. garryana</i>	<i>Q. muehlenbergii</i> (Mexico)	<i>Q. similis</i>
<i>Q. cerris</i> (‘Wodan’ F ₂)	<i>Q. georgiana</i>	<i>Q. myrtifolia</i>	<i>Q. sinuata</i> var. <i>breviloba</i>
<i>Q. coccifera</i> subsp. <i>calliprinos</i>	<i>Q. graciliformis</i> ³	<i>Q. pagoda</i>	<i>Q. trojana</i> – small plant
<i>Q. cornelius-mulleri</i>	<i>Q. greggii</i> ⁴	<i>Q. parvula</i> ³	<i>Q. variabilis</i>
<i>Q. crassifolia</i>	<i>Q. griffithii</i>	<i>Q. petraea</i>	<i>Q. vaseyana</i>
<i>Q. crassipes</i>	<i>Q. haas</i> (<i>Q. robur</i> Haas Group)	<i>Q. petraea</i> subsp. <i>pinnatiloba</i>	<i>Q. virgiliana</i> (<i>Q. pubescens</i>)
<i>Q. dalechampii</i>	<i>Q. ilicifolia</i>	<i>Q. planipocula</i>	

¹ slight damage; ² swollen buds damaged; ³ swollen buds dead; ⁴ slight damage to stems

oak plantings in the Citywide Arboretum and relayed what he witnessed a couple of days later. In the interest of providing valuable information that others may use in their collections, we will list those species that were dormant and those that were hit especially hard, and describe how some of those plants came back after the damage.

The list of species that remained dormant and were largely unharmed include species like *Quercus bicolor*, but also includes a few species that may surprise readers (see table on previous page).

Unfortunately, there were many more species that had at least broken dormancy. Many of these had catkins and new growth ranging from 2 to 8 inches, which were completely killed back. The bright spot is that many also had a number of still dormant buds on older wood that might be the saving grace for these trees. (See table above for a list of the species that received the most damage.)

After waiting a few months to monitor how the dormant plants came out and how the plants that were frozen back regenerated growth, there were a few surprises.

The *Q. dalechampii* was killed to the ground and has not re-sprouted. This came as quite a shock considering it was a sizable tree nearly 20 ft tall. *Q. pubescens* was likewise totally killed to the ground and *Q. haas* was severely weakened and is struggling to recover. The *Q. acutifolia* has also died, but Bob reports that it appears to have succumbed to the oak wilt fungus (test results have not yet been received). Fortunately,

almost all of the rest have either recovered or are recovering nicely.

Not so fortunate is the acorn crop. Since most of the damaged species were in full flower during the freeze, species in the White Oak group will not have a crop this year. It appears the Red Oak species that had undeveloped acorns from last spring will have a decent crop, but they will not have a crop next season. Of the oaks that remained largely unharmed during the freeze, it appears many will have a crop, although it appears that the crop may be smaller than normal.

All in all, I am amazed at the resiliency of plants, oaks in particular, to endure such a setback and be able to outgrow the damage inflicted upon them (there's a lesson for us in there somewhere). In a couple of years the great freeze of '17 will be all but forgotten in Aiken.



First Time Ex-Situ Reproduction of *Quercus insignis*

by Roderick Cameron

An acorn from a specimen of *Quercus insignis* growing in Hackfalls Arboretum in New Zealand germinated earlier this year. This is very likely the first time this species has successfully reproduced outside its native habitat—and it has done so in a place about as far as you can get from its home in Mexico and Central America. The seedling sprouted in Eastwoodhill Arboretum, the National Arboretum of New Zealand,



Seedling from a *Quercus insignis* acorn collected in Hackfalls Arboretum, growing in Eastwoodhill Arboretum, March 2017 © Dan Haliday

and will be planted there in due course.

Quercus insignis acorns were collected by legendary centenarian Mexican oak collector Bob Berry and Peter Murphy in 1989 near the city of Huatusco in Veracruz, Mexico. Three trees grown from those acorns grow in Bob's Hackfalls Arboretum and at least another

four were given away as seedlings and grow in other places in New Zealand. One of the Hackfalls trees was the first one to produce acorns in 2016, at 27 years old. Acorns from this species are the largest in the genus and have an unusual shape: the acorn is a squat disk, much broader than high. Also unusual is the fact that it sprouts from the base, which may be related to the fact that due to its shape it is likely to sit base-down after falling to the ground, rather than lie horizontally like other acorns that sprout from the tip. (On the other hand, *Q. alnifolia* acorns, which are long and cylindrical, also sprout from the base.)

According to Dan Haliday, Curator at Eastwoodhill Arboretum, the story behind the seedling is not devoid of drama. The excitement began when Diane Playle, manager at Hackfalls, spotted an immature acorn on the lower branches on one of the *Q. insignis* in the arboretum in early 2016 (summer in NZ). "The week after Diane's discovery," said Dan, "[Plant Collection Assistant] Dan Taylor and I drove up to Hackfalls on a seed-collecting mission for Eastwoodhill. While wandering among the extraordinarily diverse collection of exotic and native trees and shrubs we happened upon the *Quercus insignis* tree. Dan remarked on the large acorn and was about to pluck it off the branch. My heart lurched and I let out a yelp: "DON'T TOUCH THAT ACORN!" Of course, he thought he was in mortal danger... which he nearly was! I quickly explained he had very nearly destroyed the rarest acorn in New Zealand."

A ventilated sack was tied around the branch and

acorn to protect it from future mishaps and a second acorn was subsequently spotted higher in the tree. On a later visit, Eastwoodhill staff found that the acorn in the sack had detached, but the second one had disappeared. Despite the challenges of sloping ground and grazing sheep, this second, larger acorn was eventually located and both were presented to Bob, who measured and photographed them, and offered any resulting seedlings to Eastwoodhill.

The Hackfalls tree did not produce acorns this season, so it remains to be seen how often these trees will fructify. Based on leaf shape it would appear that the seedling is a hybrid, which is indeed a likely outcome in this case. Nevertheless, the seedling will perpetuate the female parent's genes, and the fact remains that this is the first record of this species producing viable seed outside its native range. 🌱🌱

CULTIVAR CLOSE-UP

Hi-Yo Silver!

by Roderick Cameron

In a tradition that has been traced to medieval Germany and perhaps Ancient Rome, it was customary to celebrate the 25th anniversary of a couple's wedding by presenting the wife with a wreath made of silver. The quarter-of-a-century anniversary thus came to be known as the Silver Anniversary. Later the same tradition was applied to the anniversary of a monarch's coronation, where a Silver Jubilee marked 25 years on the throne, or indeed to any entity that reach a 25-year mark. Also part of this custom is the Golden Jubilee, which marks a 50-year anniversary. Other jubilees were added later, mostly associated with gems or metals, in order of increasing value and durability: 40 is ruby, 60 is diamond, and 70 is platinum. The 80-year mark is extra special and goes beyond what precious stones or metals can offer: it is known (how else?) as the Oak Jubilee.



Variegated acorn on *Quercus robur* 'Argenteomarginata' © Roderick Cameron



Quercus macrolepis 'Hemelrijk Silver' in
Chevithorne Barton, Devon, UK
© James MacEwen

As we celebrate 25 years of the IOS, we take a look at oaks that have an association with silver. In our Species Spotlight on page 9, Joeri Strijk describes *Quercus argentata* (the epithet derives from the Latin word for silver: *argentum*) and below are three well-known cultivars with silver associations. These might be good choices for a ceremonial planting in honor of the IOS's 25th, and indeed such a planting

occurred during the Oak Open Day in Czech Republic, where a graft of *Quercus* \times *schuettei* 'Silver Shadow', a brand new cultivar recently published in International Oaks No. 28, was planted in Plačok Quercetum (see p. 2). Another graft will also be planted at the Anniversary Celebration at Starhill Forest Arboretum in September.

Quercus macrolepis 'Hemelrijk Silver'

This cultivar was selected in Hemelrijk, a Belgian garden created by renowned horticulturists Robert and Jelena de Belder. The name of the garden derives from the Flemish words for "heaven" and "kingdom". Grown from seed collected by the de Belders on the Greek island of Rhodes, the tree has large, bluish-grey leaves, particularly the new growth. This species also has attractive acorns, with conspicuous revolute scales. Much ink has been spilled about whether *Q. macrolepis* should be ranked as a subspecies of *Q. ithaburensis* (see Michael Avishai's "Vallonea or Aegilops Oaks, a Short Review" on the IOS website for further detail), but the cultivar was registered with "*macrolepis*" as the species epithet, originally as *Q. macrolepis* 'Hemelrijk' in 1996, later amended to 'Hemelrijk Silver', so as not to repeat the cultivar epithet of *Q. ellipsoidalis* 'Hemelrijk', another de Belder selection.

Quercus cerris 'Argenteovariegata'

The variegation on the leaves of this cultivar of Turkey oak is creamy-white, but the overall effect is a silvery sheen that justifies the name and makes it an attractive and popular selection. The cream-colored edge on the leaves is wide and irregular, and some-

times creamy patches occur or the variegation extends to the central vein. It is readily available in European nurseries and, being relatively resistant to frost, it would be a good choice for collections outside warmer climates (a notable specimen grows in Inverewe Gardens in the Scottish Highlands). It is an old cultivar, thought to have been introduced before 1864. According to *The Hillier Manual of Trees and Shrubs*, it is a "most effective variegated tree," though it occasionally produces reverting green shoots that should be promptly removed.

Quercus robur 'Argenteomarginata'

This is also an old cultivar, introduced in 1873, and like *Q. cerris* 'Argenteovariegata' the leaves have irregular white variegation, but to a lesser extent, mostly at the margins but sometimes extending almost to the midrib. An added attraction is that the immature acorns are also variegated, with green and white longitudinal stripes, somewhat like a miniature watermelon. Several other 19th century "argent" cultivars of *Q. robur* have been registered by the IOS in its role as International Cultivar Registration Authority (e.g., 'Argentea', 'Argenteopicta', 'Argenteo-variegata', etc.), but 'Argenteomarginata' is the one that is more commonly seen in nurseries and collections.

Other argents

A group of horticultural plants collected from Western Texas, originally described by William Trelease under the name *Q. sinuata* f. *argentata*, are now known as *Q. sinuata* var. *breviloba* Argentata Group. The leaves are more elongated, crisped and deeply lobed, and very silvery beneath. Finally, several of Allan Taylor's selections of *Q. undulata* have provisionally been given silver-themed names ('Quick Silver', 'Silver Bullet', and 'Silver Tip'), but they have not been registered yet. 🌿



Quercus cerris 'Argenteovariegata' in Inverewe Gardens, Ross-shire, Scotland
© Andrew McMillan

SPECIES SPOTLIGHT

Quercus argentata Korth.

by Joeri Strijk

Quercus argentata is an evergreen tropical oak native to the islands of Borneo (absent in Brunei), Sumatra, and Western Java, as well as to Peninsular Malaysia. On Mount Kinabalu in Borneo this species is found in lower montane forests up to an elevation of 2,700 m above sea level. It was first described by Pieter Willem Korthals in 1842. It is in section *Cyclobalanopsis* and the epithet *argentata* refers to the silvery hairs on the lower surface of its leaves.

Within the region where *Q. argentata* occurs, around 20-25 species of *Quercus* can be found. They occur in lowland mixed dipterocarp to montane forest, from sea level up to 3,350 m elevation, but are most commonly found between 600 and 1,500 m above sea level, on sandy clay or sandy loam and ultrabasic soils overlying sandstone or granite substrates. The species is similar in appearance to *Q. nivea*, with which it shares the distribution range in Borneo (Sarawak) and Peninsular Malaysia.

Quercus argentata can grow up to 40 m tall, with a DBH of up to 1 m. Buttresses reach up to 1-1.5 m high. Bark is generally dark brown, with a smooth surface and pale lenticels in vertical lines, sometimes with horizontal cracks. The inner bark is brown, laminated to granular, up to 2 cm thick. The sapwood is pale colored, sometimes a little yellow. Twigs are glabrous, densely lenticellate, and greyish brown. Terminal

buds are ovoid to globose, 2-3 × 2-2.5 mm, tomentose with stellate or simple hairs, glabrescent. Stipules are densely hairy, linear-acute shaped, ranging from 3-5 × 1-1.5 mm.

Leaves are spirally arranged, coriaceous, glabrous and glossy above, tomentose with dense silvery stellate hairs on the lower surface. Leaves are glabrescent, variable in shape from elliptic to oblong, lanceolate, or ob-



Quercus argentata: branch with young fruits, Western Sumatra, Indonesia
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lanceolate. Sizes usually range from 10-18 cm long to 4-7 cm wide, with an attenuate, rounded, or acute, slightly asymmetrical base. Margins are entire and revolute, and apices sharply acute to acuminate. Acumen short, up to 5-15 mm long. Midrib and nerves strongly prominent beneath, impressed above, between 10-18 pairs of lateral veins, parallel, arching near the leaf margin, forming an angle of 50-75° with the midrib. The intercostal venation is scalariform, but not very clear on either surface. Petioles are slender, 1-4 cm long, blackened at the base, adaxially flat, grooved, or sulcate, without hairs.

Male inflorescences are 5-10 cm long in paniculate clusters of 3-4 on lateral shoots; bracts ovate-acute, 1.5-2 × 0.5-1 mm, densely tomentose with simple hairs. Perianth is five-lobed, connate at the base, hairy, with six stamens and filaments hairy at their base. Female inflorescences are many-flowered, slender, 2-3 cm long, densely covered with simple hairs. Bracts and bracteoles are linear-acute, 0.5-1 mm long. Perianth is 4-6-lobed, densely tomentose outside; ovary conical, styles 3-4, free and slightly recurved and pubescent with long golden-brown hairs at their base.

Young cupules are turbinate or ovoid-conical, flattened or rounded at the top and attenuate at base. The 8-12 lamellae are thin, dentate, with dense brownish tomentum, covering up to 1/3 of the acorn. Mature cupules are cup-shaped, obconical or obovoid and densely pubescent, with 8-10 free lamellae which are denticulate at the rim. Acorns are elongated conical, cylindrical, or ovoid-globose, 2-3 × 1.5-2 cm, usually dark chocolate-brown when mature and generally glabrous. The apex is rounded or acute, and the base is rounded. The flowers appear in July-September, with the onset of fruiting starting in the same year in October and continuing until May of the following year. Infructescences are persistent on the tree.



Plate from *Verhandelingen over de natuurlijke geschiedenis der Nederlandsche overzeesche bezittingen*. Botanie by Pieter Willem Korthals



Quercus argentata: Habit of branch and arrangement of leaves © Center for Asian Conservation, Kyushu University CIBNOR

Within the broader tropical region where *Q. argentata* grows, several hundred species of *Fagaceae* can be found. Of these, 90 species belong to *Quercus*. The updated con-

servation status for *Q. argentata* and most of these *Quercus* species is uncertain. We know fairly little on their ecology and the numbers grown ex situ are small. Alarmingly though, over a third of these (33 spp.) were ranked on the Red List of Oaks in 2007. As Asia experiences some of the highest pressures on its forest resources and remaining natural habitat, it is to be expected that this number has increased over the past decade and an urgent update of the current status is needed, to be followed by measures to ensure the future survival of the amazing diversity in the Asian oak assemblage. 🌿

An International Accreditation Program for Arboreta

by Roderick Cameron

ArbNet is an interactive community of arboreta, sponsored and coordinated by [The Morton Arboretum](#) in cooperation with the [American Public Gardens Association](#) and [Botanic Gardens Conservation International](#). Its Arboretum Accreditation Program recognizes arboreta at various levels of development and capacity, based on an arboretum's collections and curation, education and public programming, scientific research and conservation initiatives, governance, and staff or volunteer support.

The network was created to facilitate the sharing of knowledge, experience, and other resources to help arboreta meet their institutional goals and to help raise professional standards. Through ArbNet, arboreta from around the globe can work collaboratively as part of a broad network to help advance the planting and conservation of trees. The accreditation program offers four levels of accreditation, recognizing arboreta of various degrees of development, capacity, and professionalism. Accreditation is based on self-assessment and documentation of an arboretum's level of achievement of accreditation standards.

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Standards include planning, governance, labeling of species, staff or volunteer support, public access and programming, tree science, planting, and conservation. These standards, and indeed the entire concept of ArbNet (which includes the registry, the website, and the accreditation program), were established to overcome the lack of definitions, guidelines, and an identifiable network specifically geared to arboreta.

The program provides guidance based on best practices, as well as tools to help organizations pursue and achieve accreditation. Any arboretum or other types of public gardens with a substantial focus on woody plants is eligible to apply for accreditation through the program. Examples of institutions that can qualify include botanical gardens, cemeteries, zoos, city tree collections, historic properties, college campuses, corporate campuses, nursing homes, nature reserves, and municipal parks.



Another driving force behind ArbNet, for the good of the overall arboreta community, is for the larger, well-resourced arboreta to provide guidelines, models, expertise, and inspiration for smaller arboreta, so that the entire network is stronger, more connected, and together is advancing the quality and capacity of tree-focused gardens. It is for that reason that it is so important to have large gardens as part of the accreditation program, so that they can provide leadership and guidance to the broader community. ArbNet uses many of the programs, documents (e.g., collections policies), and publications of level III and IV arboreta as resources for smaller arboreta to adopt and learn from. It is a valuable way for a higher level arboretum to exert leadership and influence.

Among its achievements in its first six years, ArbNet has built capacity for smaller gardens and non-traditional arboreta like cemeteries, municipalities, and retirement communities. These organizations are tapping into audiences that traditional gardens don't

always readily access, broadening public awareness of the importance of trees and increasing the quality of curation of living tree collections.

The strength of the ArbNet network is its diversity – from major leading arboreta to lesser known but earnest gardens. By sharing perspectives and experiences, the network aims to build capacity, collaboration, and best practices for tree-focused gardens around the world.

As of July 2017, ArbNet has accredited 186 arboreta in 13 countries, including 20 arboreta with strong connections to IOS members (see a list of them in the web version of this article in the Articles section of the IOS website). If you have a documented collection of oaks or other plants, you should consider applying—it's free!

More information is available at www.arbnet.org.



BOOK REVIEW

Ancient Oaks in the English Landscape.

Aljos Farjon, Royal Botanic Gardens, Kew, 2017. 348 Pages.


by Roderick Cameron

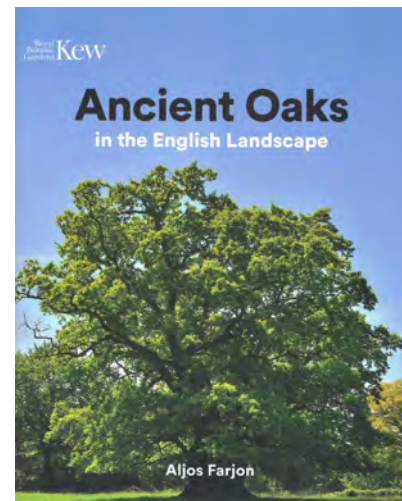
There are more ancient oaks in England than in all of continental Europe. How is that possible? One would expect to find the reasons in aspects of climate or soil, but Aljos Farjon has come up with a different answer: it is humans and in particular privileged hunters, rather than the environment, that are responsible. When the Normans conquered England's green and pleasant land in 1066, they were delighted by the hunting grounds they found in forests there. To ensure they were not spoiled, they created Royal Forests, chases, and deer parks, where only the nobility could hunt or keep deer, and where wood cutting was forbidden. They thus became early conservationists, for different reasons than today's environmentalists, perhaps, but effective nevertheless.

The oaks in these protected forests continued to be preserved in later centuries, due in part to the private ownership of parks (the principle of primogeniture kept estates entire through the generations, in contrast to the subdivisions dictated by the Napoleonic Code in Europe) and the conservatism of landowners. Other contributing factors were the availability of timber overseas and the absence of ruining wars. By the time modern forestry took hold in England after World War I, it was too late to destroy the worthless old and hollow oaks. In continental Europe, modern forestry was introduced over 200 years earlier, with devastating results for ancient trees. The result of this combi-

nation of factors is that England has a unique population of ancient oaks (*Quercus robur* and *Q. petraea*) that are highly important for biodiversity.

Botanist Aljos Farjon, born in the Netherlands and formerly on the staff of the Royal Botanic Gardens, Kew, is well known for his work on conifers, having published several books on the subject. Now retired and an Honorary Research Associate at Kew, he has focused his passion for dendrology on the ancient oaks of England, his adopted country, and applied his skills as a writer, scientist, and photographer to telling the story these veteran trees. And a thrilling story it is, beginning with a detailed account of the various stages of an oak's life cycle (formative, mature, veteran, and senescent), moving through painstaking data analysis concerning the trees' distribution and dimensions. Much of the information derives from the author's own research, with the remainder made available by "citizen science" (data gathered by volunteers across the country). Ancient oaks in Europe are also considered and analyzed, with Sweden taking second place in the rankings: southern Sweden has substantial numbers of oaks with girths ≥ 6.00 m, though in an area similar to England there are only about one third as many ancient oaks as there in England. The impressive biodiversity associated with oaks is described in a separate section of the book, where the significance of veteran oaks for fungi, lichens, and invertebrates is explained by three experts in these fields.

Ancient Oaks in the English Landscape combines botanical and historical insights, eloquent graphs and maps, and beautiful photographs of stunning oaks. It is highly recommended for anyone with an interest in oaks or dendrology. 



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Earl Cully (1927-2017)

by Guy Sternberg

Earl Cully, 90, of Jacksonville, Illinois passed away on Wednesday, May 31, 2017 at his home. Earl was a long-time member of the International Oak Society and participated in several of our Conferences. Early in Earl's life he developed a passion for trees and he was nurtured by several mentors including horticulture professor J.C. McDaniel of the University of Illinois, who shared his knowledge and ability to "see" and evaluate woody plants. Earl mentored many others himself, beginning with teaching Guy Sternberg how to graft in 1970 and later bringing younger people such as Josh Nadler and Aaron Atwood under his wing. Earl formed a wholesale deciduous seedling nursery in the 1960s. He selected, patented, and trademarked many trees, including his best-known cultivar Heritage® river birch. In the early 1980s, Earl founded Heritage Trees, Inc., a company that selected and



introduced cultivars of shade trees to the nursery trade. Earl's hybrid oak selections include Heritage®, Regal Prince®, and Kindred Spirit®. Earl's passion for trees and people will leave a growing legacy of superior cultivars for the landscape and nursery industry and a love for trees in the lives of those that he mentored.



Michael Heathcoat Amory Award to Help Fund *Quercus arbutifolia* Micropropagation Project

by Roderick Cameron

A committee of past IOS Presidents has granted the [Michael Heathcoat Amory Award](#) to Dr. Qiansheng Li for his project "Micropropagation of the rare ring-cupped oak *Quercus arbutifolia*." This rare oak, native to montane cloud forests of subtropical China and southern Vietnam, is currently listed as Vulnerable by the IUCN Red List, and its endangered status may in fact be worse due to low acorn production. The main objective of Dr. Li's proposal is to optimize the reproducible micropropagation protocol for mass multiplication of this species. Micropropagation has become a reliable and routine approach for large-scale rapid plant multiplication, and as such, the technique is of key importance for ex-situ conservation efforts.


IOS Service Awards

Call for Nominations

The International Oak Society Service Awards honor individuals (non-members as well as members of the Society) who have devoted significant long-term efforts to the genus *Quercus* and or the advancement of the goals of the IOS. There are two types: the **Lifetime Service Award** (for individuals who are retired) and the **Special Service Award**. Recipients will be selected by the IOS Board prior to the 2018 Conference at UC Davis, where the Awards will be presented. IOS members are invited to nominate anyone they consider deserves an IOS Award. Nominations for both Awards should be sent before January 15, 2018 to the IOS Secretary, Gert Fortgens, secretary@internationaloaksociety.org along with a note specifying the reasons for the nomination.

The project will evaluate different tissue culture media and growth media for the different stages of the micropropagation process (shoot regeneration, shoot proliferation, rooting, and acclimatization) and will aim to standardize the protocols and procedures involved.

This award is in memory of Michael Heathcoat Amory (1941-2016), renowned oak collector, creator of the collection at Chevithorne Barton, and longtime supporter of the International Oak Society. The MHA Award will contribute £ 2,000 to the funding of the project, which is also supported by other institutions in China. The funds for the award were raised in a collection taken at Michael's memorial service and presented to the IOS for this purpose by his widow. Dr. Li will present the results of the project during the 9th International Oak Conference at UC Davis, California, in October 2018.

For more information about *Quercus arbutifolia* see the Proceedings for the 8th IOS Conference (*International Oaks* No. 27, pp. 171-180). 

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