



Oak News & Notes

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New Champions in New Mexico

by Ryan Russell

I enjoy finding giant trees and always keep an eye open and a tape measure handy. Some of my finds are only giants in the sense that they are large for their species, such as my National Champion *Prunus hortulana* (30 ft tall). When my family and I got the chance to traipse around New Mexico in the fall of 2016, acorns and photos were not the only things on

mens of *Quercus hypoleucoides* in the Gila National Forest on the first day of the 2016 Tour. The largest measured in at 81 ft tall, 84 in circ., and 63 ft spread for a total of 180.75 points. That is good for the new NM State Champion for its species. On that trip we also measured the new State Champion Englemann spruce (*Picea englemannii*) on top of the Sierra Blanca range, which came in at 300 (145 ft tall, 145 in circ., and 40 ft spread) total points.



Quercus emoryi, Grant County, New Mexico, 60 ft tall × 75 ft crown spread
© Ryan Russell

my mind. I also brought my tape measure. For those not familiar with U.S. champion tree programs, the formula of height (feet) + circumference (inches) + 25% of average crown spread (feet) = total points. I personally do not care for the fact that only one quarter of the spread is counted, but that's a fight for another day.

Monster Silverleaf Thanks to Michael Meléndrez's knowledge of the state, he put us on some large speci-

Elk Mountain Mammoth In the fall of 2017, Michael Meléndrez held a second installment of the previous year's trip through New Mexico. Again, armed with my trusty tape measure I was anxious to get going. Michael had told us we would be seeing some huge Gambel oaks (*Q. gambelii*) on this first portion of the Tour and he was not kidding. After seeing a number of very large single-trunk Gambel oaks along a private drive, we ended up on Elk Mountain in the Gila NF. Michael knew of a huge Gambel oak growing in a mixed stand of ponderosa pine and Arizona cypress. This tree measured 75 ft tall, 221 in circ., 54 ft spread for a total of 309.5. It is the new NM State Champion and potential National Champion.

Enormous Netleaf The next day found us exploring Catwalk Canyon, near Glenwood, NM. We were excited to get a chance to see netleaf oak (*Q. rugosa*) among other desirable species. As we scrambled up through the canyon (past a certain point, the trail was wiped out by a flood) I noted a large *Q. rugosa* that I planned to stop and measure on the way back to the truck. After a nice walk, I stopped to measure the tree in question and with a score of 118 total points it is

the new NM State Champion.

Gargantuan Gray Driving through the Coronado National Forest, in Hidalgo County, to see the National Champion *Q. grisea*, we walked up the little draw where Michael thought it was. We looked and looked, but couldn't seem to locate it. After about an hour, we finally found its remains. Apparently, it was hit by lightning, or a forest fire took it out and all that remained was a charred stump. A bit let down, we continued along Geronimo Trail, enjoying the flora. About a mile from where the former champ once stood, I saw a huge tree down in a bottom along a dry stream. I hollered at Michael to stop the truck and I bailed off into the head-high brush as Michael reminded me to watch out for rattlesnakes! The risk was worth it, as the huge gray oak was in fantastic shape, had lots of unique character and measured 60 ft tall, 203 in circ., and 72 ft spread for a total of 281 points. It is the new NM Champion and potential National Champion.

Grant County Giant Following a lead shared with us by Anna Forester, we drove to Grant County, NM to visit the site of a large Emory oak (*Q. emoryi*). Tsama Pineda led us through the property to a huge oak. It was truly impressive and had a large spread. Remains of what I could only imagine were an old mountain lion kill were lodged in the tree, which only added to the coolness factor. This new State Champion and potential National Champion tree measures 60 ft tall, 209 in circ., and 75 ft spread for a total of 287.75.

Big Blue We headed towards Lincoln, NM to revisit the area made famous by Billy the Kid and his Regu-



Quercus grisea, Coronado National Forest, Hidalgo County, 17½-ft girth
© Ryan Russell

lators in the 1880s. Nearing the Capitan Mountain Range, around the town of Arabela, we began to see Mexican blue oak (*Q. oblongifolia*). We stopped to check for acorns and I measured a tree I thought was a large specimen. Happy about that encounter, we continued on. However, a mile or two down the road we spotted a truly huge specimen growing

right along the road. It made the first one seem puny and measured 48 ft tall, 161 in circ., and 54 ft spread for a total of 222.5. This again is the new NM state champion for its species and is the pending National Champion.

A Bonney Chinkapin The last standout on this trip was another from Lincoln County where Billy the Kid (aka William H. Bonney) once roamed. Almost by mistake, we stumbled upon a fantastic specimen of chinkapin oak (*Q. muehlenbergii*), not a huge tree by eastern standards for this species, but certainly large in this region of the country. We noticed a large chinkapin oak near an old homestead. We wanted to take a look at it but no one was home to get permission from. Then as we were leaving, a neighbor came down and asked us what we were doing. When we explained we wanted to take a look at his neighbor's tree, he mentioned that he had one even larger, and gladly took us to his tree. It was larger indeed and even after losing a portion of the canopy years earlier it still measured 45 ft tall, 138 inches circ., and 51 ft spread for a total of 192.75 points. Not large enough for National Champion contention, but it is the new NM State Champion for the species.

Again, I'd like to thank Michael Meléndrez for leading the Tour and sharing with us areas and trees not often seen by others. 🌿



Tour leader Mike Meléndrez next to 17½-ft girthed new State Champion *Quercus emoryi*
© Ryan Russell

The Israel Oak Registry

by Ezra Barnea

In May 2017, I went to visit Edie & Guy Sternberg in [Starhill Forest Arboretum](#). Guy convinced me to submit a proposal to present in the upcoming 9th IOS Conference in Davis, California. So I wrote a proposal and named it “*Reforestation of Mount Tabor Oak in the Low Land of Israel*”.

Later that year, I was referred by a close friend to a question on Facebook submitted by a tourist guide who was looking for large Mount Tabor oak trees (*Quercus ithaburensis*) in my neighborhood. It took

me a few minutes to put together a list with details of 10 monumental trees out of my collection of over 250. As I was sending the list out, it occurred to me that I should gather and plot my information on a map. The next morning, I decided to develop a map which would allow the registration of all the oak trees in Israel. I select-

ed a geographic information system (GIS) platform and by pure luck got [Noam Etzioni](#), who I didn't know at the time, to develop an application for me, free of charge. This map is a suite combining three elements: an [online presentation map](#), an [online survey app](#) that allows the registration of an oak tree by anyone using a mobile phone, and a [dashboard](#) which shows statistical analysis of the data gathered on the map.

The aim of the Israel Oak Registry is to identify, measure, and register the location of all oak trees in Israel, wild or planted, including introduced species, that have a diameter of 50 cm or more. The project is intended to serve the tourist, hiker, research person, nature and tree lover, and anyone who has a passion for oak trees. It is implemented using [ArcGIS suite by Esri](#). The registry is online and can be accessed here:

<https://goo.gl/ARFFsr>. The site is mostly in Hebrew, but you can use a browser's translate function to view it in English or the language of your choice.

Every tree has a card with different details which include:

- Species ID
- Common name of the tree
- Accurate location [GPS coordinates]
- Shape description
- Source – i.e., wild/planted
- Size
- Tree condition [3 parameters]
- Image gallery



Quercus ithaburensis in Nordia on the Sharon Plain in central Israel, girth: 322 cm © Ezra Barnea

The tree card has about 20 different fields that can be used for a complete description. The map includes a layer that allows the editor to outline and describe a specific area of land, such as a garden, park, hill, etc.

The system relies on the participation of nature lovers to register trees, in order to cover the entire

country. As of August 2018, over 1,050 trees have been registered, about half of which have a complete detail card. Aside from native species (*Q. ithaburensis*, *Q. calliprinos*¹, *Q. boissieri*², *Q. cerris*, *Q. look*), three introduced species are included in the registry: *Q. suber*, *Q. ilex*, and *Q. robur*.

In March this year, I received the invitation to participate in the IOS Conference as a presenter. So I decided that before submitting my presentation I would set out to register every oak with a diameter of 50 cm or more in the low land, or Sharon plain. I tried to get a TV reporter to join me and film this project. This reporter could not join me, but he suggested I keep him posted on my progress.

At the beginning of May this year, I decided to focus

¹ For some authors: *Q. coccifera* subsp. *calliprinos*

² For some authors: *Q. infectoria* subsp. *veneris*

on the area of Paredes Hana, a region known as Karkur forest, which was covered with a forest of Mount Tabor oaks until the end of the 19th century and still had some trees left behind. After four weeks of field work, I realized that this area still contains hundreds of trees, 20% of which have a main trunk exceeding 85 cm in diameter. I was stunned and my excitement has not faded since then. Even in my wildest dreams I had not imagined the presence of such a large group of big, magnificent, impressive, noble oak trees.

This discovery generated many initiatives for preservation, publicity, education, and much more. The TV reporter I had contacted, who was still unable to support this activity, referred me to a Channel 10 program, London and Kirshenbaum. The people there invited me immediately, the day after they heard about my project. You can view the interview, with English subtitles, here: <http://www.goo.gl/NP3N6c>

The development of this map is in its early stages. Next steps include a graphic field guide for the oaks of the region, a user manual for measuring and registering trees, and improvement of both graphic and function displays. This suite is open to all, developed nonprofit system with the aim of sharing knowledge for the benefit of society. 🌿

Bob Berry (1916 – 2018)

by Roderick Cameron

Bob Berry, renowned oak collector and longtime member of the IOS, died August 2, 2018 at the age of 102 in Gisborne, New Zealand. Bob described himself as a sheep and cattle farmer who collected trees as a hobby. His life's work is [Hackfalls Arboretum](#), a 50-ha plantation of trees and shrubs comprising over 3,000 taxa from 478 genera, including the largest oak collection in the Southern Hemisphere (453 accessions, c. 160 taxa) and one of the finest collections of Mexican oaks anywhere. One wonders what the result would have been had tree collecting been more than just a hobby.

Bob was an unequalled source of knowledge on many subjects, especially species of hardy trees. His formal education covered only primary school, and he was home schooled for secondary schooling before embarking on his farming career. He inherited in 1950 the farm which his family had bought in 1916, the year he was born, and farmed it till 1984, when he retired and his niece and her husband took over the stock side of the station, as farms are referred to in New Zealand.

He began planting trees on the station while he was still farming it, in the 1950s, and maples and poplars were an early interest (for "interest", read 160 *Acer*

taxa and probably the most complete collection of the hybrid poplar gene pool in New Zealand, c. 220 accessions). He soon noticed how well oaks grew on his farm and *Quercus* became a main focus of his collecting efforts. A key catalyst was the nearby [Eastwoodhill Arboretum](#) and the friendship with its creator

Douglas Cook (see [Oak News & Notes Vol. 18, No. 2, pp. 8-9](#)). Many of Hackfalls' first oaks originated as acorns collected there or as gifts from Douglas. Bob joined the [International Dendrology Society](#) in 1977 after they visited Hackfalls, and it was through this institution that he first visited Mexico in 1981, on what was to be the first of six trips to the country, with acorn collection as the main objective. Subsequent trips involved hiring a driver or taxi and driving thousands of kilometers through the Mexican highlands, stopping by roadsides to collect acorns. In this way, Bob established a collection of some 50 different Mexican oaks, one of the top collections of these species worldwide.

His attitude to trees was down to earth: "I don't even hug trees," he once declared in an interview, "my attitude is entirely scientific and intellectual. I leave mysticism to others." Taxonomy of Mexican oaks is a complex matter, but Bob's considerable knowledge, based on the detailed study of a copy of Trelease's *The American Oaks* (1924), allowed him to hold his own on the subject with professional botanists and specialists. He understood the importance for collections of diligent documentation: singlehandedly he catalogued the vast plantations at Eastwoodhill in 1967, teaching himself to type in the process and studying German in order to use Krüssmann's *Manual of cultivated broad-leaved trees and shrubs* as a reference. His catalogs of his own arboretum were exemplary, from handwritten lists as early as 1963, through typewritten sheets starting in 1972, to word



Bob Berry during a visit by the IDS in 2016, standing in the shade of a *Quercus rysophylla*, grown from seed he collected in 1989 in Chipinque, Nuevo León, Mexico © Harriet Tupper

processing files in the 90s. Aged 92, Bob converted all the records to the FileMaker Pro database system to allow inclusion of photographs and GPS locations. The catalog was published as CDs, on a website, and in 2016 as a handsome hardback book. Allen Coombes remarked on reviewing the 3-CD catalog in 2011: "This is one of the most complete and detailed listing of any collection that I have seen published and it is very useful . . . It should also serve as a guide to what other collections could be doing."

An early member of the IOS (1996), Bob attended the 1997 California Conference. An article he contributed to [Oak News & Notes in 1999](#) is typical of his rigorous and independent approach to botanical matters. In it he questions the fact that two taxa (*Quercus affinis* f. *subintegra* (A.DC.) Trel., and *Q. ocoteifolia* Lieb.), of which he has observed living specimens that precisely match Trelease's description, are no longer differentiated and are considered to be synonyms of other names. He received an IOS Lifetime Service Award in 2012, to add to his string of well-deserved recognitions, among others: Associate of Honour of the Royal New Zealand Institute of Horticulture (1991), the Eastwoodhill Centennial Award (2010), and the Ronald Flook Award from the New Zealand Arboricultural Association (2011). In addition, Hackfalls Arboretum was designated as "a collection of outstanding merit" by the IDS in 2002.

Hackfalls includes a fine homestead garden, beautified in great measure by Lady Anne Berry, whom Bob married in 1990. Lady Anne had led the IDS visit to Hackfalls in 1977 that was to indirectly provide the impetus for the Mexican oak collection. A renowned gardener in the UK, she founded [Rosemoor Garden](#) in Devon, which she donated to the Royal Horticultural Society when she married Bob and moved to New Zealand.

A full tribute to Hackfalls Arboretum and to Bob Berry will be published in the 2020 issue of *International Oaks*.



During an IDS visit to Hackfalls in 2016, Nick Seymour presents Bob the first copy of the *Hackfalls Arboretum Catalogue of Plant Collection* © Harriet Tupper

Action Oak

by Shaun Haddock

The oak has always been of great importance to the UK, albeit these days more in symbolic than practical terms: the "wooden walls" of the great fleets are an image of the distant past. Yet equally the axe had often been spared: the country claims to have more surviving ancient oaks than the rest of Europe put together. However, in this modern age of easy and rapid travel, tree maladies have become convinced globalists: every year it seems that some new affliction affects one tree genus or another. This malign trend has concentrated the minds of environmentalists in the UK, and has culminated in the launch of the Action Oak partnership at this year's



Chelsea Flower Show in London last May. The partners include all the environmental big hitters: the UK government Department of Environment, Food, and Rural Affairs (DEFRA), and the Scottish, Welsh, and Northern Ireland governments; the Forestry Commission and Royal Botanic Gardens Kew; the Duchy of Cornwall; and charities such as the National Trust, Woodland Heritage, and the Woodland Trust. A serious grouping indeed! The aim of the partnership is to protect oaks for future generations by:

- Working with owners and managers of oak trees and woodlands to help to protect the trees from a range of threats
- Funding research to improve understanding of the threats to oak trees and to inform best management practices
- Using established professional and citizen science networks to record changes in the distribution, age, and health of our oak trees to identify priority areas for action
- Encouraging organizations to join the Action Oak partnership and people to support Action Oak

Action Oak can be contacted at info@actionoak.org, you can follow [@actionoak](#) and the hashtag [#actionoak](#) on Twitter, and further information can be found on their website www.actionoak.org

UK members in particular, if not already doing so, may be interested in supporting this important venture.



Quercus wislizeni with Golden Yellow Pubescence Observed in Palomar Mountain State Park, California

by Dirk Giseburt

In October 2017, I visited Palomar Mountain State Park, San Diego County, California to collect acorns of the interior live oak, *Quercus wislizeni* (Section *Lobatae*), for an investigation of oak hybridization at that location. Following the first day on site, while reviewing the day's leaf samples, acorns, and photographs, a chance photo with an oblique view suggested that one individual *Q. wislizeni* bore yellow or golden hairs on the abaxial leaf surface. It was something I was not looking for, and neither my poor eyes nor my straight-on photos of abaxial surfaces had detected the yellow pubescence. It was a provoking image, as standard descriptions of *Q. wislizeni* say that the lower leaf surfaces are glabrous (and the upper leaf surfaces and acorns too). But more observations the next day and on a return visit in November 2017 confirmed it, and more.

What has been found so far is a population of 12-15 individual plants, within a 50-m square plot in the Park, showing primary characteristics of *Q. wislizeni*, yet bearing golden pubescence on abaxial leaf surfaces. The site is approximately 1,400 meters above sea level on a slope facing south to southwest. The photos from my cell phone do not capture the detail at all well, unfortunately. With a 10× hand lens, one can see trichomes of varying complexity, but neither my experience nor the degree of magnification can convey a good identification of the types of trichomes present. The density of trichomes varies among the individual plants. The abaxial surfaces mostly feel silky to the touch, but on one individual plant with the greatest density of complex golden trichomes, the texture to me is marginally rougher, more like velvet. So far, no other specimens of interior live oak with this feature have been reported in the Park, and standardized surveys for similar specimens have yet to be conducted in the area.



Close up of the yellow abaxial hairs © Dirk Giseburt

Sympatric with the interior live oak here are the canyon live oak, *Q. chrysolepis*, of Section *Protobalanus* (well known for its golden pubescence), two additional spe-



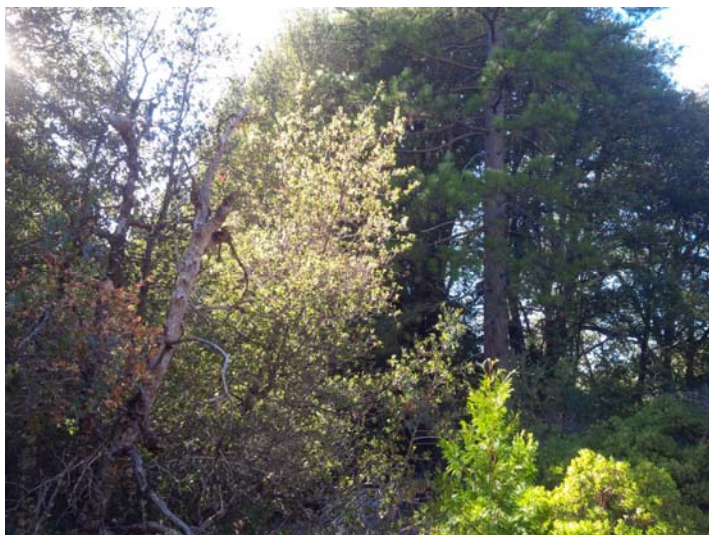
The first hint of unexpected yellow abaxial hairs on a *Quercus wislizeni*, circled in red. October 2017. © Dirk Giseburt

cies of Section *Lobatae*, *Q. agrifolia* var. *oxyadenia* and the California black oak (*Q. kelloggii*), and hybrids of the Section *Lobatae* species. (Personally I have also observed *Q. berberidifolia* and *Q. engelmannii* of Section *Quercus* at lower elevations on Palomar Mountain, but not in the area of study in the Park.) This group of interior live oaks more or less encircles a sloped clearing in the woods centered on a granite outcrop, with canyon live oak and California black oak neighboring the clearing as well. *Quercus agrifolia* var. *oxyadenia* specimens are not far away. Also in this neighborhood are *Abies*, *Calocedrus decurrens*, and *Pinus*.

The specimen with the greatest density of golden trichomes also appears to produce acorns of two distinct morphological types – one similar to acorns of the other *Q. wislizeni* in the neighborhood and one with coloring, pubescence, and apex contour more akin to *Q. chrysolepis* acorns at this site. Both types were collected from the plant, not the ground, but obviously genetic testing and/or repeated observations in subsequent years are important to determine if introgression forms the basis for these surprising characteristics.

Some of these individuals are “mere” shrubs, two to three meters or less in height. Others at least begin life with an arborescent habit, reaching up to six to ten meters. However, at this location, the central leaders of all the arborescent interior live oaks that are old enough to have checkered, fissured bark also show some dieback at the top, or have died completely. These plants have developed numerous younger shoots from the base.

The leaves of most of these plants are less than 40 mm in length and sclerophyllous, with spinose margins. There is a unique set of some ten stems with



Rather sparse foliage on two vigorous arborescent stems of *Quercus wislizeni*, backlit by the sun. The stem in the center-left is a side shoot from the base of the dead central leader further to the left. The smaller stem just right of center, next to the young *Calocedrus decurrens*, is probably a separate plant and not a clone of the larger plant. The *Q. wislizeni* are leaning north, away from the shade of a large *Q. chrysolepis* on the left. More large canyon live oaks are in the background behind the pine; *Arctostaphylos* sp. on the lower right. November 2017. © Dirk Giseburt

larger leaves (laminae up to about 65 mm), each arising from the ground to a height of four to six meters and arrayed in a kind of double file leading in one direction from a dead stump. Could it be an unusual clonal growth pattern? The leaves of this group are only irregularly spinose and bear plentiful erect white trichomes on the adaxial surface, as well as fewer white trichomes plus more minute golden trichomes across the abaxial surface. (I counted this group as just one plant in the total of 12 to 15 above.)

At this writing (July 2018), dried leaves from several samples taken in November 2017 continue to hold abaxial trichomes that, in the sun, have a rich and glinting, golden hue.

Seeds were collected in fall 2017 from 12 plants in this group. All of the collections produced seedlings. Except for the one seedling successfully grown from the “*Protobalanus*-like” seeds (which has relatively standard golden abaxial trichomes, a glaucous abaxial surface, and patches of discoloration consistent with glandular-hair secretions), none of these seedlings’ first leaves are showing golden hairs..

Genetic analyses of this group to test for introgression have not yet been performed. Perhaps instead of originating from a *Q. wislizeni* base this population starts from a *Q. agrifolia* that lost its leaf curvature and narrower acorns. The photos (even without fine detail) tell the observable story better than words. (Personally I need a great deal more education before I could reliably and consistently distinguish aristate from mucronate teeth.) One general comment is that

both the adaxial leaf surfaces and acorns of this group of *Q. wislizeni* tend to have some pubescence as well, which is not consistent with the description of the species type (glabrous on all counts). But one can also observe that, at this site, the acorns of *Q. agrifolia* var. *oxyadenia* and *Q. chrysolepis* generally sport some pubescence, too – even sometimes dense and cakey – even though the type descriptions say “glabrous.”

In addition to the interior live oaks with gold abaxial trichomes, there are two or more plants in the same plot that lack gold trichomes, at least on my examination, and another half dozen or so individuals that have not been examined.

Members of IOS will be interested in knowing that, in addition to this group of *Q. wislizeni*, the Park is the location of the large, now fallen *Q. chrysolepis*



Dried *Quercus wislizeni* leaves collected in November 2017 continue to hold abaxial trichomes that still appear golden in sunlight in July 2018. © Dirk Giseburt

that was featured on the cover of Issue 22 of *International Oaks* (Spring 2011; photo by Guy Sternberg) and in [Joseph Wasyl’s article](#) in that issue titled “Uncle Oak: the Giant of Palomar Mountain.”

The observation of this group of *Q. wislizeni* with golden trichomes was made in the course of an investigation (California State Parks permits #CDD-201-008-PMSP and #CDD-2017-018-PMSP), stimulated by another series of chance events and observations, into whether intersectional hybridization is occurring between *Q. chrysolepis* and any of the sympatric species of Section *Lobatae*. Genetic analysis of samples from the site and from a selection of seedlings is underway and results will be shared in due course.

If readers are aware of other populations of *Q. wislizeni* with golden trichomes, please contact the author via the IOS by writing to :

website@internationaloaksociety.org, as the information could assist California State Parks in assessing the need for protection of this population.

A selection of photographs of new leaves on seedlings of *Q. chrysolepis* grown from acorns collected in the Park can be viewed on the [IOS website Blogs section](#).



9th International Oak Society Conference Update

by Emily Griswold

Many people are busy behind the scenes preparing a diverse and lively program for the International Oak Society Conference to be hosted by the UC Davis Arboretum and Public Garden and held October 21-24. As the largest fires in California history blaze on, the theme for the Conference, “Oak Landscapes of the Future: Adapting to Climate Change”, feels especially timely. Surrounded by irrigated agricultural land, Davis is comfortably safe from the flames, but we’re not immune to the persistent smoke nor the high temperatures and fluctuating rainfall that are redefining our normal weather patterns.

With California fires on everyone’s minds, we’re delighted to be kicking off the conference with a keynote lecture by Dr. David Ackerly on Sunday, October 21 focused on the recovery and resilience of oak woodlands following the Tubbs Fire of October 2017. Ackerly, Dean of the UC Berkeley College of Natural Resources, has been leading research at the Pepperwood Preserve in Sonoma County to study the impacts of climate change on California native plants.

The Conference program will feature over 80 presenters from around the world sharing their work through oral presentations, lightning talks, posters, workshops, and local tours. Topics will include urban oak landscapes, oak evolution and diversity, conservation, natural land management, horticulture, cultural landscapes, plant collections, and more. Visit the [Conference web page](#) to see the full program, and stay tuned for the release of presentation abstracts and presenter biographies next month.

Upcoming Registration and Hotel Deadlines

Registration for the Conference closes on September 15th. Please be sure to register as soon as possible, because there is a chance that we may sell out. If you haven’t made your hotel reservations yet, please do so soon. The reserved block of rooms at Hyatt Place UC Davis will be available at a reduced conference rate until September 15. The reserved block of rooms at Hallmark Inn will be available at a reduced conference rate until September 20. If you need assistance finding a roommate, please contact us at conference2018@internationaloaksociety.org.

Tours

Registration for Pre- and Post-Conference Tours closed on August 15, but waiting lists are available.



Sunset at Pepperwood Preserve less than two months after the Tubbs Fire. This site will be a Pre-Conference Day Trip destination and the subject of the opening keynote speech.
© Michelle Halbur

Due to the unpredictability of our current fire season, it’s possible that some minor modifications may need to be made to Tour itineraries. We will keep tour registrants informed of any planned changes. For questions about Pre-Conference Tours, please contact Abbey Hart at aghart@ucdavis.edu. For questions about Post-Conference Tours, please contact Rachel Davis at ramdavis@ucdavis.edu.

Silent Auction

Don’t forget this Conference will feature a silent auction, with proceeds going to fund student scholarships to the 2021 IOS Conference. If you have items you would like to donate, please contact Ryan Russell at russellry76@yahoo.com.

Seed Exchange

Following IOS tradition, a Seed Exchange will be held on the last day of the Conference (October 24). Please plan ahead and collect acorns from your favorite trees to bring along and share. For international attendees, this is also the time to review U.S. seed importation permit requirements. For guidelines on acorn collecting, storage, and international importation, visit the [Conference web page](#).

More Information

The latest Conference updates and information can be found online at the following address:

<http://www.internationaloaksociety.org/content/9th-international-oak-society-conference-2018>

General Conference questions should be sent to: conference2018@internationaloaksociety.org



SPECIES SPOTLIGHT

Quercus rugosa Née

by Roderick Cameron

According to the *Guide illustré des chênes*, *Quercus rugosa* is found in 27 of the 32 Mexican states, making it the most widely distributed of the Mexican oaks. Not content with dominating Mexico, it spills over national boundaries, southwards into the highlands of Guatemala and northwards into the Southwestern United States, where it is found in Arizona, New Mexico, and trans-Pecos Texas. It occurs in upland areas next to deserts or in moist high-altitude forests. Sources differ as to the altitude range, placing it between 1,700-2,000 m and 2,900-3,500 m above sea level.

It is as wide-ranging in form as in distribution: evergreen or semievergreen, a tall, suckering shrub or medium tree up to 20 m tall (depending on available moisture), with a broadly conical to columnar or spreading habit. Its leaves, one of several attractive features, are especially variable: in dry conditions they are barely 4 cm long, but can be as long 23 cm in moister climates. Their salient feature is the lustrous, dark green upper surface, coriaceous and sometimes bearing sparse pubescence. In shape they are mostly obovate or pandurate (fiddle-shaped) but can also be circular or elliptical, rarely strictly obovate. They are rigid in texture and usually cupped, and this convexity coyly conceals their principal ornamental asset: a woolly indumentum on the underside of the leaf that ranges from nearly white to cream to golden. The leaf margins are thick, almost like cartilage, and slightly revolute, with mucronate teeth near the apex, which is broad and rounded. On emerging, they are covered with dense tomentum, dark red above with veins contrasting in yellow, and pale cream below.

Venation is conspicuously impressed and particularly prominent on the underside of the leaves. Above, the secondary veins contribute to the epithetical rugosity,



New growth covered with dark red indumentum
© Roderick Cameron

(*Q. reticulata*) and its common name in English: netleaf oak. Acorns are borne in groups of up to three on a long peduncle to 10 cm or more, and are between half to three-quarters enclosed in the cupule, which is cup- or saucer-shaped. The mature acorn turns brown or reddish brown and the flesh is a purplish pink, a distinctive characteristic. The acorn cup is

covered in oval, loosely-appressed, often pubescent scales, which makes the surface look warty. The flaky bark of netleaf oak is another attractive feature.

Quercus rugosa was first described by Luis Née, the French-born Spanish botanist, who collected it in 1791 in Mexico while on the famed five-year Malaspina expedition. He published a description of the species in 1801, in the *Anales de Ciencias Naturales*, and it is one of 12 currently accepted oak names described by Née in that publication. According to the *Guide illustré des chênes*, the epithet *rugosa*, (meaning wrinkled, from *ruga*, Latin for wrinkle, no etymological connection to the English word “rugged”), refers to the dense indumentum on the underside of the leaf, but this appears to incorrect, as Née’s description clearly refers to the coriaceous upper surface of the leaves when using the Spanish word “*rugosas*”. Humboldt and Bonpland published their description of *Q. reticulata* in 1809, and it was under this name that it was first introduced to Europe 30 years later. Despite its early introduction, it remains rare in cultivation, but it can be found in specialist collections around the world.

Sean Hogan describes netleaf oak as a “tough plant,” hardy to -18° C, and colder in the case of plants sourced from high altitude. The *Hillier Manual of Trees & Shrubs* says it is “hardy given reasonable shelter,” and indeed Michael Heathcoat-Amory reported “it is one of the white oaks at Chevithorne Barton we have had difficulty getting established,” while at Starhill Forest in Illinois, USA it is cut to the



Quercus rugosa in Hackfalls Arboretum, New Zealand, grown from seed collected near Arroyo Zarco, México State, Mexico © Bob Berry

ground each winter and survives only through annual shoots from the base. However, it has thrived in arboreta in the milder parts of the United Kingdom and France. Despite being described as slow-growing by Hillier, it has put on impressive growth in some collections: at Hackfalls Arboretum in New Zealand, a specimen planted in 1985 had reached 16 m in 2004 and an estimated 25 m by 2016; in Grigadale Arboretum in Argentina, a tree planted in 1998 has reached close to 14 m, in the last few years growing about a meter per year on average.

Quercus rugosa is known to hybridize in the wild with several white oaks: *Q. ×basaseachisensis*, originally described as a species by C.H. Muller, is believed to be the cross of *Q. rugosa* and *Q. depressipes*; other hybrids occur with *Q. laeta*, *Q. arizonica*, and *Q. obtusata* (an oak in the Chevithorne Barton collection is thought to be *Q. obtusata* × *Q. rugosa*, with leaves that are less convex and have on occasion



Quercus rugosa with maturing acorns, photographed on the 2017 IOS New Mexico Tour, Catwalk Drive, White-water Canyon, Gila National Forest © Ryan Russell

produced very good autumn color).

Quercus obtusata is in fact a very similar species, but it can be distinguished from *Q. rugosa* by

comparing the mucronate teeth on the leaf margins, which are shorter in *Q. obtusata* than in netleaf oak, where they can reach 3 mm. On the [trip to New Mexico](#) led by Michael Meléndrez in 2017, several oaks were observed that appeared to be hybrids of netleaf oak, possibly with *Q. toumeyii* and with *Q. grisea*.

Given its rugged beauty and hardiness, *Quercus rugosa* is recommended for gardens, parks, and arboreta in most regions. As it grows naturally in such an extended area and across a variety of habitats and altitudes, there is also scope for further experimentation with seed sourced from different provenances. 🌿

Trees and Shrubs Online

by Allen Coombes

I have recently been asked to write or update the oak entries for Trees and Shrubs Online. This is a project to create a truly modern reference to temperate trees and shrubs. Currently there are articles for some 730 genera and 4,500 species, with each species article describing subspecies, forms and cultivars. The pro-

ject was conceived by and is supported by the International Dendrology Society. See:

www.treesandshrubsonline.org

As I would like to mention notable trees, either rare, particularly large, growing out of their ‘comfort zone’ etc. I would welcome comments from anyone who would like to see their tree(s) included. Anyone interested can browse treesandshrubsonline.org and comment on anything missing that you have in cultivation, any notable specimens that should be mentioned or anything else you think should be included. In most cases, size and introduction details will be needed. The discovery of the golden-haired *Q. wislizeni* mentioned in this issue (see pp. 6-7) is the sort of interesting fact that I will use. All those supplying information will be mentioned in the text. You can contact me by writing to allen.coombes@hotmail.com 🌿

The Himalayan Oak Trust

by Editorial Staff

It sounds like something out of science fiction, but David Cranwell has managed to create a reality where an acorn planted in New Zealand grows into 50 oaks in the Indian Himalayas.

The story began in the late 1980s with a visit to Eastwoodhill, New Zealand’s National Arboretum and home to the largest collection in the Southern Hemisphere of Northern Hemisphere plants. David, passionate about trees since his boyhood spent on an orchard, was bowled over by the experience. Of all the trees there he picked one that he wanted to grow himself: the Himalayan evergreen oak. He was unable to find any trees in New Zealand, but when three years later he traveled to Ranichauri in Uttarakhand, north-west India, to work on a World Bank project, he came across the species in its natural habitat. And he was appalled.

On Himalayan foothills that had been covered by oak forest for centuries, David found defoliated stubs, like “enormous bonsai trees,” that had been stripped for



David Cranwell with Himalayan evergreen oak in bloom © Tim Whitaker

cattle fodder and building materials. Population pressure is the main culprit: the average family has seven children to feed and women use foliage from oaks to feed the cattle. The trees' branches are lopped to such an extent that they are not able to produce acorns and propagate. Less forest means more soil erosion due to monsoon rains, and springs and even rivers have run dry.

The Trust has partnered with the India-based [Himalaya Consortium for Himalaya Conservation](#) (HIMCON), which oversees ground-level conservation projects, and with Manoj Pande, a trustee and chairman of HIMCON, who works closely with a small group of local women.

In order to raise funds for the Trust, David grows and sells Himalayan evergreen oaks in New Zealand. Initially he imported acorns from India, after obtaining an import permit from the Ministry of Agriculture. The species in question is *Quercus leucotrichophora* (for some, a synonym for the less sonorous *Q. oblongata*), known in India as *banj*. It is an evergreen or semievergreen tree, usually growing to 16-18 m, or more in its mountain habitat. Notable features include the white undersides of the lanceolate leaves and the pink new growth. Over 10,000 Himalayan evergreen oaks have been planted throughout New Zealand and sales of trees have raised in excess of USD 70,000 over the last 20 years. Initially the idea was for companies and individuals to buy and donate trees to be planted in schools. A number have been selected to plant as memorials, and they have also been used in large scale plantations

Through the Himalayan Oak Trust, David has made of this oak a vehicle to help others. On its website (www.himalayanaoks.com) one can buy a tree to plant in New Zealand or sponsor a tree. In both cases, the result is 50 trees planted in India and a contribution to the restoration of a damaged oak forest and ecosystem, and also a contribution to the welfare of the people that participate in it. A worthy cause indeed. 🌿

Acorn Time Approaches

by Shaun Haddock

Abundant rain in southwest France in the early part of this year has fostered a bumper seed crop at Arboretum de la Bergerette, some (such as *Quercus emoryi*) already ripe: thus my thoughts turn once again to the seed exchange forum I mooted, which is at present under construction – many thanks to those of you who have already contacted me on the subject, confirming that the idea is worth pursuing. It will run something like this: an e-mail address unique to the



Quercus miquihuanensis, grown from seed collected by Nick Macer in La Peña Nevada, Tamaulipas, Mexico. Arboretum de la Bergerette, Saint Sardos, France.
© Shaun Haddock

seed exchange forum will allow members to send in requests or offers to donate, to be entered into a table accessible to IOS members, which I hope will also be able to give some idea of the likelihood of pure offspring, and with contact information to allow requests directly to the donor (you are reminded, of course, to check the restrictions in your country applying to importing or exporting seed). Also available on the website will be a forum where members can add and discuss seed-related information, which I hope will in addition provide feedback that can be input to the table.

Along these lines, I received some interesting observations from a Polish enthusiast, Zbigniew Ptak, who visited the Arboretum last autumn and took acorns from several species. Out of eight acorns of *Q. ryso-phylla* which germinated, six sprouted at the same time, and appear to be “the real thing”, whereas two germinated five or six weeks later and appear to be hybrids: this led us to wonder if there might be a practical application of this difference in germination strategies (perhaps to identify “hidden hybrids” which are otherwise visually close to the species), and whether the same effect can be identified in other species.

The other thing which is under (re-)construction is my house, and the abundant rain mentioned above means that work due to have finished at the end of June has in some cases not even started (it is now, of course, the holiday season...): this completely torpedoed the possibility of holding the UK Oak Open Days in July at the Yorkshire Arboretum, for which I unreservedly apologize. The basic problem, of course, is that at present the OODs are overly dependent on my presence – thus a request: is there anyone out there, preferably resident in the UK, who would like to take on the job of facilitator on the day(s) of such an event or even, dare I ask, organize the whole thing? In the case of this year, our potential host, John Grimshaw, is

next available at the end of September, but some of you may feel that this is rather too close to the California Conference; please feel free to write to us at tours@internationaloaksociety.org if you would still be interested in participating at short notice: perhaps something can still be salvaged from the wreckage if I can find a co-conspirator. If not, 2019 beckons.

A confession: having had a family reunion in November, we felt entitled to avoid Christmas altogether last year, and thus we went to Marrakesh, Morocco. An exhibition in the city was devoted to “shared sites of religion”, a feel-good title which enticed us within. One of the exhibits was a handful of acorns with *Cerris*-section cupules, entitled the “Abraham Oak”. No



Acorns from Abraham's Oak at the “Shared Sacred Sites” exhibition in Marrakesh's Dar el Bacha Confluences Museum © Shaun Haddock

other information was offered other than an old photo of an even older oak, so my curiosity was piqued. The oak in question is an ancient *Q. coccifera* subsp. *calliprinos* (often referred to in older literature as *Q. pseudococcifera*, an invalid name) at Mamre, near Hebron in Palestine, and now a dead trunk supported by metalwork, albeit with a young sprout at the base (for which we should be thankful – a tradition holds that when the tree dies the Antichrist will appear...). The tree was once 18 meters tall with a trunk circumference of 7 meters, according to the *Guide illustré des chênes*, and old prints show the tree with a full head of hair in the late 19th century. However, construction work in the 1970s damaged the roots, and the tree withered a few years afterwards. The bible states that Abraham camped for some time amongst the Oaks of Hebron (although some translations replace “oak” with “terebinth”, *Pistacia terebinthus*). As long ago as 1868 the Russian Orthodox Church acquired the site, which in 1996 was subject to a territorial dispute between two branches of the Church. As well as being a site of Christian pilgrimage, it was in the past also much visited by Jews – since the Hebron accords with the Palestinian Authority their access has apparently been limited, so the site appears to be one of shared reverence rather than shared access. Since 2016 Russian experts have attempted to preserve the dead trunk (although the import of the necessary po-

tions has at times been difficult) whilst at the same time avoiding damage to the young sprout. Images at various stages in its history are available on the internet (but beware “internet truths” on some sites pertaining to the tree, and in addition internet search confusion between the Abraham Oak and oaks at Abraham Lincoln's tomb).

Finally, as of now I'm going to give up offering unsolicited advice to trees. The leggy *Quercus saltillensis* I castigated recently for making too much structure at the expense of leaves obviously knows better than me: planted in June 2012, it is now (a still leggy) 7 meters tall, and this year is having babies – bright green acorns which might yet find their way into the mooted seed exchange... 🌰🌰

From the Board

Election of new Board members: I wrote about this topic in the January 2018 issue of this newsletter. This is an update. At the end of the IOS Conference in Davis, on October 24 at 1:30 p.m., we will hold a “Meeting of Members” as per our bylaws. That is when a new Board takes over.

The bylaws state that the directors are elected during the Conference by the members present. We have three new candidates to the Board. The full list of eight candidates can be found on our website here: <https://bit.ly/2KUtavU>

I encourage all members of the Society attending the Conference to not skip that last meeting and I remind you that it is followed by the traditional Seed Exchange. Members who are not planning to attend can fill in a proxy form and send it to the person that will represent them. Please check that the person who you designate does attend the Conference. For information, all current Board members are planning to be present. The proxy form can also be found on our website: <https://bit.ly/2BcNOorF>

I hope to see many of you in California in October.

Charles Snyers, President

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