



International Oaks

The Journal of the International Oak Society

*...a new species in Northwest Mexico,
Q. utilis in Vietnam, Ontario's eleven,
oak adventures in China and in Bhutan...*

Issue No. 26/ 2015 / ISSN 1941-2061



International Oaks

The Journal of the International Oak Society

*...a new species in Northwest Mexico,
Q. utilis in Vietnam, Ontario's eleven,
oak adventures in China and in Bhutan...*

Issue No. 26/ 2015 / ISSN 1941-2061





International Oak Society Officers and Board of Directors 2012-2015

Officers

President Béatrice Chassé (France)
Vice-President Charles Snyers d'Attenhoven (Belgium)
Secretary Gert Fortgens (The Netherlands)
Treasurer James E. Hitz (USA)

Board of Directors

Membership Director
Emily Griswold (USA)
Tour Director
Shaun Haddock (France)
International Oaks
Editor Béatrice Chassé
Co-Editor Allen Coombes (Mexico)
Oak News & Notes
Editor Ryan Russell (USA)
International Editor Roderick Cameron (Uruguay)
Website Administrator
Charles Snyers d'Attenhoven

Editorial Committee

Chairman
Béatrice Chassé
Members
Roderick Cameron
Allen Coombes
Shaun Haddock
Eike Jablonski (Luxemburg)
Ryan Russell
Charles Snyers d'Attenhoven

For contributions to *International Oaks*

contact
Béatrice Chassé
pouyouleix.arboretum@gmail.com or editor@internationaloaksociety.org
0033553621353
Les Pouyouleix
24800 St.-Jory-de-Chalais
France

Author's guidelines for submissions can be found at
<http://www.internationaloaksociety.org/content/author-guidelines-journal-ios>

© 2015 International Oak Society
Text, figures, and photographs © of individual authors and photographers.

Photos. Cover: Guy Sternberg (*Quercus macrocarpa* Michx.); p. 7: Guy Sternberg (*Q. rubra* L.).

www.internationaloaksociety.org
Join the International Oak Society today!

Table of Contents

—/ 07 /—

Foreword

The Difference We Make

Diana Gardener

—/ 09 /—

Should Hybridization Make Us Skeptical of the Oak Phylogeny?

Andrew Hipp

—/ 19 /—

Did Early Human Populations in Europe Facilitate the Dispersion of Oaks?

Antoine Kremer

—/ 29 /—

Quercus barrancana Spellb.: a New Species of Oak from Northwest Mexico

Allen Coombes

—/ 33 /—

Quercus utilis Hu & W.C. Cheng Found in Vietnam

Tom Hudson

—/ 37 /—

Quercus mannifera Lindl.: a Confused Anatolian Endemic

Michael Avishai

—/ 43 /—

Three New Oak Hybrids from Southwest Iberia (Spain and Portugal)

Francisco M. Vázquez Pardo, Enrique Sánchez Gullón, Carlos Pinto-Gomes, Miguel Angel Pineda, David Garcia Alonso, Francisco Marquez Garcia, María José Guerra Barrena, José Blanco Salas, and Carlos Villaviçosa

—/ 57 /—

Ontario's Eleven: One Man's View

Tom Atkinson

—/ 65 /—

Oaks and the Biodiversity They Sustain

K. Bargali, B. Joshi, S.S. Bargali, and S.P. Singh

—/ 77 /—

Taking Oaks to the Limit in the Czech Republic

Béatrice Chassé

—/ 89 /—

Oak Adventures in China, September 24-October 27, 2013

Josef Souček

—/ 97 /—

Oak Open Days, The Mud, Mosquitos, and Oaks of Mississippi, USA, June 27-29, 2014

Ryan Russell

—/ 105 /—

Oak Open Days, Congrove, Leigh Delamere, Westonbirt, United Kingdom, July 6-7, 2014

James MacEwen and Béatrice Chassé

—/ 115 /—

Oak Open Days, Trompenburg Tuinen & Arboretum, the Netherlands, August 28-29, 2014

Dirk Benoit

—/ 125 /—

Oak Open Days, Southern Italy, October 19-22, 2014

Bruno Van Puyenbroeck

—/ 135 /—

Glimpses of the Oaks of Bhutan, October 12-29, 2014

David Long

—/ 150 /—

8th International Oak Society Conference at The Morton Arboretum

—/ 152 /—

Conversion Table



Taking Oaks to the Limit in the Czech Republic

Béatrice Chassé

Arboretum des Pouyouleix

24800 St.-Jory-de-Chalais, France

pouyouleix.arboretum@gmail.com

ABSTRACT

The Plaček Quercetum in Kanín, comprises to date about 200 taxa of the genus *Quercus*. Extreme winter cold, severe and frequent late frosts, 600 mm/24 in of rain annually, and very hot summers set the stage for this ambitious collection started by Dušan Plaček in 2008. The Průhonice Dendrologická Zahrada, Prague's young botanical garden, headed by Mr. Zdeněk Kiesenbauer, started their oak collection in 2010. The search for hardy plants is a priority for both, and indeed one could say it is the leitmotiv of horticultural history in the Czech Republic.

Keywords: Plaček Quercetum, oak hardiness, Průhonice Dendrologická Zahrada

Introduction

Dušan Plaček is a man who likes a challenge and for this particular one he must bring to bear all of his implacable optimism and enthusiasm to battle the odds. Is it even imaginable to want to have an oak collection in a place where winter starts early and ends late, bringing with it deep snow and ice, and temperatures habitually around -20/-25 °C (-4/-13 °F) though sometimes as horrific as -29°C/-21 °F? And then of course there are the severe and very frequent late frosts in May that damage sometimes beyond repair the growth of many trees. On his side, in addition to his exuberance and inexhaustible energy, there is the light, sandy soil and deep ground water that encourage strong, deep root-growth, very hot summers, and a very good team.

Since the first plantings in 2008, several hundred oak trees representing about 200 taxa have been planted. The successes – and the failures – continue to fuel Dušan’s determination and strategy. Over a three-day period, Dušan presented to me not only his “old garden” and his new Quercetum but also the places and people that were – and still are – instrumental in the conception and development of this collection.



1/ Dušan Plaček and *Quercus imbricaria* (Průhonice Park).

that many decades before me someone planted in the old garden all of these trees that I am now enjoying, and so I too must plant trees so that decades from now someone else will be able to enjoy them. 2006 was a pivotal year because it was then that I met Ondřej (landscaper and horticulturist) and Josef (dendrologist).” Ondřej, impressed with the site and its uniqueness, quickly convinced Dušan that there were vast possibilities to create something special. A collection? Dušan’s first choice was for *Fagus* to which Ondřej

Love at first sight: *Quercus imbricaria* Michx.

Those of us who met Dušan for the first time at the 6th International Oak Society Conference in Puebla, Mexico, or at the 7th IOS Conference in Bordeaux, France, will have also met his two genial friends and close collaborators, Josef Souček and Ondřej Fous. Together, the three of them are indeed the backbone of the collection in Kanín, united by friendship, a great interest in the genus *Quercus* and their equal commitment to the Plaček Quercetum.

“Between 1998 and 2006, when I bought the house and the land, I did some renovation of the old garden but did not really devote much time, although the idea of doing something here was always in the back of my mind. I thought to myself

replied, “That would be good...*Quercus* would be better.” Once the decision was made, Josef thought indispensable to take Dušan on an excursion that would include both parks and natural populations in the Czech Republic and in Slovakia so that he could get a better idea of what was hidden behind the word “oak”.

Their first stop was the 240-hectare/618-acre Průhonice Park (12 km/8 mi from Prague and 70 km/44 mi from the Plačák Quercetum) founded in 1885 by Count Arnošt Emanuel Silva-Tarouca. Although it is the conifers in this park that first attract one’s attention there are many magnificent old oaks including specimens of *Q. robur* L., *Q. palustris* Münchh. *Q. rubra* L. and an absolutely magnificent *Q. velutina* Lam. On his first visit though, none of these caught Dušan’s eye as much as a nice, medium-sized *Q. imbricaria*. Perhaps because it was the beginning of what he was to discover about the incredible variation in oak leaf, habit and acorn during this initiatory journey: what? that’s an oak?!!

When we visited Průhonice Park at the end of my first day here we were pleased to see some recently planted *Q. macrocarpa* Michx., *Q. acutissima* Carruth., *Q. trojana* Webb, *Q. castaneifolia* C.A. Mey, and *Q. montana* Willd.

Silva Tarouca Research Institute

Through Josef’s influence, developing a collection of high botanic value with plants raised from wild-collected seeds is a major goal. To this end, Dušan has financed or contributed to financing several expeditions including to Turkey, Mexico, China, Vietnam, and Taiwan. Before the construction of his greenhouse the acorns that resulted from some of these adventures were raised for him in the various greenhouses of the Silva Tarouca Research Institute for Landscape and Ornamental Gardening in Průhonice. Still today, he



2/ *Quercus velutina* (Průhonice Park).

shares his seed with this Institute one of whose missions is to propagate historical plants of the Czech Republic. For example, the only *Q. marilandica* (L.) Münchh. growing in the Czech Republic (before the collection in Kanín) died during the terrible floods in 2009. Cuttings were quickly taken and today dozens of them are happily growing in the Institute's mist unit, and will be planted out in different locations sometime in the future. Mr. Jiří Obdržálek, in charge of the propagation activities at the Institute, kindly showed us around the facilities, giving us the chance to observe the growth of many oak seedlings from around the world as well as to marvel at the enormous variation in the many *Quercus cerris* L. seedlings that are growing here from seeds collected by Josef and Dušan during their two trips to Turkey.

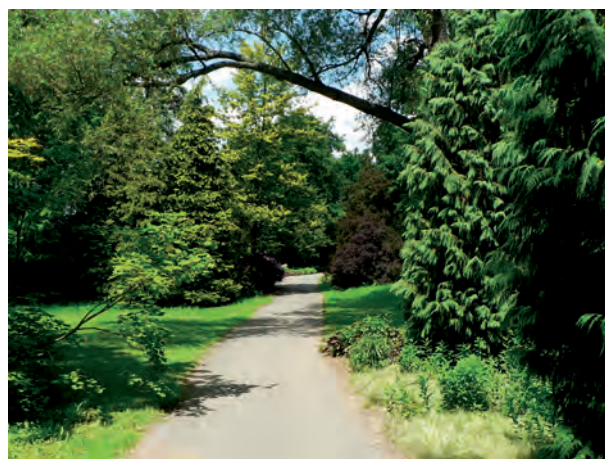
Before we left, Mr. Obdržálek offered Dušan a gift of *Cupressus vietnamensis* (Farjon & T.H. Nguyễn) Silba. raised from a scion grafted on *Cupressus nootkatensis* D. Don. This species, from Vietnam, was described in 2002 by A. Farjon, Nguyen Tien Hiep, D. K. Harder, Phan Ke Loc and L. Averyanov as *Xanthocyparis vietnamensis*.

With this precious gift safely stowed in the trunk of the car, and accompanied by Ondřej Fous who had joined us earlier, off we went to our second stop of the day.

Průhonice Dendrologická Zahrada

Created in 1974, this young garden is also a part of the Silva Tarouca Research Institute and as such the main focus is on studying the hardiness of ornamental and horticultural plants that can be used in Czech landscapes and gardens. Many different breeding programs are run including for rhododendrons, tulips, roses, and weigelas. Recently several very successful rhododendron cultivars have been made available: 'Kokorin', 'Karlstejn', and 'Orlik' (all names of Czech castles); as well as several tulip cultivars: 'Gavota', 'Rajka', and 'Havran'

The Director of the Dendrologická Zahrada, Mr. Zdeněk Kiesenbauer, whom I had met in 2010 when he came to visit the Arboretum des Pouyouleix with Dušan and Josef, greeted us at the main entrance. An extremely jovial and enthusiastic man, Mr. Kiesenbauer is justifiably proud of what has been accomplished here in 40 years. With 12 gardeners (out of a total staff of 20) this 74-hectare/183-acre garden that harbors nearly 8,000 woody plants and perennials is simply extraordinary: beautifully designed, impeccably well tended,



3/ Průhonice Dendrologická Zahrada.

and botanically and horticulturally fascinating. From 6,000 visitors 10 years ago, the garden attracts today over 36,000. As the Dendrologická Zahrada receives only a little under 300,000 € from the government annually, public interest in, and commitment to, the garden is essential. Educational activities, exhibitions and other programs are continually being developed to ensure the future of this unique site, registered in 1994 as Significant Landscape Element by the Czech National Council.

The oak collection (currently including a little over 100 taxa) is quite young, started only four years ago and the accent is on hybrids and cultivars. It starts in the northeast corner of the garden, just after the *Fagus* collection. The planting scheme is to develop an “oak road” that will wind through the entire garden. Significantly, this road of oaks will go through what has been identified as the hottest and driest part of the site (the only place here where *Actinidia deliciosa* (A. Chev.) C.F. Liang & A.R. Ferguson, for example, is hardy) in hopes that some of the more fragile oaks will prosper.

Here are just a few of the oaks of this collection that caught my attention. *Quercus falcata* Michx. × *rysophylla* Weath. ‘Zehra’ with the thick, rough texture of *Q. rysophylla* and the falcate leaf of its other parent. Although this name is presently only provisionally accepted (because originally published without a description) it is nonetheless a very nice tree. *Q. ×tridentata* Engelm. ex A. DC., the hybrid between *Q. imbricaria* Michx. and *Q. marilandica* 4/ *Quercus* ‘Zehra’ (Dendrologická Zahrada).



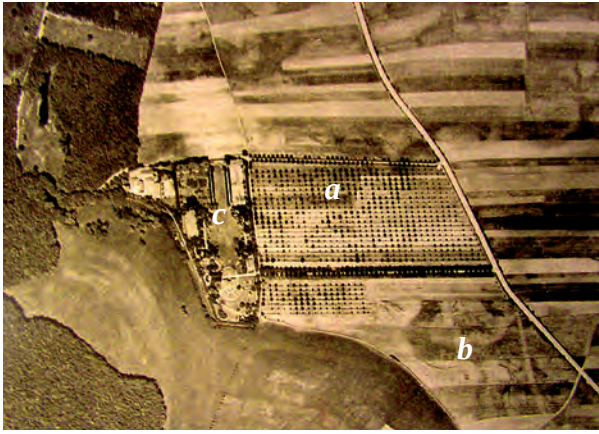
Münchh. with very shiny leaves and a reddish hue to the midvein is doing very well here. Another very attractive tree, with bicolored young leaves, reddish orange at the distal end fading to a yellowish green near the petiole, was labeled as *Quercus ×saulii* ‘Montalba’ (hybrid between *Q. alba* and *Q. montana*). The correct published name for this cultivar is, however, ‘Atlas’ (Jablonski 2007). ‘Montalba’, never published, is not a valid name, although it is still in use in some nurseries and gardens.

Leaving the garden and walking through the oldest part, Mr. Kiesenbauer points out a clump of *Q. robur* L. trees that represent the remains of what used to be a very extensive forest. Although these trees are over 200 years old they are only about 15 m/50 ft tall, growing in a spot where there is only 1-2 cm/0.4-0.8 in) of soil under which is gravel and solid rock (cambisol).

It is nearly five o’clock when we take leave of Mr. Kiesenbauer and the Dendrologická Zahrada, as well as of Ondřej. And suddenly we realize that since I had arrived at around ten o’clock we had done nothing but talk about, look at, and nourish ourselves with, trees!

The “old garden” in Kanín

Dušan was born in the town of Poděbrady in 1973. While growing up Dušan was surrounded by people raising plants: his maternal grandmother had a garden and talked to him about her plants, using their exotic scientific names; his grandfather, who was an auto mechanic, had a greenhouse in which he indulged in developing his passion for orchids; and, finally, his father raised fish and aquatic plants for aquariums. During the political changes that occurred in the communist world after 1989, Dušan saw a potential to develop his father’s hobby and decided to turn it into a real business that today represents a vast network of wholesale, retail and e-commerce outlets for a wide range of pet products in several countries.



5/ Aerial photograph of the property in 1947. Today the Quercetum occupies a and b, and the old garden, c.

Švehla's daughter who was married to Josef Černý, Minister of the Interior from 1934 to 1938. When the communists came to power the family fled to Canada and France, and the property was appropriated by the State. Between 1939 and when Dušan purchased the house and surrounding grounds, the house had served many different purposes but the garden (today called the "old garden") had been left to its own devices. It was designed by Josef Kumpán, a leading landscape designer in Czechoslovakia at the time. Some examples of his work in the Czech Republic include the Rose Garden in Petřín (1932) and Jubilee Park in Znojmo (1928). In 2006 Dušan and Ondrej found archives containing the original drawings, aerial photographs and plans of the garden as it was in 1938. Thanks to these archives, the results of fifty years without a gardener could be evaluated, providing invaluable information on how to undertake the restoration.

The old garden covers about 2 ha/5 ac and faces north. The oak collection proper is not planted here but in adjacent meadows to the southeast, covering, in its actual layout, 11.5 ha/28.5 ac. These are part of about 40 ha/100 ac of land adjacent to the house and old garden that Dušan acquired after the initial purchase of the house. An impeccable lawn stretches out in front of the house across 200 m/700 ft (in its widest part 100 m/300 ft) and is bordered on either side with stately trees planted more than 80 years ago as well as with some new plantings that are part of the restoration which included removing about 70% of the old trees. The greenhouse, built in 2013, is at the very northern end of the lawn, with, to the west, the outdoor nursery and an impressive vegetable garden.



6/ *Q. pontica* K. Koch.

With his business headquarters in Poděbrady, it was quite natural, when he decided to buy a house in 1998, to want to stay in the neighborhood. Kanín is 9 km/6 mi from Poděbrady and the land he purchased there was originally owned by Antonín Švehla, one of the most influential politicians of the First Czechoslovak Republic (1918-1938). He served as the first Minister of the Interior (1918-1920) and went on to serve twice as Prime Minister (1922-1926; 1926-1929).

The house was built in 1918 by Švehla's daughter who was married to Josef Černý, Minister of the Interior from 1934 to 1938. When the communists came to power the family fled to Canada and France, and the property was appropriated by the State. Between 1939 and when Dušan purchased the house and surrounding grounds, the house had served many different purposes but the garden (today called the "old garden") had been left to its own devices. It was designed by Josef Kumpán, a leading landscape designer in Czechoslovakia at the time. Some examples of his work in the Czech Republic include the Rose Garden in Petřín (1932) and Jubilee Park in Znojmo (1928). In 2006 Dušan and Ondrej found archives containing the original drawings, aerial photographs and plans of the garden as it was in 1938. Thanks to these archives, the results of fifty years without a gardener could be evaluated, providing invaluable information on how to undertake the restoration.

The old garden covers about 2 ha/5 ac and faces north. The oak collection proper is not planted here but in adjacent meadows to the southeast, covering, in its actual layout, 11.5 ha/28.5 ac. These are part of about 40 ha/100 ac of land adjacent to the house and old garden that Dušan acquired after the initial purchase of the house. An impeccable lawn stretches out in front of the house across 200 m/700 ft (in its widest part 100 m/300 ft) and is bordered on either side with stately trees planted more than 80 years ago as well as with some new plantings that are part of the restoration which included removing about 70% of the old trees. The greenhouse, built in 2013, is at the very northern end of the lawn, with, to the west, the outdoor nursery and an impressive vegetable garden.

Part of the old garden is on the other side of the house, a sheltered area with woods on one end and the house on the other. This is where we start our tour on this second day of my visit. A magnificent *Fagus sylvatica* L. 'Purpurea' steals the show to be sure – but there are also many interesting young

oaks. *Q. rugosa* Née (from seed) has flourished in three years, surviving two winters with temperature lows of -26 °C/-15 °F and one fairly mild winter at only -16 °C/3 °F during which it did not lose its leaves. *Q. ilicifolia* Wangenh., a *Q. dentata* Thunb. of the Pinnatifida Group, a magnificent *Q. pontica* K. Koch (grafted) that has grown more than a meter in three years, and *Q. ×hispanica* ‘Ambrozyana’ Simonk., are some of the oaks planted in this relatively protected spot.

This last cultivar was named after Count István Ambrózy-Migazzi, a Hungarian nobleman of the Austrian Empire. Author, with Camillo Schneider, of several standard dendrology works in German (still important today), he is also the founder of the well-known Botanic Garden of Jeli. His first creation however was a garden in Malonya, near Nyitra, that was destroyed during the Second World War. His passion for botany was driven by his desire to seek out and propagate plants that would be evergreen in the tough Czechoslovakian climate. He



7/ *Q. ×hispanica* ‘Ambrozyana’ Simonk.

understood that soil conditions and the concept of plant communities were important factors in plant hardiness. From the seedlings he raised he eventually propagated two oaks that are, if not evergreen, usually semi-evergreen in an average Czech winter. The first one was described in 1909 by Simonkai as *Q. ×hispanica* ‘Ambrozyana’, and the second one, *Q. pubescens* ‘Migazziana’ was described by Jablonski in 2006.

Before we skirt around the house to arrive on the main lawn of the old garden, my attention is drawn to some other notable plants growing quite happily here: *Magnolia acuminata* (L.) L., *Nothofagus antarctica* (G. Forst.) Oerst., *Ulmus laevis* Pall. and *Taiwania cryptomerioides* Hayata that has survived three winters, one with temperature lows of -26 °C/-15° C.

With the main lawn now in front of us, Dušan explains that the key issue in restoring this garden was deciding which of the big trees needed removing so that the garden could evolve with the new plantings that would provide for its future. At the time the garden was created, in addition to the (still very) popular *Fagus sylvatica* L. ‘Purpurea’, it was quite common to plant native North American trees and these are still fairly represented amongst the big trees that remain today (*Abies grandis* (Douglas ex D. Don) Lindl., *Pseudotsuga menziesii* (Mirb.) Franco, etc.).

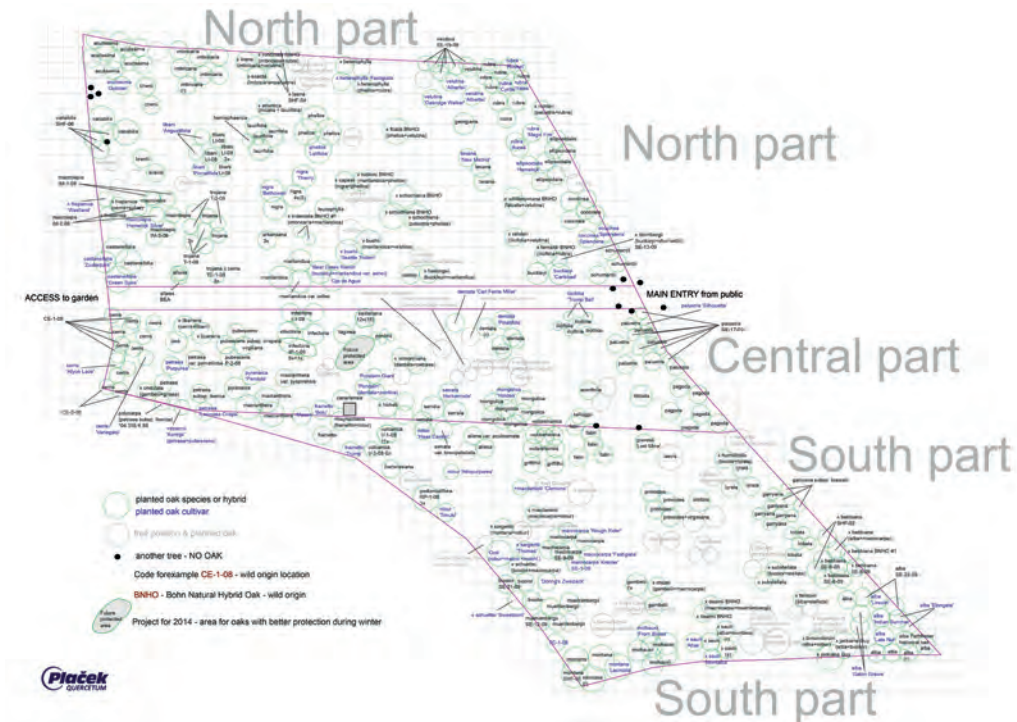
A majestic *Q. rubra* L. to the left of the house spreads its branches as though pointing to another tree, *Q. robur* (Heterophylla Group) ‘Pectinata’ Hort. ex Kirchn., a very old cultivar named in 1864. As we walk along the path that borders the right side of the main lawn we pass through what remains of a small poplar grove planted before Dušan’s time that is gradually being transformed by local birds into a *Q. cerris* L. grove. Over time, as the poplars have died, birds have brought acorns from the adjoining woodland and planted them in the poplar trunks. Apparently, it is only to this spot in the garden that the birds bring the acorns.

It was rather astounding to compare the enormous variation between these *Q. cerris*,

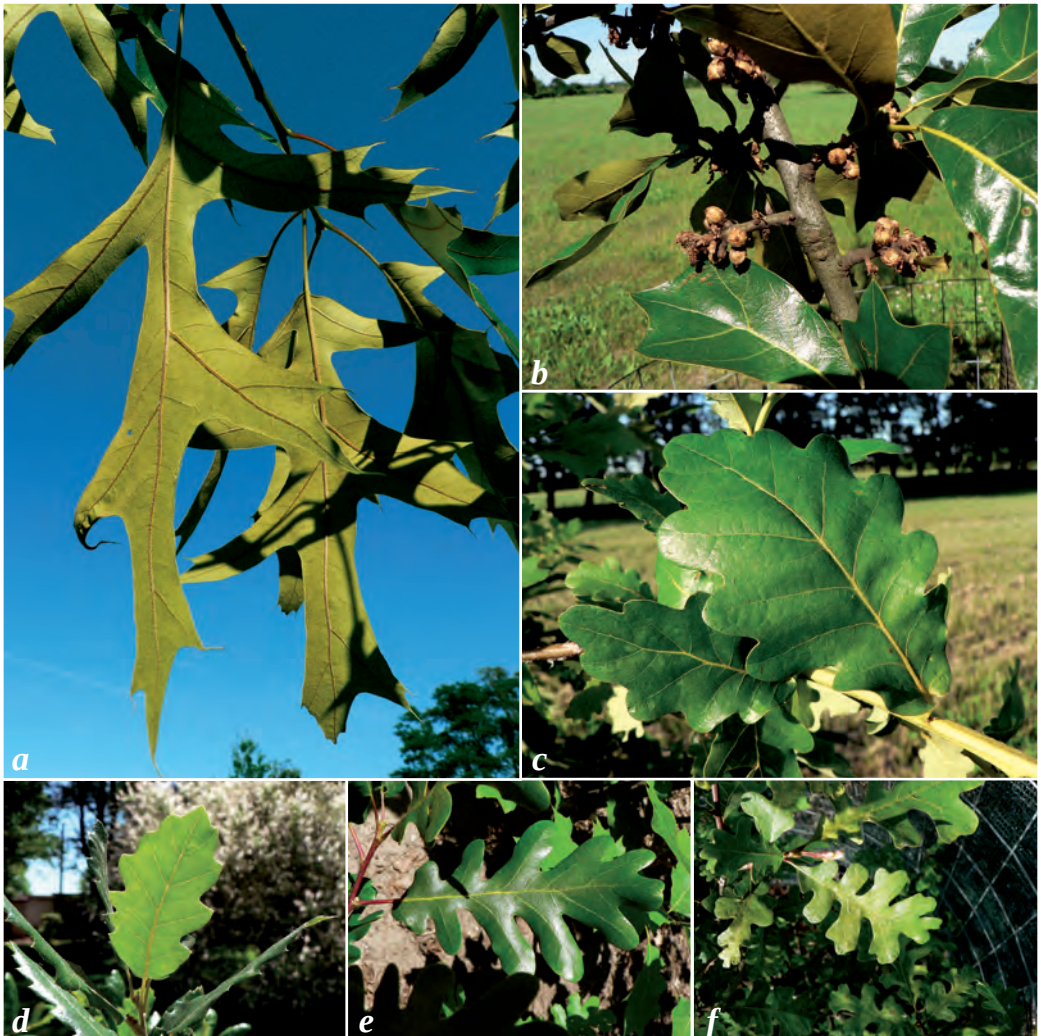
the ones seen this morning grown from seed collected by Josef and Dušan in Turkey, and the ones we will have seen in the Quercetum at the end of this day. Although Mme Camus rejected as individual variations the sixteen species created by Mr. Gandoger she herself creates or retains six varieties (Camus 1936-38). Today all six are considered synonyms of *Q. cerris* by most authors.

A grafted *Q. robur* × *turbinella* Greene is growing nicely, showing off pretty, red new growth even though it is perhaps in more shade than it would ideally like. But this is intentional: much as the *Q. coccifera* L. and *Q. ilex* L. seen previously, planting under the shelter of larger trees offers the plants some protection from the cold. Throughout this area of the garden are signs that Dušan did not entirely abandon the idea of constituting a *Fagus* collection: many fine specimens of this genus are to be admired. Before taking a break, we visit the outdoor nursery where there are many plants of *Q. vulcanica* Boiss. & Heldr. ex Kotschy (grafted, scions collected in Turkey), *Q. dolicholepis* A. Camus, *Q. macrocarpa* Michx., *Q. trojana* Webb, *Q. libani* G. Olivier and others. After a quick foray into the mysteries of the Czech language wherein *dub* means oak, *dubař*, oakman, and *žalud*, acorn, off we go to lunch and a well-deserved cold drink of Becherovka (made with 20 herbs macerated for two months in sugar and water resulting in this 38° proof rather interesting drink). The weather has been nothing but blue sky, and a hot, bright sun (34 °C/93 °C) will surely be waiting for us for this afternoon's visit. I think to myself that it would be interesting to come back in the wintertime....

The Quercetum



8/ Plaček Quercetum.



9/ a) *Quercus ×wildenowiana* b) *Q. marilandica* c) *Q. ×vilmoriniana* A. Camus
 d) *Q. ×hispanica* ‘Ambroziana’ e) *Q. vulcanica* f) *Q. lobata*.

The oak collection proper occupies land to the east and south of the house and old garden and resembles roughly the shape of Florida. It is crossed at about a third of its length by a 300 m/1,000 ft driveway, lined with *Robinia pseudoacacia* L. trees, that leads to the house from the main road.

The landscape aspect of the Quercetum has been an important consideration since the beginning. The choice to base the planting strategy and design on the classification system developed by Adolf Engler (1844-1930) and Karl A. E. Prantl (1849-1893) was an esthetic one. In their system, species are grouped based on similarity in leaf shape. Engler and Prantl produced a 20-volume work, *Die natürlichen Pflanzenfamilien* (1887-1899), published by a Leipzig publisher, W. Engelmann (a slightly revised version was produced by Engler in 1964, *Syllabus der Pflanzenfamilien*, and published by the Berlin



10/ *Q. xhochiana* Dieck

‘Angustifolia’ Dippel), *Q. ithaburensis* subsp. *macrolepis* (Kotschy) Hedge & Yalt. (and ‘Hemelrijk Silver’ J. Hillier & Coombes) *Q. acutissima* Carruth. (and ‘Gobbler’ Dirr), *Q. trojana* Webb., *Q. afares* Pomel and, of course, many *Q. cerris* L. (along with ‘Afyon Lace’ Coombes & Jablonski). The theme of this oak collection – a botanic taxon planted with all or a selection of its cultivars and hybrids – is an idea that promises an interesting future.

Obviously the cultivars and (most of the) hybrids are grafted. Each botanic taxon is often represented by both grafted trees and those grown from seed. The experience here, as elsewhere, is that grafting seems to be less successful with the Red Oaks than with the White Oaks.

The six other White Oak sections spread out to fill up most of the central and all of the southern part of the Quercetum whereas the Red Oak sections occupy most of the north sector with a small area descending into the central part to host the tail end of the *Rubrae* section species (*Q. ilicifolia* Wangenh., *Q. palustris* L., *Q. acerifolia* (E.J. Palmer) Stoyhoff & W.J. Hess, *Q. gravesii* Sudw.). As yet, there are no *Cyclobalanopsis* planted. Still in the northern area of the Quercetum, moving east, we are in *Erythrobalanus* territory, with three (*Phellos*, *Nigrae* and *Rubrae*) of the four subsections well represented by many, many trees. A lone specimen of *Q. xfilialis* Little (the hybrid between *Q. phellos* L. and *Q. velutina*) stands symbolically between sections *Phellos* and *Rubrae*.

According to Dušan, the Red Oaks have the hardest time. It is true that the White

publisher, Gebrüder Borntraeger).¹ They divided the genus *Quercus* into three subgenera: *Cyclobalanopsis*, *Erythrobalanus* with four sections (*Phellos*, *Nigrae*, *Rubrae* and *Stenocarpae*), and *Lepidobalanus* with seven sections (*Cerris*, *Suber*, *Ilex*, *Gallifera*, *Robur*, *Alba* and *Dentatae*).

Entering the Quercetum from the northwest we are in subgenus *Lepidobalanus*, section *Cerris*. Planted around two or more individuals of a botanic taxon are their various hybrids and cultivars. For example, the first group of four trees includes two *Q. castaneifolia* C.A. Mey and two cultivars: ‘Zuiderpark’ Coombes & Jablonski, and ‘Green Spire’ Hillier & Sons. Not far away, the typical *Q. xhispanica* Lam. is planted along with its well-known cultivar ‘Waasland Select’ Jablonski. Included in this “island” are also *Q. libani* G. Olivier (and

1. This system, that was never very widespread, is not used today for purposes of classification. It was used by Gerd Krüssmann in his *Manual of Cultivated Broad-Leaved Trees & Shrubs* (Krüssmann 1978).

Oaks, like *Q. michauxii* Nutt., *Q. bicolor* Willd., *Q. gambelii* Nutt., and *Q. montana* that are often slightly to very unhappy trees in many places in Western Europe (there are exceptions to this of course) seem to rather enjoy Czech weather. A lacinate form of *Q. montana* was showing off brilliant green foliage and *Q. × saulii* C.K. Schneid. (*Q. alba* L. × *montana*) new growth of velvety orange. Extremely healthy and vigorous *Q. lobata* Née was remarkable to see and *Q. canariensis* has done well for 6 years, never suffering winter damage. Undeniably, many of the Red Oaks show signs of bark splitting at the base, but a great majority of the trees here are in good health if not fast growing.

Future directions

The construction of the greenhouse, finished in 2013, marked the commitment to raising plants from wild-collected seeds in order to gradually replace, for the botanic taxa, trees planted earlier that are either grafted or from seed of unknown or garden origin. The planting philosophy is “plant many to cut many”. There are currently about 2,500 seedlings in the greenhouse, more than 99% of which are oaks, some of which are more than 5 years old and already quite large. Obviously, Dušan is reluctant to introduce many of the Mexican oaks to the Czech winter, but he does have a plan...

According to Ondřej Fous, in the Czech Republic, as in other places with extremely cold winters, horticulturists have developed techniques to cultivate non-hardy fruit trees.² Although there are variations, the main idea is to dig a trench (between 1-1.5 m/3-4.5 ft deep) in which the trees are planted and can then be easily protected during winter by filling the trench with organic or inorganic material for insulation. This technique is going to be tried in Kanín for the Mexican oaks.

The harsh cold spell of February 2012 in Northern Europe occasioned



11/ The greenhouse (Plaček Quercetum).

many surprises about hardiness. *Q. liebmannii* Oerst., for example, that survived -18 °C/0 °F for a prolonged period in an arboretum near Brive-la-Gaillarde (France). A 3-year old *Q. alnifolia* Poech in a garden near the city of Grenoble, that went unscathed at -19 °C/-2 °F; a *Q. leucotrichophora* A. Camus in the Dordogne region of France that survived -18 °C/0 °F, and a *Q. myrsinifolia* Blume did fine at -24 °C/-11 °F in the Creuse

2. It is very difficult to find documentation on this subject. See, http://www.citrusy-trutnov.mstu.cz/w09/soubory_10/transej.htm; <http://www.tropichukvaldy.cz/clanky-a-navody/pestovani-rostlin-v-transeji>

(center of France) (Roux 2014). In Kanín, *Q. hemisphaerica* Bartram. has been doing well for a number of years and both *Q. dolicholepis* A. Camus and *Q. ×undulata* Torr. have survived two winters planted in the outdoor nursery (where they are protected and thickly mulched).

Whenever I think about the history of hardiness the first thing that I think of is “A plant is hardy until I kill it.” I have always attributed this pearl to Peter Smithers but as is often the case with such “great quotes”, this one has been adopted, modified, and repeated by so many others, that the author’s identity as well as the exact initial form of the quote are often obscured. In a recent conversation, a friend quoted someone else as being the author to which I replied, but no, Peter Smithers is the author – which we both thought more probable for chronological reasons. But when I went to check exactly what Peter Smithers had written what a shock it was to discover that he is not the author either! He himself had received this wisdom in response to a question about hardiness asked to a *Rhododendron* subsection Maddenni specialist, a response that he found to be “scathing but perfectly correct”. It would be interesting to get to the bottom of this one day...

On the same subject, Dan Hinckley said to me a few months ago, “It is, in the end, three or four days every ten years that determine what you can grow in your garden.” This may very well be true, but in the meantime, we all dream a little and try a lot. By exploring the limits of oak hardiness in the tough Czech climate the Plačėk Quercetum’s resident quercophiles are continuing in the footsteps of numerous Czech plantsmen by investigating the limits of hardiness and plant adaptability in this part of the world.

We spent the better part of the third day with Josef Souček checking all of the impeccably labeled and preserved herbarium samples that he had collected during his recent trip to China (for a full report, see *Oak Adventures in China*, pp. 89-96). There are still some mysteries to be resolved on that front.

Acknowledgements

I am grateful to Dušan Plačėk for his hospitality, and to all of his collaborators for having taken the time to make my visit so interesting. My thanks to Eike Jablonski and Ryan Russell for clarifying some issues about cultivar names and their history.

Photographers. Title page: Béatrice Chassé (*Quercus imbricaria*). Photos 1-11: Béatrice Chassé. The aerial photograph and map of the Plačėk Quercetum reproduced courtesy of Dušan Plačėk.

Works cited

- Camus, A. 1936-1954. *Les chênes, Monographie du genre Quercus et Monographie du genre Lithocarpus*. Tome 1. Paris: Editions Lechevalier.
- Jablonski, E. 2007. *Beitr. Gehölzk.* 178 (2007).
- Krüssmann, G. 1978. *Manual of Cultivated Broad-Leaved Trees & Shrubs*. Berlin: Verlag Paul Parey.
- Roux, S. de. 2014. Enquête sur les effets du froid de l’hiver 2011-2012. *Bulletin de l’Association des Parcs Botaniques de France* 58: 54-59.
- Smithers, P. 1994. *Adventures of a Gardener*. London: The Harvill Press.