Traveling in the Plains and Great Lakes

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Traveling in the USA in mid-September 2007 gave me an opportunity to visit some distinguished magnolia gardens. The last few years I have read interesting contributions on *Magnolia* and *Quercus* from Matthew Strong, a member of the Magnolia Society International and the International Oak Society (IOS). While visiting relatives in Kansas City, I contacted Matt for a garden visit and I was warmly welcomed to his town garden in Overland Park—a suburb south of Kansas City (time did not allow visiting his other garden on his father's farm in the country).

In the Sioux language, *Kansas* means "the people in south wind," which indicates a mild climate (corresponding latitude in Europe is the Mediterranean Sea). Arriving at Matt's garden I noticed a beautiful flowering *Lagerstroemia indica*—a good indication that the conditions are considerably milder than mine. But, like most of the Plains, the south wind can easily turn from the north in late spring and ruin the flowers, which is what happened in the spring of 2007. Mild weather had tempted the magnolias to break dormancy too early and then a record cold on April 8 killed the flowers and new shoots. Matt said that a low temperature of 20° F (-7° C) had been recorded in Kansas City—the coldest temperature ever recorded during the past 80 years for so late in the season. Many trees had serious damage though only small and recently planted ones were killed. The summer heat (the week before I arrived, had highs of 110°F (43°C) had been recorded for several days) allowed many plants to recover so that they were now showing luxurious foliage and vigorous growth, despite the persistent drought.

The soil in the Plains is sand (a remnant from an ancient time when the area was a desert) covered by shallow loam. However, the sea also covered the land along the Missouri River, which is why the ancient desert sand today is covered by heavy clay in Kansas City. This type of soil is not conducive for growing magnolias. Matt told me that he has been amending the heavy soil with peat moss. Judging from the lush green garden, he has managed to cope with it. Matt is a great collector of many types plants that are considered borderline for his area. I was surprised to find a nice collection of evergreen azaleas, which you might not expect to see in Kansas City. Matt has also planted many tender trees. After attending the General Meeting of the Ios in Texas, Matt returned with quite a few species of southern oaks for introduction to Kansas City. Most of them were new to me and all seem

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to be growing well, so far. One species, *Quercus marylandica* I found particularly attractive. It had a leaf form that I had never seen before and a deep green color. Matt's specimen was a shrubby tree about 10ft (3m) high and equally wide. Though the species is native to the southeastern USA, I am very tempted to test it in my garden.

In Matt's magnolia collection I noticed five lush *Magnolia grandiflora* trees that did not suffer any severe damage from the late frost. One planted quite openly even had flowers at the time of my visit. Matt is enthusiastic about *M. grandiflora* and he drove me to see the largest specimen in Kansas City, which is growing close to a church and is estimated to be some 29ft (9m) tall. We spent an enjoyable afternoon in Matt's garden. Many of the plants are still small but will soon fill the garden with excitement.

My next visit was with Dennis Ledvina in Green Bay, Wisconsin. Magnolia enthusiasts do not need any introduction of the leading breeder of our time who is continuing the hybridizing of Phil Savage, August Kehr, and others. Dennis has bred a vast variety of magnolia hybrids that have proven hardy in the harsh climate of Scandinavia. Dennis' main criterion for a hardy hybrid in a cold climate is that *M. acuminata* must be involved and there is no doubt that Dennis has proved his hypothesis.

According to the Finnish research on Bioclimatic Vegetation Zones, Green Bay and the region around the Baltic Sea have rather similar growing conditions but generally Green Bay is more continental, that is, hotter summers and colder winters. But Green Bay seems to share our trouble with drought during the growing season, which is so common in southeast Sweden. The Green Bay region seems to be covered by well-drained, sandy soil that is easily warmed in early spring but, of course, the lack of rain is a serious disadvantage. Dennis commented: "It seems that every rain cloud vanishes before reaching my garden!" But the lush growth did not give me the impression that this is a problem. I guess that watering is one of Dennis' hobbies.

The winter climate in Green Bay is considerably colder than the native regions of the *Magnolia* genus. So, you might think that Green Bay should offer conditions too harsh for growing magnolias, but Dennis has proved with his breeding program that this is false. In addition, I believe the microclimate in his garden has some advantages; hot summers, long autumns, and cool springs influenced by the Great Lakes keep the plants dormant, thus avoiding late frosts. Many places that I visited south of Green Bay experienced very serious late frosts in the spring 2007, which caused serious damage on early growing plants. Nothing of this had occurred in Dennis' garden, as the plants were still dormant at that time of the year. This is an advantage frequently experienced in the Baltic Sea region compared with, for example, Western Europe.

I had visited Dennis in 1987 and my main memory of this visit was an endless number of potted magnolias. These have since long been planted out and are now quite imposing trees. Dennis still has many pots containing seedlings, cuttings, and grafts of exciting new hybrids from small, recently germinated plants, to whips up to nearly 5ft (1.5m) high. Honestly, there is not much space left in his garden for planting and consequently Dennis has acquired a field of four acres not far from his house. There are already some long rows of magnolias planted in the field and you may just imagine what a show this planting will become in a few years. Deer have not been too much of a problem; the drought is a more serious problem.

Dennis has described his most outstanding clones in the Magnolia *Journal* so rather than repeating the descriptions I would like to emphasize their cultivation value. One essential criterion to grow magnolias in a harsh cold climate is to select vigorous clones and this is something that Dennis emphasizes. Of course, Dennis has many exciting seedlings from his breeding program that would be most sought after by enthusiasts at my high latitudes. But he is very restrictive when registering any new clone to make sure it has some distinguishing qualities not found in existing registered clones. Consequently, Dennis operates with quite a few "working names."

One magnolia in the collection that I hope will be available is a clone of *M. virginiana* called 'Green Bay,' which was selected by Don Shadow. It has the biggest flowers and the glossiest leaves of any *M. virginiana* he has grown. Thus far, it has endured only two winters but has been completely hardy. It is still just a young plant but Dennis has successfully made some crosses with it.

For breeding, Dennis prefers magnolias that are highly unfertile at self pollination but very fertile at cross pollination. *Magnolia* 'Rose Marie' is an example of such a magnolia.

I asked Dennis what is the best time of the day for pollination and he responded that just after noon on a warm sunny day is ideal for most magnolias. In section *Rhytidospermum* the flowers open in late afternoon and pollination can be done well into the evening. He has made a successful cross at 11pm using a flashlight.

When I arrived, I saw magnolias decorated like Christmas trees with red tags and large, Bratwurst-shaped capsules. One day we picked capsules until dark but that was just the "start of the beginning!" In autumn 2007 there must have been tons of seed from controlled crossings and open pollination. No doubt we should expect many new and unique crossings. For example, pollen of *M. campbellii* clones and many hybrids was put on *M. acuminata* thanks to a generous sharing by Michael Gottschalk from his collecting with Eisenhut Baumschule. This should provide some exciting new hybrids for climates where *M. campbellii* and its allies are too tender.

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Another exciting new line is the crossing of *M. sieboldii* with *M. grandiflora*. One of these crossings—*M. sieboldii* × *M. grandiflora* 'Russet' that goes under the working name 'Exotic Star'—flowered in three years. Dennis managed to collect the pollen from it and has now used that for many new crossings and re-crossings. Hopefully, this breeding will lead to a *M. grandiflora* hybrid hardy in Scandinavia. Of course it will be several years until we know but, in the meantime, we can dream.

Dennis is successful in most crossings and he concludes temperature is an important factor. The hotter the weather the more likely the cross will be successful. At one "pollination" visit to Phil's [Savage] it was an unusually hot [above $104^{\circ}F(40^{\circ}C)$] and humid day. The air was almost burning, but our breeders were active and Dennis put *M. grandiflora* pollen onto *M. acumina-ta* 'Fertile Myrtle.' An "impossible" crossing but it worked! Unfortunately, the resulting seedlings were lost due to root-rot in the planting bed. Not only was this sensational crossing lost but quite a few others were lost, as well. Such hot days are not frequent when flowers are available for pollination so Dennis is considering some of the methods used to breed *Lilium* for new trials of such "impossible" crossings.

Dennis gives much-appreciated lectures to the students in the horticulture program at Northeast Wisconsin Technical College, and provides practical breeding experience in his garden. Imagine having access to such a great



Magnolia 'Exotic Star.'

collection guided by "Mr. Breeder" himself. Dennis is also sharing his outstanding material with the Green Bay Botanical Garden with over 100 magnolia cultivars and species now planted. The act of sharing is good advice for other enthusiasts having a great collection. How many valuable plants have been lost from the horticultural world when the grower passes away and nobody is able or willing to continue to care for the garden? If people were somewhat more thoughtful on this matter, the growers' efforts could be saved and shared with others. I think that Dennis, with his generosity and foresight, has pointed out a way to keep his work for the future.

Philip Savage and Dennis cooperated closely on breeding hardy magnolias. Since Phil passed away, Dennis is making efforts to save Phil's lifetime work by establishing Phil's hybrids in his garden and distributing material to serious plantsmen, which is much appreciated by the Savage family. Dennis offered me a chance to visit the late Philip Savage's garden in Bloomfield Hills, Michigan, which gave me an opportunity to see it before it will be lost. The property was for sale and the plan is to construct a home for retired people. So, this became the great opportunity to study Phil's plantings a last time.

When visiting the garden 20 years ago, Phil was actively breeding and planting hybrids new to the horticultural world. During the few days I stayed there Phil gave "lectures" on his experience and plans. We collect-



Magnolia 'String of Pearls.'

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ed seeds and I took a big package home with me. Most of Phil's hybrids were planted out in long rows behind the house. At that time, I took a photo on the front side of the house that gave a broad view of the big garden and Phil's car (or "old rack" as Tina called it) parked in the circular driveway. On my return visit I took a photo from the same point and then compared the photos to see what 20 years had done. I found the house almost hidden by the trees and shrubs that were small seedlings 20 years ago. I was told that in his last few years Phil did not have the energy to keep up the standard of the garden. The seedlings in Phil's testing area, where he planted out his crossings in rows for selection, were efficiently spaced. Phil's intention was to thin out inferior ones as soon as he found any that did not meet his standards. But due to circumstances, this did not occur and today they are extremely overcrowded. Those at the periphery have grown large and are shading the interior trees, which are suffering from the dense planting. (That should alert all of us who plant too close and then hesitate to thin out.)

During my first visit I observed Phil in full vigor, but the mighty lush of matured trees he left behind impacted my second visit. In any case, it is hard to understand why a developer would not make the best of this surrounding when developing a retirement home.

Both Phil and Dennis frequently used *M. acuminata* in their hybridizing and it was obvious from all the mature trees that *M. acuminata* has much influence on the habit and size of the trees in this garden. I had expected 'Gold Star' (*M. acuminata* 'Miss Honey Bee' × *M. stellata* 'Rubra') to be a shrub or a small tree, but what I found was a tree as big as a normal *M. acuminata*!

I had hoped to collect some good seed but few were found! The previously mentioned late deep freeze had ruined all the flowers this year, but I could not find any serious damage except for the ruined flowering. Again, it was obvious how favorable Dennis' situation is. However, the late flowering *M. macrophylla* escaped the late frost and had produced some big fruits high up in the treetops that required some acrobatic exercise to harvest. It was interesting to find mature seed of *M. macrophylla* that far north of its native distribution. It also says something about the favorable summer temperatures in Bloomfield Hills, as *M. macrophylla* typically requires hot, continental summers. Experiencing a day in the latter half of September where temperatures reached $82^\circ F(28^\circ c)$ was also something to consider for magnolia enthusiasts in Scandinavia when discussing growing zones.

With the garden sold to a developer, the family is anxious that Phil's superior material is preserved for the future. They rely on Dennis who makes an effort to collect and propagate well-known selections as well as new superior magnolias. Fortunately, within a few years we will find Phil's magnolias established in the Green Bay Botanical Garden.

Just to mention a few hybrids not registered:

M. 'Elegance'	M. 'Dark Diva' x M. stellata 'Waterlily'
M. 'Gorgeous'	M. acuminata × M. sargentiana var. robusta
M. 'Luscious'	M. acuminata var. subcordata 'Miss Honey Bee' x M. sargentiana var. robusta
M. 'Savage's Splendor'	M. acuminata x 'Dark Diva'
M. 'Shipmast'	M. acuminata var. subcordata 'Miss Honey Bee' x 'Helen Fogg'
M. 'String of Pearls'	M. denudata × 'Pegasus'

The big *M*. × *soulangeana*, renamed 'Big Pink,' was as impressive as the last time I saw it. But, *M*. 'Bloomfield,' the tree of *M*. *tripetala* that became the "logo" of the garden and made such an impact to me when I saw it in 1987, was not to be found. Just a stump could be seen where it should have been growing. What might have occurred to it we could not find out. In September 1987, *Magnolia tripetala* 'Bloomfield' was a tall, solitary tree in the lawn covered by exotic foliage so tight that the trunk was hidden by a green skirt of big leaves. Now, many large trees surround the stump and it's possible that shade might have adversely affected *M*. 'Bloomfield,' as *M*. *tripetala* is light demanding. In the wild, I have seen it growing in the alluvial beds with the trunk stretching out in a bow over the creek searching for light.

Though no seed was to be found, we had a busy day collecting material for propagation. We had a nice chat with the Savages and a sad farewell to the late "Master's" garden, where so many outstanding magnolia hybrids have been selected.

All photographs by Dennis Ledvina.







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