



The Maple Collection at Arboretum Wespelaar, Belgium, with a special focus on some of the newer and rarer additions

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It is indeed safe to say that the first dendrological passion of the founder of Arboretum Wespelaar, Philippe de Spoelberch, was for the genus *Acer* and rightly so! As we all know, this genus is really a joy at all times of year: flowers; new growth; colour and texture of emerging leaves in the Spring; variation in form and colour of leaves in the Summer; autumn



View across the lake at Arboretum Wespelaar, July 2013.

(Photo: Keith Montgomery)

colours from late September to the end of November; and finally, the amazing range of bark textures and general tree habit which grace the winter months. When the Arboretum collection was started in the mid-1980s, the focus was on both botanical diversity as well as on aesthetics, especially focusing on autumn colour and Japanese maples. In the last decade or so, the focus shifted gradually to plants of known wild origin with the aim to present all of the species hardy in Belgium.

Belgium is in this respect a wonderful country. Of course, as everywhere else, we also try to grow taxa which are more borderline in our climate, but, speaking of maples, Belgium has an excellent temperate, maritime climate influenced by the North Sea and Atlantic Ocean. Wespelaar is about 130km from the coast which means that our winters are somewhat colder and our summers hotter compared to the west of the country. Mean temperatures go from 3.4 °C in January to 18.6 °C in June with yearly absolute minima between -11°C and -14°C and maxima between 30°C and 32°C. Mean rainfall is between 750mm and 850mm per year. We are thus planting and gardening in Plant Hardiness zone 8b or H4-5 following the RHS hardiness ratings.

However, we have probably all experienced the danger of working with averages. It is the extremes (cold, hot, dry, late frost, rainfall, summer winds, etc.) that really determine the planting conditions. This year a couple of maples were lost



due to a very severe (-4°C) and very late (20th April, after a wonderful early Spring) spring frost: *Acer palmatum* subsp. *matsumurae* (or *A. amoenum* var. *matsumurae*, a young specimen), *Acer rufinerve* (well established specimen planted 1992), *Acer pictum* subsp. *mono* (again a young plant) and *Acer morifolium*. Others were badly hit but recovered remarkably well.

Arboretum Wespelaar opened to the public in 2011 and many of the maples are growing on the 20 hectare grounds. However, the figures below also include the maple taxa growing in the neighbouring private collections which are also inventoried and labelled by Arboretum Wespelaar staff. In June 2017, a total of 881 *Acer* collection specimens are grown on the Wespelaar grounds. This number clearly illustrates the enthusiasm we have for this genus, only surpassed by *Magnolia* (992 specimens) and of course the much bigger genus *Rhododendron* (3,600 specimens).

The *Acer* collection goes from A to Z: from the rare but beautiful and interesting Himalayan *Acer acuminatum* to the once popular *Acer x zoeschense* 'Annae', a hybrid of *Acer campestre* and *Acer cappadocicum*. We are growing a total of 314 taxa, 99 botanical taxa (species, subspecies, varieties and forms) and about 215 cultivars (123 of those are *Acer palmatum* s. l. selections¹). 194 specimens (54 taxa) are of known wild origin with more recent additions from very different but mostly Asian countries such as China (Sichuan, Guizhou, Xizang (Tibet), Jiangxi, Gansu, Yunnan), Taiwan, Vietnam, Japan, Kyrgyzstan, South Korea and a couple from the U.S.A., Canada and a single species from Greece (*Acer sempervirens*) and from Georgia (*Acer cappadocicum*). A large part of the maple collection is planted systematically following the groupings of *Maples of the World* (van Gelderen et al. 1994). We have of course taken into account the general requirements of the taxa (full sun or not and general habit and eventual size of the species or selection). Aesthetics have always played an important role and continues to do so.

Our maple collection played a very important role in the composition of the vegetative identification key to the *Acer* species cultivated in Western Europe by Jan De Langhe and available on the Arboretum Wespelaar website (www.arboretumwespelaar.be). This key went through a major revision and the new 2017 edition was attained thanks to the successful collaboration with Dan Crowley, dendrologist at Westonbirt, The National Arboretum, England. Well worth mentioning are the high-definition scans by Jan De Langhe of 204 (!) *Acer* taxa also available on the Arboretum Wespelaar website. It is clear that over the last years more attention has gone to the botanical species rather than the infinite numbers of maple cultivars, and a special focus goes to *ex situ* conservation of endangered species.

¹ s.l. is an abbreviation of the latin "sensu lato" meaning "in the broad sense" (versus s.s. sensu stricto), used here due to the taxonomic problems with *A. palmatum*, *amoenum*, *matsumurae* and then the hybrids with other species such as *A. shirasawanum* etc.



Left: The foliage, and, Right: the bark, of *Acer calcaratum*.
(Photos: Koen Camelbeke)

A good example are our collections of the critically endangered *Acer pentaphyllum*. This is a highly valued species for its fresh green five-lobed leaves and hence elegant form. It is found only in a series of high altitude valleys between 2,300m and 2,900m near Muli in South-West Sichuan; the four small populations consist of fewer than 200 trees (Gibbs & Chen 2009:21). In 2010 seed of several populations was collected during an expedition led by William McNamara of Quarryhill Botanical Garden and joined by Andrew Bunting (Scott Arboretum of Swarthmore College), Christophe Crock (Arboretum Wespelaar) and Andy Hill (UBC Botanical Garden). We now have eight specimens of *Acer pentaphyllum* which are performing remarkably well considering their so-called tenderness, and several more are being grown in our nurseries for future plantings at different sites in Arboretum Wespelaar.

Talking about rare maples, some other success stories can be reported. *Acer sempervirens*, not necessarily rare in its natural range, is very rare in collections in Belgium. This extraordinary maple with its hard and leathery, small, evergreen leaves is an excellent model for our visitors when explaining and demonstrating the botanical diversity within a single genus and the importance of looking past the blinds. Our Cretan maple, known for its drought and heat-tolerance, is growing in our central courtyard against a south facing wall since 2012 and seems very content. In the particularly cold first half of February of 2012 its leaves turned brown and fell in spring but the plant did not suffer in any other way.

The vulnerable *Acer calcaratum* is reported as growing in subtropical regions by streams in rainforests in Myanmar, Thailand and Vietnam and near the border in the very south of Yunnan, China (Gibbs & Chen 2009: 14). In 2005, I found one single specimen, almost by coincidence, at Arboretum Waasland, an arboretum/nursery where often rare gems could be found but which is no longer in business. Knowing its hardiness reputation we have kept it in the greenhouse, but eventually it was planted outside, under the protection of a pine canopy in 2008. In

2009 it survived temperatures to -15°C without any problem or damage. In 2010 I saw the first problems (twigs dieback from the tops onwards) and although I first thought of drought problems, it soon became evident that it was hit by *Verticillium*. It eventually was cut in 2010, but not before we grafted and successfully rooted cuttings of the mother plant. Now two plants are growing in the collection and both are perfectly healthy. We keep our fingers crossed. This is an especially attractive species with glossy, olive green deeply 3-lobed leaves which deserves being planted more frequently (BGCI's PlantSearch only lists four gardens growing this species - https://www.bgci.org/plant_search.php).

Some recent seed exchange and expeditions to Taiwan resulted in three fairly new maple introductions: the near-threatened snakebark *Acer caudatifolium*; *Acer oliverianum* subsp. *formosanum*, in the *Flora of China* probably rightly treated as the distinct species *Acer serrulatum*, and in the red list included in the "Least Concern" group, but listed as vulnerable in the Chinese Species Red List (2004); and *Acer rubescens* (= *Acer morrisonensis* sensu Li (1963) non Hayata) also listed as vulnerable in the maple red list. We are growing 10 specimens of



Acer oliverianum subsp. *formosanum*
(HMC2463, Taichun Co., Taiwan).

(Photo: Koen Camelbeke)

Acer caudatifolium, mostly recently planted (2014 onwards) but one plant of 2008 is doing well, again under the protection of Corsican pines. This snakebark maple, sometimes still listed under its synonym *Acer kawakamii*, is a healthy looking plant with glossy leaves and attractive striped bark but probably too tender for Belgium. *Acer serrulatum* has been planted in the collection since 2010 and 6 out of 9 specimens are surviving. Here again, hardiness could be an issue. *Acer rubescens* appears to be the most hardy of the three species and is generally growing on higher altitudes in East and South Taiwan. This species has been planted in the Arboretum since 2000 and 7 out of 9 are doing quite well.

Acer rubrum and its many breath-taking cultivars are becoming more and more popular in Belgium, especially in collections or public parks where intelligent and sophisticated green managers have a chance to have their say. I have always wondered why its Japanese counterpart *Acer pycnanthum* received so little attention in collections. Of course, it is less of an eye-catcher when it comes to autumn colour but nonetheless this can be an attractive tree in its own right. The species is listed as vulnerable with an estimated 1,000 mature individuals remaining distributed



Left: Foliage, and, Right: Bark of *Acer tsinglingense*.
(Photos: Koen Camelbeke)

between approximately 60 localities. As usual, these populations are under threat from habitat loss (Gibbs & Chen 2009: 24).

Thirteen *Acer pycnanthum* are growing on the grounds in Wespelaar, a couple of them already big trees planted in the early 1980s. Since 2015 many new introductions occurred from seed from known wild provenance, kindly shared with us by William McNamara of Quarryhill Botanical Garden in California. We do hope that this kind of *ex situ* conservation may help to secure the plants in nature or at least have backup of the genetic diversity of the species in several botanical gardens in the temperate regions of the world. More importantly, these kind of *ex situ* collections are very important from an educational point of view. We all need to inform the public, dendrologists or layman alike, of the botanical diversity on our planet, and the major impact the human species has on nature around us. If we only could convince and convert those that have authority but never visit arboreta ...

Many other and rare introductions at Arboretum Wespelaar can be cited: *Acer metcalfii* (near threatened), *Acer elegantulum* (vulnerable?), *Acer sikkimense* (data deficient), *Acer tenellum* (endangered) to name but a few.

Being in love with a particular genus of flowering plants makes it hard to choose on what to write and makes it even more difficult to stop writing. I would like to end this personal and partial account with another gem, *Acer tsinglingense*, and

especially on the way it entered our collection. *Acer tsinglingense* is listed as vulnerable in the maple red list (as "tsinlingense"). It occurs in sparse forests between 1200-1500m in South-East Gansu, South-West Henan and Shaanxi, in an area of habitat degradation and loss (Xu et al. 2008). It is said to be closely related to *Acer sterculiaceum* subsp. *franchetii* but is distinct enough according to Dr. Piet de Jong and is even put in a different group in the most recent version of the vegetative key to the species in cultivation by Jan De Langhe and Dan Crowley (*A. tsinglingense* having milky sap - not present in *Acer sterculiaceum*). This is again a very attractive species and I will never forget seeing a specimen of *Acer tsinglingense* in full autumn colour at the Scott Arboretum of Swarthmore College in Pennsylvania, U.S.A. We are now growing one single specimen of that attractive species and the label says: "Gift The Maple Society - International Maple Symposium 2011". I am happy to report that the plant is in more than tiptop condition!

References

- De Langhe, J. & Crowley, D. 2017. *Acer* L. and *Dipteronia* Oliv. (Sapindaceae). Vegetative key to species in cultivation. http://www.arboretumwespelaar.be/userfiles/file/pdf/Key_Acer_JDL.pdf
- Gibbs, D. & Chen, Y. 2009. The Red List of Maples. BGCI, 44 p.
- van Gelderen, D.M., de Jong, P.C. & Oterdoom, H.J. 1994. Maples of the World, 458 p.
- Wang, S. & Xie, Y. 2004. China Species Red List. Volume 1, Red List. Higher Education Press.
Xu, T., Chen, Y., de Jong P., Oterdoom, H. & Chang, C.-S. 2008. Aceraceae in Flora of China. Volume 11: 515-553. 🌳

The Maple Society is a non-profit international organisation founded in the 1980s. Its objects are to: provide public education and the sharing of information about maple identification, propagation and cultivation methods; support international collaboration in the scientific study and conservation of maple species; promote the aesthetic and cultural appreciation of maples; and address the commercial interests of maple growers. These are achieved by a combination of activities including regional, national and international meetings, garden visits and study days. Its journal "*The Maple Society Newsletter*" is published quarterly, and contains a combination of scholarly articles and those of more general interest. It is distributed free to all members. The Maple Society and North American Branch jointly support initiatives to find, identify and help to protect and conserve maples.

For more information please visit The Maple Society's own website at <https://www.maplesociety.org>, or its Facebook pages, "The Maple Society" and "The Maple Society - North American Branch" on <http://www.facebook.com> or contact the The Maple Society direct via secretary@maplesociety.org.