

Foundation Arboretum Wespelaar Year Report 2017



The best spring ever with warm and sunny weather and floriferous and fresh green looking trees and shrubs turned in just two nights into the worst spring ever. A late and severe spring frost killed flowers, leaves and shoots of many plants. However, some weeks later much of the damage had disappeared or was at least covered by new growth. Again we were struck by the resilience of nature.

Luckily, this drastic event had no major influence on the Arboretum activities and we can report on a successful year with more visitors, more plants, interesting new initiatives and great collaborations.

THE COLLECTIONS

The **living collection of woody plants** in the Arboretum currently (as of February 26th 2018) contain 5,009 specimens representing 2,277 different taxa (versus 16,160 specimens and 4,892 taxa on the whole of the estate). These numbers include the 543 new accessions on the estate during 2017 of which 204 (or 37.6%) are of documented wild origin. As these numbers illustrate, 2017 was a very good year for planting of woody ornamentals at Wespelaar.

Since a couple of years, we have taken the useful practice of **mulching** the base of our young plants. This helps to keep grass and unwanted annuals or perennials away from the tree bases and it keeps the soil moist even in longer dry periods. Furthermore, we have also significantly increased our mulching efforts for older, established plants from 2016 onwards.



Photo 1. *Carya ovata* as an isolated specimen tree

Around 37 **woody plants were removed** from the collection as part of an ongoing effort to improve the aesthetic value and health of the living collection. Although choices are often easy (ugly plant, not adapted to our climate, diseased, too many of the same taxon, etc.) other times it is a more difficult process. This year we have cut our *Magnolia* 'Carlos', a *M. acuminata* var. *subcordata* x *M. denudata* hybrid, that flowers profusely every year with pale yellow flowers and that was named and registered by Arboretum Wespelaar in 2003. However, each autumn it arrived on our notorious cut-list as it blocked the view on a magnificent warm yellow colouring *Carya ovata*. After a couple of years of hesitation the final decision was made in 2017 to give the *Carya* its well-deserved status of isolated specimen tree and thus get rid of the *Magnolia*; but not after a couple of young *M. 'Carlos'* were acquired that are now waiting in the nursery to be planted in a better spot.

High temperatures in March made for an early and spectacular spring. Our first open day of the year on April 2nd attracted more than 500 visitors who were treated with a unique *Magnolia* spectacle. But this all ended very abruptly on the 20th of April after two nights with **late spring frosts**. Nature suddenly turned brown and mournful with frozen flowers, leaves and shoots. This resulted in a devastating sight and *Fraxinus*, *Platanus*, *Chionanthus*, all Juglandaceae, *Tilia*, *Stewartia*, *Wisteria*, *Magnolia* and *Hydrangea* amongst others were badly hit. It remains hard to believe and experience the resilience of nature as most of those recovered after a couple of weeks.

But the **severe drought** that continued well into summer still made for many casualties. We are sad to report that many of our yellow flowering magnolias and several *Sorbus* did not survive these extreme circumstances; also *Rhododendron* suffer significantly during dry spells.

Plant pests and pathogens present a significant risk to global plant health and this threat is ever rising. Sentinel plants within botanic gardens and arboreta can play a vital role in providing information on future and/or known threats. Since 2017, Arboretum Wespelaar is an active partner in the project “Belgian network and activities in the frame of the **International Plant Sentinel Network**”. This IPSN will

- seek and share examples of best practice;
- develop standardised methodologies for monitoring and surveying of damaging plant pests and pathogens;
- provide training materials to increase capability among member gardens;
- facilitate access to diagnostic support;
- develop databases in order to share and store information; and
- communicate scientific evidence with National Plant Protection Organisations.

The focus this year was on a couple of case studies and specific pests on conifers, elms and oaks. The first data are now analysed at the botanic garden of Meise who is coordinating the project at a national level.

www.plantsentinel.org

Having a perfectly labelled and correctly identified collection is one of the main objectives of the Arboretum. Since 2014 we have significantly increased our efforts and our team continues this **major inventory**

round at the Arboretum and the dendrological collections of the surrounding private estates of *Herkenrode*, the *Park of Wespelaar*, the *Potager de Wespelaar* and *Bosveld*. This important and valuable work continued in 2017 and a total of 218 beds (vs. 158 in 2016) have been thoroughly inventoried. During this inventory, each plant within a certain bed is localized, its health status is assessed, the identity is verified if possible and/or needed, and the label is placed on a healthy branch clearly visible for our collaborators and visitors.

Visitors had some difficulties in finding their way with our detailed map of beds and its numbering system. We therefore decided to produce a **three-dimensional plan** which will be much more useful for the regular visitor who is not necessarily looking for the location of a specific plant but comes to enjoy the beauty of the dendrological collections. A collaboration with Omer Van de Kerckhove, botanical illustrator at the Botanic Garden Meise, has led to a beautiful and informative new plan that will be used in future communications with the public.



The Director of Arboretum Wespelaar was able to participate in a botanical trip organized by the German Dendrological Society to the **Far East of Russia** (Primorsky Krai). Contrary to Siberia, this region was not covered by ice in the recent past. This circumstance, as well as the specifics of the geographical situation and the specific features of climate, determine the unique diversity of the plant world at species level with about 250 woody species in Primorye alone. In addition, we were allowed to collect seed and 53 collections have been brought home, were sown subsequently, and will be tested in our collections. We look forward to sharing many of these plants with other botanical collections.



Photo 2. Botanising in Sichote-Alin (Russia) with *Betula ermanii* and *Microbiota decussata*

DATABASES

All our collections (woody and perennial plants, herbarium, bonsai collection, wood samples, cones and fruit, books, journals and reprints) are kept in a database management system which is updated on a daily basis. It is easy to extract and distribute information from this comprehensive database. The catalogue of woody and perennial plants can be downloaded from the Arboretum

Wespelaar website and the woody plants information is at the same time available in an on-line searchable database. In 2016 we started linking photos to the individual specimens which can be consulted in the on-line database. The past two years about 5,635 pictures were linked. This is an important project which will continue and expand in the years to come.

The woody plant information is also shared – by means of a yearly upload of our data – with two other on-line searchable databases: PLANTCOL for collections in Belgium and the PLANTSEARCH database of Botanic Gardens Conservation International which is a global database of living plants with 1,093 contributing institutions. The PlantSearch database of BGCI gives us the possibility to identify which of our taxa are of **conservation concern**. One species, *Franklinia alatamaha*, is extinct in the wild; 11 species are critically endangered (e.g. *Torreya taxifolia* or *Magnolia zenii*); 29 species are listed as endangered (e.g. *Fitzroya cupressoides* or *Picea martinezii*); 81 species as vulnerable (e.g. *Davidia involucreata* var. *vilmoriniana* or *Pseudotsuga sinensis*), etc. The full list is available on our website. Moreover, all threatened red list species are also marked in the field with a red tag on the display label.

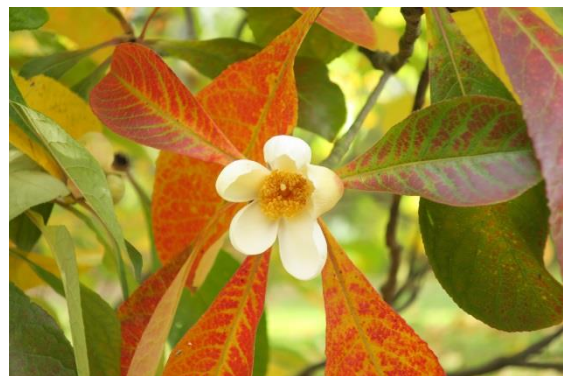


Photo 3. *Franklinia alatamaha* extinct in the wild

VISITORS

Since the opening of the arboretum to the public in 2011 we have seen a **steady increase** in visitor numbers (see table below). 2017 was no exception with a total number of 7,542 visitors. The year 2015 stands out because that year we organized an autumn weekend with extra publicity and free guided visits and that boosted our visitor number for that year.



The number of individual visitors amounts to 4,872 (vs. 4,170 in 2016; a rise of 19%!) and the number of groups totals at 94 (vs. 93 in 2016). 270 annual tickets for families were sold (240 last year) and the sale of homemade arboretum honey was again a big success.

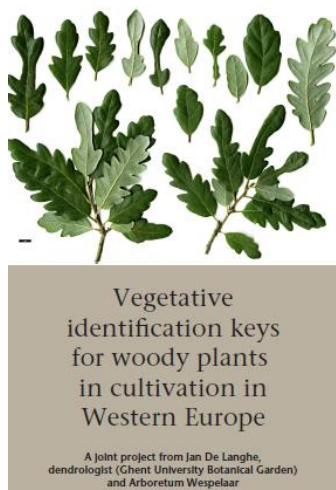
We had, as every year, many visits from **specialized groups**, both national and international, which reflects the importance and impact of Arboretum Wespelaar in the world of woody ornamental plant collections and plant connoisseurs. Amongst those were plant specialists Dan Crowley (*Acer*), Ron Lance (*Crataegus*), Andrew Bunting (*Magnolia*) and Harry Watkins of the University of Sheffield who continues his PhD study entitled “Re-evaluating *Magnolia* as a key genus for 21st Century climate change urban landscapes” and for whom our *Magnolia* collection and our experience are an important source of information. We of

course had many specialist tree breeders (e.g. Chris Lane of Which Hazel Nursery in Kent or Paul Reimer of Reimer’s Nurseries Ltd. in Canada) and colleagues from other collections on visit (e.g. Nantes, ville arboretum or University of Oxford Botanic Garden). Moreover, specialist groups such as The National Trust, the Swedish *Rhododendron* Society, the International Dendrology Society or the Flemish Hardy Plant Society also found their way to the arboretum.

In this day and age of social media, we must also take into account the **virtual visitor** to the Arboretum. In 2017 our website had 12,195 users (vs. 11,787 in 2016) with as usual a peak in spring and again in the second half of October. 83% of the visitors on the website are new visitors. Our **Facebook** page currently has 1,666 followers (1,278 in February 2017). During opening season, new pictures from plants of the collection are added once every week or every two weeks, so that followers can see what is flowering or happening at that time. The pictures are grouped by month. Our most liked albums were those of the months of October and April, and the album “Autumn 2017-Winter” (with each about 200 likes). The reach (people looking at the post without necessarily liking it, also includes people that do not follow the page) of every post is in between 500 and 5,100 persons (maximum 3,500 in 2017). A post about the flowering Magnolias and the approaching opening of the Arboretum on March 29th had the biggest reach (5,100 persons).

There are now no less than 32 vegetative **identification keys for selected woody plant genera and species** in cultivation in Western Europe, composed by Jan De Langhe,

available on our site. Moreover, there are more than 22,000 high-definition images consultable on the website, making this more and more an inexhaustible source of information and beauty. The genera *Azara*, *Corylus*, *Hydrangea* s.l., *Lindera*, *Mahonia* and the Garryaceae family among others received special attention in 2017. This year we also printed an attractive leaflet which will help in the disclosure of and publicity for this unique resource.



EDUCATION

We are often highly commended for our **guided tours**. It is of course important to keep the (botanical) knowledge of our dedicated guides at a high standard and for that reason a class is organized on a monthly basis. Some of the subjects that we studied in 2017 were plant anatomy, identification of hollies, the genus *Magnolia*, stipule morphology and diversity, the Styracaceae family, fungi, apiculture, etc. We also continued with an in-depth study of the woody plant specimens per location focussing on identity, nomenclature, morphology, systematics, natural habitat and

occurrence, maintenance, background stories, etc. The idea behind this approach is to provide our guides with the necessary background to conduct their tour.



Photo 4. Trying to identify trees in summer using the keys made by Jan De Langhe

One of the more effective ways to **share dendrological expertise and horticultural practice** is the organisation of talks and study days. In 2017 several of such activities were organized: talk by Andrew Bunting on Chicago Botanic Garden, Philippe de Spoelberch on the Flora of the Tien-Shan, Michael Dosmann on the Arnold Arboretum, Didier Hermans on *Buxus*. All these presentations are available in pdf-format on our website. Other educational activities include a bonsai-day in May and a Maple Day in August.

EDUplus is a Flemish organisation active in the field of education and training of employees and job-seekers of the green sectors. In 2017 a group of these people came for a successful practical training course on pruning of shrubs working together with our experienced gardening team.

Five **students and trainees** worked in the Arboretum in 2017 and we wish to thank them for their help and assistance and for bringing new ideas and youthful vivacity to

the Arboretum. Here again, the nationality of the students reflects the reputation of the Arboretum: three trainees being Belgian, one from Slovenia and one coming from France.

ADMINISTRATION AND CONTACT WITH AUTHORITIES

In 2015 the local authorities started to draw up a so-called **spatial realisation plan** (entitled “RUP Kastelenparklandschap”) which will help us with the future management and developments at the Arboretum and the surrounding estates. This official document has been adopted and approved by all stakeholders and administrations in January 2018.

SERVICES TO THIRD PARTIES

Acquiring, compiling and sharing dendrological knowledge and expertise is one of the main goals in the mission statement of Foundation Arboretum Wespelaar. One of our important partners in achieving this objective is the **Belgian Dendrological Society** (BDB) and following was realized in 2017: the director of the Arboretum is a member of the Board of the BDB and continues as member of the reading committee of the BDB Yearbook, since 2016 he is also publisher of the BDB Yearbook. A successful study day on the genus *Crataegus* was organized with speakers from the USA, Luxembourg, Germany and Belgium. The secretariat of the BDB remains one of our tasks and Arboretum Wespelaar also remains the driving force behind the database of remarkable **Trees of Belgium** (BELTREES). This database contains now well over 29,400 living measured trees with 1,895 new accessions or updates in 2017. This year we organized for a fourth time two meetings (region of Flanders, and Wallonia plus Brussels) with several of the most important contributors to the database

in order to encourage and increase the number of yearly measurements.



Photo 5. *Crataegus crus-galli* in the Arboretum. The genus *Crataegus* was the subject of a study-day organised for the Belgian Dendrology Society

We organized a well-attended day in southern Belgium for the Dutch Dendrological Society visiting two well-known dendrological collections: the gardens of Warfusée and the private collections of the Charlier family in Esneux.

Another database which is managed and maintained by the Arboretum Wespelaar team is that of the dendrological collections of the private estate **Hemelrijk** in Essen, the property of the De Belder family. In 2014 we have started with a new inventory round of the Hemelrijk collection of woody plants in order to have the main trees and shrubs, if possible, accessed in the database and labelled in the field. This effort will continue in the years to come and we feel privileged to help keep this most important and valuable collection up-to-date and well labelled for the future generations.

The Director of the Arboretum continues his function of secretary of the **Belgian Association of Botanical Gardens and Arboreta** (V.B.T.A.) and of the scientific

committee of Foundation Franklinia. He is also active in and responsible for the follow-up of the projects sponsored by the Arboretum; mostly in the field of nature conservation. The Director is a member of the Magnolia Society International Research Committee and Board of Directors.

It is crucial that the Arboretum keeps good and solid contacts with the **local community**. It is therefore with pleasure that we continue to advise the local authority on the management, reconstruction, labelling and plantings of the public park in Haacht, the CPAS of Haacht, or individual trees on the grounds of the municipality.

It is unfortunate that we must end this year report with a sad note. **Herlinde De Jaeck** was our very first guide and had been making inventories and placing labels in the collections long before the arboretum opened its doors to the public. She was an active and dedicated member of the Board of Directors since the non-profit organisation was set up as a distinct entity in 2001. Herlinde was exceptionally knowledgeable both in the vast field of dendrology and of our native flora. Moreover, her real passion was sharing this knowledge with anyone showing a genuine interest. Herlinde passed away in April and needless to say that she will be greatly missed. The trees and people at Arboretum Wespelaar will keep the memory of Herlinde alive!



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