

AN ASSORTMENT OF WOODY PLANTS PRODUCED IN THE MANOR OF NOVÉ DVORY AT THE TURN OF THE 18TH AND 19TH CENTURIES: NORTH AMERICAN TAXA

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Abstract

The noble family of Chotek began with the realization of extensive landscaping in their manor of Nové Dvory at the end of the 18th century. Lists of woody plants produced for these purposes and for sale were preserved from the years 1794, 1800 and 1814. 276 taxa of foreign woody plants in the current concept, permanently cultivated outdoors, have been identified in all three lists at least to the level of the species. 91 taxa come from North America, with 81 being the first documented place of their presence in the territory of the Czech Republic. All North American taxa are natural, none of them originated in culture.

Keywords: trees, shrubs, introduction, history, Nové Dvory, landscape architecture

INTRODUCTION

Landscape architecture is closely related to the introduction of foreign woody plants into culture. Knowing the history of their use is of great importance both for preserving and restoring the authenticity of woody elements in historical buildings and for the most complete assessment of the degree of their acclimatization and the resulting possibilities and limitations in their further use.

The most extensive and most significant summary works on the history of introducing woody plants into gardens and parks in the Czech Republic published Svoboda (1976, 1981).

However, their certain limitation lies in the fact that they are based on sources dating back to the 1830s and do not include the historical names of the woody plants. Later, the data of both publications were partly supplemented by the results of the study of several older archive materials (Svoboda, 1990). Partial data on the introduction of woody plants into culture was also published by Nožička (1966a, b) in the work on the history of introduction of foreign woody plants in Moravia and Silesia and in the publication on the history of landscape architecture in the Czech lands. Tábor (1987, 1991) elaborated an overview of the woody plants offered by the princely

nurseries in the Lednice-Valtice Cultural Landscape in 1811. The history of woody plant growing in this area at the turn of the 18th and 19th centuries was dealt with by other authors (Pejchal and Krejčířík, 2010, 2012, 2015; Krejčířík *et al.*, 2015). In their works, they do not state only the year in which the cultivation of individual taxa is documented for the first time, but also the ways of using of the most important ones. Other important publications on individual objects (e. g. Tábor, 2013; Tábor and Šantrůčková, 2014) refer to a later period than this publication deals with.

The former manor of Nové Dvory is located in the Central Bohemian region, east of the town Kutná Hora. During the reign of Count Jan Rudolf Chotek (Johann Rudolph Chotek), one of the most prominent figures of the enlightenment nobility, extensive landscaping was in this manor (Weber and Šantrůčková, 2013). An important part of these activities was the acquiring the foreign woody plants and then the production of their seedlings (Ledr, 1884; Borusík, 2009). The archive records the correspondence of Jan Rudolf Chotek and Vienna's major botanicals, especially Joseph Nicolaus Jacquin (1727–1817), his son Franz Joseph Jacquin (1766–1839) and Richard van der Schott (1733–1790) about the application of plants and their orders. The price lists of plants from the garden-developed countries, especially Germany, the Netherlands, Belgium and France, have also been preserved (State Regional Archives in Prague, archive of Chotek family, inv. no. 1553, cardboard no. 106a; inv. no. 1796, cardboard no. 117).

The aim of the paper is to extend knowledge about the assortment of the foreign woody plants of North American origin, with possible cultivation outdoor and introduced into culture in parks and gardens in the Czech lands at the turn of the 18th and 19th centuries.

MATERIALS AND METHODS

Basic sources:

- Archive of the Czech Academy of Sciences – Institute of Art History, inv. no. 05942, WDXIII 2507, the List of Plant Material on the plan of nurseries in the Nové Dvory of 1794.
- The State Regional Archives in Prague, archive of Chotek family, inv. no. 1796, cardboard no. 117, Neues Verzeichniss Inn- und ausländischer Bäume und Sträucher, welche..., 1800.
- The State Regional Archives in Prague, archive of Chotek family, inv. č. 1796, cardboard no. 117, Neues Verzeichniss inn-

und ausländischer Bäume und Sträucher, wie auch Glashaus-Pflanzen und perennierender Staudengewächse, welche..., 1814.

The main source for the taxonomic concept and scientific nomenclature of natural woody plant taxa were the portals The Plant List, WCSP: World Checklist of Selected Plant Families and GBIF: Global Biodiversity Information Facility; as supplementary were used especially portals IPNI: The International Plant Names Index, IOPI: The International Organization for Plant Information, Catalogue of Life; and the book publications Erhardt *et al.* (2014) and Roloff and Bärtels (2014).

The period (historical) names of the woody plants are presented in the form mentioned in the primary source, i.e. including any errors. To identify them with current names, both Internet portals mentioned above and the publications by Rehder (1940, 1949), Krüssmann (1976–1978, 1983), Beissner *et al.* (1903) were used first, and, if necessary, also historical publications through the Internet portal BHL: Biodiversity Heritage Library.

Information on the time of introduction to Europe, or the introduction of a European taxa into culture, was taken from the following sources: Rehder (1940), Krüssmann (1976–1978, 1983) and Bärtels and Schmidt (2014), additionally from Boom (1978), Goeze (1916) and Wein (1931); references to sources are given for individual taxa only when the author's data is different, or only one source is mentioned. The time of introduction into culture in the Czech Republic is based on the data published by Svoboda (1976, 1981, 1990), Tábor (1987), Tábor and Šantrůčková (2014) and Pejchal and Krejčířík (2015). For woody plants for which the manor of Nové Dvory is the place of the first introduction in the territory of the Czech Republic, this fact is marked by a blue fill in the column of the respective year (1794, 1800, 1814).

Any notes on individual taxa are identified by a sequence number and are found behind the Tab. I overview.

RESULTS AND DISCUSSION

Detailed survey results are listed in the table overview (Tab. I).

In 1794, 164 taxa in the current concept were registered, determined at least to the level of the species, with 60 originated in North America. Broad-leaved woody plants prevailed among them significantly (about 90%). No taxon of cultural

origin derived from North American woody plants was cultivated.

In 1800, the situation was similar. 200 taxa in the current concept have been registered, determined at least to the level of the species, with 66 originated from North America. The broad-leaved woody plants were again significantly more prevalent (about 93%), and no taxon of cultural origin derived from North American woody plants was cultivated.

The data from 1814 cannot be fully compared to the above values because the list of plants is not fully preserved: it starts with the *Acer* genus and ends with an incomplete overview of the *Pinus* genus. 131 taxa in the current concept have been registered, determined at least to the level of the species, with 45 originated from North America. The broad-leaved woody plants again significantly prevailed (about 91%), and no taxon of cultural origin derived from North American woody plants was again cultivated. The proportion of North American taxa is similar as in 1800. It is possible to speculate that the also absolute frequency was similar. This is also suggested by the comparison of number of the historical names of all the foreign woody plants with the genus names beginning with "A" to "O": in 1800, there were 84, in 1814 another eight more.

In all three woody plant offerings, 276 taxa in the current concept have been registered, determined at least to the level of the species. Among them, 91 were from North America, with 5 not clearly determined, and in 6 the historical names were identified with a similar likelihood with two taxa in the current concept.

Of all the taxa offered in the years 1794, 1800 and 1814, according to the existing findings, for 241 of them were documented for the first time their production for the needs of the landscape architecture in the territory of the Czech Republic.

There are 81 of them with origin in North America, all of which are the oldest evidence of their presence in this territory. The period of their introduction has shifted 1 to 35 years ahead: 1–5 years ahead 24%, 6–10 years ahead 59%, 11–15 years ahead 15%, 20 and more years ahead 2% of taxa. However, for all foreign taxa, their time of introduction into culture clearly lags behind the same Fig. for Europe. For North American woody plants this delay is 5–258 years: 1–30 years 4%, 31–60 years 19%, 61–100 years 34%, 101–150 years 21%, 151–200 years 21%, 200 years and more 1% of taxa.

Significant dominance of foreign woody plants over domestic reflects their intense introduction into culture in Europe at the turn of the 18th and 19th centuries, triggered by both expectations of benefits in forestry and trends in garden art (Nožička, 1966a; Benčat, 1982: 71–100). Among the foreign plants, the North American woody plants and perennials took the lead at that time, introduced into Europe through France and England (Wimmer, 2014: 171). The absence of cultural taxa stems from the fact that the cultivation of ornamental woody plants did not exist in North America until then, unlike Europe, the Middle East and East Asia.

The presented results should be interpreted with caution, since the interpretation of the period sources and the comparison of the results with other contemporary works is complicated for the following reasons: (1) the names of the plants in the archival sources are cited without their authors; (2) some contemporary works present the contemporary, but not historical names of plants; (3) there exist different width of the concept of taxa for individual authors and periods, (4) the boundary between taxa that can be cultivated and no longer cultivated in outdoor culture are not uniformly defined.

I: Overview of the production of North American woody plants

Current name	Historical name	Europe	Introduction into culture				Note
			Czech Republic – existing data	Nové dvory 1794	Nové dvory 1800	Nové dvory 1814	
<i>Abies balsamea</i> (L.) Mill.	<i>Pinus balsamea</i>	1698	1801	/	/		
<i>Acer negundo</i> L.	<i>Acer negundo</i> , (1814) <i>A. Negundo</i>	1688	1800	/	/	/	
<i>Acer pensylvanicum</i> L.	<i>Acer striatum</i>	1755	1801	/	/	/	
<i>Acer rubrum</i> L.	<i>Acer rubrum</i>	1656	1802	/	/	/	
<i>Acer saccharinum</i> L.	<i>Acer saccharinum</i> , (1800) <i>A. sacharinum</i> , (1814) <i>A. Saccharinum</i>	1725	1802	/	/	/	
<i>Aesculus flava</i> Sol.	<i>Aesculus Pavia flore luteo</i> , (1814) <i>A. lutea</i>	1765	1805		/	/	1
<i>Aesculus pavia</i> L.	<i>Aesculus flore rubro</i> , (1814) <i>A. pavia</i>	1711	1804		/	/	2
<i>Amelanchier canadensis</i> (L.) Medik.	<i>Mespilus canadensis</i> , (1800) <i>M. Canadensis</i>	1623	1804	/	/		3
<i>Amorpha fruticosa</i> L.	<i>Amorpha fruticosa</i> , (1814) <i>A. arborescens</i>	1724	1803	/	/	/	4
<i>Aristolochia macrophylla</i> Lam.	<i>Aristolochia Siphon</i>	1783	1803			/	
<i>Aronia arbutifolia</i> (L.) Pers. var. <i>pumila</i> (Schmidt) Rehder	<i>Mespilus pumila</i>	1700	1804	/			5
<i>Baccharis halimifolia</i> L.	<i>Baccharis halimifolia</i>	1683	1823			/	
<i>Berberis canadensis</i> Mill.	<i>Berberis canadensis</i>	1759	1802			/	
<i>Betula lenta</i> L.	<i>Betula lenta</i>	1758	1802		/		6
<i>Betula nigra</i> L.	<i>Betula nigra</i>	1736	1804			/	
<i>Campsis radicans</i> (L.) Seem.	<i>Bignonia radicans</i>	1640	1801	/	/	/	
<i>Carya ovata</i> (Mill.) K. Koch or <i>C. tomentosa</i> (Lam.) Nutt.	<i>Juglans alba</i>	1629 / 1766	1806		/		7
<i>Catalpa bignonioides</i> Walter	<i>Bignonia catalpa</i> , (1800) <i>B. Catalpa</i>	1726	1801	/	/	/	
<i>Celastrus scandens</i> L.	<i>Celastrus scandens</i>	1736	1801	/	/	/	
<i>Celtis occidentalis</i> L.	<i>Celtis occidentalis</i>	1636	1802	/	/	/	
<i>Cercis canadensis</i> L.	<i>Cercis canadensis</i> , (1800) <i>Cercis Canadensis</i>	1640	1805	/	/		
<i>Chamaecyparis thyoides</i> (L.) Britton, Sterns and Poggenb.	<i>Cupressus thyoides</i>	1727	1801		/	/	
<i>Clematis virginiana</i> L.	<i>Clematis Virginiana</i>	1720	1807	/	/	/	
<i>Cornus amomum</i> Mill.	<i>Cornus amomum</i>	1683			/		
<i>Cornus florida</i> L.	<i>Cornus florida</i>	1731	1806	/			

Current name	Historical name	Introduction into culture					Note
		Europe	Czech Republic – existing data	Nové dvory 1794	Nové dvory 1800	Nové dvory 1814	
<i>Cornus racemosa</i> Lam.	<i>Cornus paniculata</i>	1758	1802			/	
<i>Cornus foemina</i> Mill.	<i>Cornus stricta</i>	1758	1802			/	
<i>Cornus sericea</i> L.	<i>Cornus sericea</i>	1656	1807			/	
<i>Cornus</i> L. sp.	<i>Cornus novae Angliae</i>				/		
<i>Corylus cornuta</i> Marshall	<i>Corylus rostrata</i>	1745	1806			/	
<i>Crataegus coccinea</i> L. ?	<i>Crataegus coccinea</i>	1683	1801	/	/	/	8
<i>Crataegus</i> L. sp. ?	<i>Crataegus coccinea villosa</i>			/			
<i>Crataegus crus-galli</i> L.	<i>Crataegus crus galli</i> , (1800) <i>C. lucida</i> , <i>C. Crusgalli</i>	1691	1804	/	/	/	
<i>Crataegus elliptica</i> Sol. ?	<i>Crataegus virginiana</i> , <i>C. viridis</i>	1789	1803	/	/	/	9
<i>Crataegus flava</i> Sol.	<i>Mespilus virginiana</i> , (1800) <i>Crataegus caroliniana</i> , (1814) <i>C. flava</i>	1723	1803	/ ?	/	/	10
<i>Crataegus punctata</i> Jacq.	<i>Crataegus punctata</i>	1746	1802	/	/	/	
<i>Crataegus calpodendron</i> (Ehrh.) Medik.	<i>Crataegus tomentosa</i>	1747		/			
<i>Diervilla lonicera</i> Mill.	<i>Lonicera diervilla</i>	1720	1804	/	/	/	
<i>Diospyros virginiana</i> L.	<i>Diospyros virginiana</i>	1629	1803	/		/	
<i>Euonymus americanus</i> L.	<i>Evonymus americanus</i>	1679	1802		/	/	11
<i>Fraxinus americana</i> L.	<i>Fraxinus americana</i> , <i>F. novae Angliae</i> , (1814) <i>F. juglandifolia</i>	1724	1800	/	/	/	
<i>Fraxinus caroliniana</i> Mill. ?	<i>Fraxinus caroliniana</i> , (1800) <i>F. Caroliniana</i>	1724	1802	/	/		12
<i>Fraxinus pennsylvanica</i> Marshall	<i>Fraxinus nigra</i> , (1800) <i>F. nigra</i> , (1814) <i>F. pubescens</i> , <i>F. nigra</i>	1783	1807	/	/	/	13
<i>Gleditsia aquatica</i> Marshall or <i>Gleditsia triacanthos</i> L. fo. <i>inermis</i> (L.) Zabel	<i>Gleditsia inermis</i>	1723 / 1798	1801 / ?		/		14
<i>Gleditsia triacanthos</i> L.	<i>Gleditsia triacanthos</i>	1700	1803	/	/	/	
<i>Hydrangea arborescens</i> L.	<i>Hydrangea arborescens</i>	1736	1804			/	
<i>Juglans cinerea</i> L.	<i>Juglans cinerea</i>	1633	1801	/	/	/	
<i>Juglans nigra</i> L.	<i>Juglans nigra</i>	1686	1801	/	/	/	
<i>Juniperus virginiana</i> L.	<i>Juniperus virginiana</i>	1664	1801	/	/	/	
<i>Liriodendron tulipifera</i> L.	<i>Liriodendron tulipifera</i>	1663	1801		/		
<i>Lonicera sempervirens</i> L.	<i>Lonicera sempervirens</i>	1656	1801		/	/	15

Current name	Historical name	Europe	Introduction into culture				Note
			Czech Republic – existing data	Nové dvory 1794	Nové dvory 1800	Nové dvory 1814	
<i>Malus coronaria</i> (L.) Mill.	<i>Pyrus malus coronaria</i> , (1800) <i>P. coronaria</i>	1724	1801	/	/		
<i>Menispermum canadense</i> L.	<i>Menispermum canadense</i>	1646	1804	/	/	/	
<i>Morus rubra</i> L.	<i>Morus rubra</i>	1629	1804	/	/	/	
<i>Morella cerifera</i> (L.) Small [<i>Myrica cerifera</i> L.]	<i>Myrica cerifera</i>	1699	1804		/	/	
<i>Ostrya virginiana</i> (Mill.) K. Koch	<i>Carpinus virginiana</i>	1692	1803	/			
<i>Parthenocissus quinquefolia</i> (L.) Planch.	<i>Hedera quinquefolia</i>	1622	1807	/	/	/	
<i>Physocarpus opulifolius</i> (L.) Maxim.	<i>Spiraea opulifolia</i>	1687	1802	/	/		
<i>Picea laxa</i> (Münchh.) Sarg. [<i>Picea glauca</i> (Moench) Voss]	<i>Pinus wihte spruce</i> , (1814) <i>P. alba</i>	1700	1801	/		/	
<i>Pinus strobus</i> L.	<i>Pinus strobus</i> , (1800) <i>P. Strobus</i>	around 1705	1801	/	/	/	
<i>Platanus occidentalis</i> L.	<i>Platanus occidentalis</i>	1640	1800	/	/		
<i>Populus balsamifera</i> L. ?	<i>Populus balsamea</i>	before 1689	1801		/		16
<i>Populus ×canadensis</i> Moench or <i>Populus deltoides</i> Marshall	<i>Populus Canadensis</i>	around 1750 / 1750	1804		/		17
<i>Populus heterophylla</i> L.	<i>Populus heterophylla</i>	1765	1823		/		
<i>Prunus americana</i> Marshall or <i>Prunus virginiana</i> L. ?	<i>Prunus canadensis</i>	1768 / 1724	1801 / 1800	/			18
<i>Prunus virginiana</i> L. ?	<i>Prunus Virginiana</i>	1724	1800	/	/		19
<i>Ptelea trifoliata</i> L.	<i>Ptelea trifoliata</i>	1724	1801	/	/		
<i>Quercus rubra</i> L.	<i>Quercus rubra</i>	1724	1805	/	/		
<i>Rhus copallinum</i> L.	<i>Rhus copalinum</i>	1688	1804	/			
<i>Rhus glabra</i> L.	<i>Rhus glabrum</i>	1620	1801	/	/		
<i>Rhus typhina</i> L.	<i>Rhus typhinum</i>	1629	1801		/		
<i>Ribes americanum</i> Mill.	<i>Ribes americanum</i>	1727			/		
<i>Robinia hispida</i> L.	<i>Robinia hispida</i>	1758	1802	/	/		
<i>Robinia pseudoacacia</i> L.	<i>Robinia pseudoacacia</i> , (1800) <i>R. Pseudoacacia</i>	1635	1799	/	/		
<i>Rosa carolina</i> L.	<i>Rosa caroliniana</i>	1724	1808	/			20
<i>Rubus odoratus</i> L.	<i>Rubus odoratus</i>	1635	1804		/		

Current name	Historical name	Introduction into culture					Note
		Europe	Czech Republic – existing data	Nové dvory 1794	Nové dvory 1800	Nové dvory 1814	
<i>Senna marilandica</i> (L.) Link [<i>Cassia marilandica</i> L.]	<i>Cassia marylandica</i>	1723	1805	/	/		21
<i>Spiraea alba</i> Du Roi	<i>Spiraea alba</i>	1759	1808	/	/		22
<i>Staphylea trifolia</i> L.	<i>Staphylea trifoliata</i>	1640	1801		/		
<i>Symphoricarpos orbiculatus</i> Moench	<i>Lonicera symphoricarpos</i>	1727	1801	/	/	/	
<i>Taxodium distichum</i> (L.) Rich.	<i>Cupressus disticha</i>	1640	1835		/		
<i>Thuja occidentalis</i> L.	<i>Thuja occidentalis</i>	1536	1801	/	/		
<i>Tilia caroliniana</i> Mill. [<i>T. americana</i> var. <i>caroliniana</i> (Mill.) E. Murray]	<i>Tilia caroliniana</i> , <i>T. pubescens</i> , (1800) <i>T. Caroliniana</i>	1726		/			23
<i>Toxicodendron pubescens</i> Mill. [<i>Rhus toxicodendron</i> L.]	<i>Rhus toxicodendron</i>	1622?	1801	/			24
<i>Toxicodendron radicans</i> (L.) Kuntze [<i>Rhus radicans</i> L.]	<i>Rhus radicans</i>	1640	1804	/	/		25
<i>Toxicodendron vernix</i> (L.) Kuntze [<i>Rhus vernix</i> L.]	<i>Rhus vernix</i>	1713	1805	/			
<i>Tsuga canadensis</i> (L.) Carrière	<i>Pinus canadensis</i>	before 1736	1804	/			26
<i>Viburnum cassinoides</i> L.	<i>Viburnum cassinoides</i>	1761	1804	/			
<i>Viburnum dentatum</i> L.	<i>Viburnum dentatum</i>	1736	1804	/	/		
<i>Viburnum prunifolium</i> L.	<i>Viburnum pyrifolium</i>	1727	1807		/		27
<i>Vitis vulpina</i> L. or <i>V. riparia</i> Michx.	<i>Vitis vulpina</i>	?	?	/			28
<i>Zanthoxylum americanum</i> Mill. or <i>Z. clava-herculis</i> L.	<i>Zanthoxylum clava herculis</i>	1740 / ?	1799		/		29

- Schmidt (1792: 41, plate 40) names *Aesculus flore flavo* also as “gelbe Pavie”; description and illustration corresponds to *A. flava* Sol.
- Description and illustration of *Aesculus pavia*, Rothblühende Rosskastanie that presents Schmidt (1792: 40, plate 39) corresponds to *A. pavia* L. Name *Aesculus pavia flore rubro* applied, along with the name *A. pavia flore luteo*, e. g. Mayer (1786) and Schindelmayer (1812: 163).
- Many of the plants in Europe formerly known as *Amelanchier canadensis* are now classified to *A. lamarckii* F.G. Schroed.
- Amorpha arborea* Schkuhr (1796) is an unresolved name (The Plant List, 2018; GBIF, 2018). Rehder (1949: 369) mentions it as the possible but uncertain synonym of *A. fruticosa*.
- Description and illustration of *Mespilus pumila* see Schmidt (1794: 39, plate 88).
- It is unlikely that it was *Betula lenta* Du Roi, synonym of *Betula pubescens* Ehrh. (The Plant List, 2018; GBIF, 2018; Catalogue of Life, 2018).
- Also Wendt (1804: 36) mentions *Juglans alba* L. Borkhausen (1800: 756) in the period Central European sources. Taxonomy and nomenclature are inconsistent in different sources (Flora, 2017; The Plant List, 2018; GBIF, 2018);

- Erhardt, 2014: 201). Here is the notion that *J. alba* L. is a nomen ambiguum, including both *Carya tomentosa* and *C. ovata* (Flora, 2017).
- 8 Due to the taxonomic and nomenclatural complexity of the *Coccineae* Loudon section, it cannot be ruled out that it could be another taxon. According to The Plant List (2018), the *Crataegus coccinea* auct. is synonymous with *Crataegus intricata* Lange; Bärtels and Schmidt (2014: 248) indicate its introduction into culture in 1730.
 - 9 Historical name *Crataegus virginiana* is probably the inaccurate name of *C. virginica* Lodd. ex Loudon; its match with *C. elliptica* Sol. is not unambiguous. It is probably *Crataegus viridis* Walter because Rehder (1940: 364) states the introduction of *C. viridis* L. into culture only in 1827. According to The Plant List (2018), *C. viridis* Walter is unresolved name, but some data suggest that it is the synonym of *Crataegus elliptica* Sol.
 - 10 Opinions about taxon *Mespilus virginiana* Mill. are not uniform. GBIF (2018) and Catalogue of Life (2018) mark it as synonym of *Crataegus flava* Soland. ex Ait., The Plant List (2018) and Rehder (1949: 265) consider it synonymous with *Amelanchier canadensis* (L.) Medik.
 - 11 Among Central European authors, already Schmidt (1794, vol. 2: 21, plate 75) describes and displays this taxon.
 - 12 *Fraxinus caroliniana* Mill. is the currently accepted name (The Plant List, 2018; WCSP, 2018; GBIF, 2018). In the historical context, however, the name *F. caroliniana* – in the concept of other authors – was the synonym of *F. americana* L., as evidenced by the then relevant Central European literature. Borkhausen (1800: 825) mentions *F. caroliniana* Du Roi as synonym for *F. juglandifolia* Lam. Wendt (1804: 31) refers to *F. caroliniana* Willd. as synonym of *F. americana* L.; according to The Plant List (2018) and WCSP (2018), *F. caroliniana* Willd. is a synonym of *Fraxinus americana* L.; it cannot be ruled out that it could be this species.
 - 13 The name *Fraxinus nigra* is not with very high probability the same as *Fraxinus nigra* Marshall, since this species was introduced into Europe only in 1800 and it is virtually impossible that Count Chotek was obtaining plant material directly from North America. It was very likely *F. nigra* Pott, which historical Central European literature referred to as the synonym of *F. pubescens* Lamarck, today *F. pennsylvanica* Marshall (Borkhausen, 1800: 828; Wendt, 1804: 32, 67); the same states also Beissner *et al.* (1903: 407) and Rehder (1949: 558). It is also very likely that in all three lists the same taxon was designated by this name.
 - 14 According to The Plant List (2018), *Gleditsia inermis* L. is a synonym of *G. triacanthos* L., *G. inermis* Mill. is a synonym of *G. aquatica* Marshall, *G. inermis* Crantz is a synonym of *G. aquatica* Marshall. Among Central European authors, Borkhausen (1803: 961) mentions only *G. inermis* Du Roi as a synonym for *G. aquatica* Marshall, while Wendt (1804: 32) presents only *G. inermis* L. Boom (1978: 281) states that *G. triacanthos* f. *inermis* was introduced into culture in Austria in 1798.
 - 15 Taxon is at the border of possible cultivation in outdoor culture in the Czech Republic.
 - 16 It cannot be excluded that it was *Populus balsamifera* Mill., synonym of *P. deltoides* subsp. *deltoides* Bartram ex Marshall.
 - 17 The knowledge of poplars from the Aigeros section was inadequate in Central Europe in the early 19th century. E. g. Borkhausen (1800: 557) states the origin of *P. canadensis* Moench in America and for *P. carolinensis* Moench and *P. monilifera* Aiton – at the present time classified to *P. deltoides* Marschall – he uses “canadische Pappel” as one of the German names (p. 550); also Wendt (1804: 43) applied this German name for *P. monilifera* Aiton. Still Koch (1872, vol. 2.I: 191) and Lauche (1883: 317) states *P. canadensis* Moench as synonymous with *P. monilifera* Aiton and *P. laevigata* Aiton. The woody plant marked *P. canadensis* is in the Lednice-Valtice Cultural Landscape documented in 1804.
 - 18 *Prunus canadensis* L. is a synonym for *P. americana* Marshall (Catalogue of Life, 2018). *P. canadensis* Marshall is a synonym for *P. virginiana* L. (Catalogue of Life, 2018; GBIF, 2018; Rehder, 1949: 347).
 - 19 It cannot be ruled out that it could be *Prunus virginiana* Du Roi, a synonym for *P. serotina* Ehrh. (Catalogue of Life, 2018; Borkhausen, 1803: 1432).
 - 20 According to portals The Plant List (2018) and GBIF (2018), *Rosa caroliniana* Michx. is a synonym of *Rosa carolina* L. Introduction into Europe according to Loudon (1842, p. 326).
 - 21 A shrub with an overground part freezing regularly to the ground in the Czech Republic.
 - 22 Businský and Businská (2002: 92) document the cultivation of this taxon on the territory of the Czech Republic since the 1840s on the basis of herbarium studies.
 - 23 The taxonomic concept of lime-trees is not uniform; in this case it is taken from Pigott (2012). The year of introduction to Europe is also indicated according to this publication (p. 267).
 - 24 The great similarity with *Toxicodendron radicans* (L.) Kuntze [*Rhus radicans* L.] and the overlapping natural habitat were and are frequent causes of both species being confused. *Rhus toxicodendron* auct., sensu Med Checkl. Refer. 19, 28, 43, 61, is synonymous with *R. radicans* L. (IOPI, 2018); see also note to *T. radicans*. Data on the introduction of *T. pubescens* into Europe therefore differs significantly. Goeze (1916: 183) reports the year 1622 (France). For further information on introducing this taxon into Europe (1640, Great Britain), see Loudon (1838, vol. 2: 556). Rehder

- (1940: 545) mentions introduction into culture only in 1937; also Krüssmann (1978, vol. 3: 209) and Bärtels and Schmidt (2014: 666) reported the same year.
- 25 For data on introduction of *Toxicodendron radicans* into Europe (1640, Británie), see Loudon (1838, vol. 2: 556); this data mentioned also Rehder (1940: 544), Krüssmann (1978, vol. 3: 209) and Bärtels and Schmidt (2014: 666). Earlier introduction to Europe in 1622 (France) is given by Boom (1978: 306). Goeze (1916: 183) reports the same year of introduction of a relative of *T. pubescens* Mill. [*Rhus toxicodendron* L.] to France. Boom considers *R. toxicodendron* hort. as a synonym of *R. radicans* L., it is therefore possible that he mistakenly took over the year of introduction from Goeze.
- 26 It is very unlikely that it was *Pinus canadensis* (Mill.) Du Roi, synonymous with *Picea laxa* (Münchh.) Sarg., because another item with the name of *Pinus white spruce* is on the same list of offered woody plant products from 1794.
- 27 Especially in terms of time, it is very unlikely that it was *Viburnum prunifolium* Pursh, a synonym for *V. cassinoides* L.; see Rehder (1949: 609).
- 28 Data on the introduction of *Vitis vulpina* L. into Europe differs. Goeze (1916: 181) and Wein (1931: 139) state the year 1656 and Loudon (1842: 138), Rehder (1940: 610), Krüssmann (1978, vol. 3: 478) and Bärtels and Schmidt (2014: 845) then state year 1806. It is possible that it was not really this species, but *V. riparia* Michx. often confused with this species, whose introduction into Europe indicate Rehder (1940: 611), Boom (1978: 333) and Bärtels and Schmidt (2014: 845) to year 1656, while Loudon (1842: 138), Goeze (1916: 182) and Krüssmann (1978, vol. 3: 475) to year 1806. In the historical Central European literature (Borkhausen, 1800; Wendt, 1804), of the North American species are mentioned only *V. vulpina* L. and *V. labrusca* L., while *V. riparia* Michx. (1804) is not yet mentioned.
- 29 *Zanthoxylum clava-herculis* L. is the accepted name, *Z. clava-herculis* Lam. is synonym of *Z. americanum* Mill. (The Plant List, 2018; GBIF, 2018; Catalogue of Life, 2018). Older sources consider *Zanthoxylum clava-herculis* L. to be synonymous with *Z. americanum* Mill. (Krüssmann, 1978, vol. 3: 492; Rehder, 1949: 381; Beissner *et al.*, 1903: 377).

CONCLUSION

The paper presents new data on the assortment of North American woody plants produced for the needs of landscape architecture at the turn of the 18th and 19th centuries in the manor of Nové Dvory. In 1794, 1800 and 1814 (only an incomplete list was preserved), 164, 200 and 131 taxa in the current concept have been registered, identified at least to the level of the species. Of these, 60, 66 and 45 taxa were of North American origin. Among them, the broad-leaved woody plants dominated: 90, 93 and 91%.

In all three woody plant offerings, 276 taxa in the current concept have been registered, determined at least to the level of the species. Among them, 91 were from North America, with 5 not clearly determined, and in 6 the historical names were identified with a similar likelihood with two taxa in the current concept.

Of all the taxa offered in the years 1794, 1800 and 1814, according to the existing findings, for 241 of them were documented for the first time their production for the needs of the landscape architecture in the territory of the Czech Republic. There are 81 of them with origin in North America, all of which are the oldest evidence of their presence in this territory. The period of their introduction has shifted 1 to 35 years ahead: 1–5 years ahead 24%, 6–10 years ahead 59%, 11–15 years ahead 15%, 20 and more years ahead 2% of taxa. However, for all foreign taxa, their time of introduction into culture clearly lags behind the same Fig. for Europe. For North American woody plants this delay is 5–258 years.

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