

## DENDROFLORA OF THE HISTORICAL PARK IN SWADZIM NEAR POZNAŃ (WIELKOPOLSKA VOIVODESHIP)

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**Abstract.** The inventory carried out in the 19<sup>th</sup> century historic park in Swadzim near Poznań recorded the total of 1886 trees, bushes and climbers deriving from 64 species. At the present time, the park is neglected and a plan for its revalorization is badly needed. Tree composition is dominated by *Quercus robur*, *Robinia pseudoacacia*, *Acer pseudoplatanus*, *Carpinus betulus*, *Q. rubra* and *Fagus sylvatica*, while that of bushes – by *Sambucus nigra*. The height of trees ranges from 16 to 20 m and their circumferences – from 45 to 114 cm; the health condition of the majority of trees is good or even very good. Single specimens of rare and threatened species were found to occur. The total of 101 splendid trees from 26 taxons were inventoried among which *A. pseudoplatanus*, *A. platanooides*, *Aesculus hippocastanum*, *R. pseudoacacia* and *C. betulus* dominated. In comparison with the Rataj's inventory from 1976, transformations are apparent in the dendroflora of the park towards its naturalisation. The tree stand requires cutting and tending intervention.

**Key words:** dendroflora, monumental trees, park, Swadzim

### INTRODUCTION

Manor house gardens and parks express the material and intellectual culture and heritage of the country in which they were established and provide evidence of its natural resources. In Poland, many old, once beautiful parks, were destroyed irretrievably and those that remained offer a valuable source of knowledge for historians and a rewarding object of research for botanists. Built into local landscape, they constitute an important constituent of the plant cover and bring much aesthetic charm into the scenery. Possibilities of taking advantage from their riches offer the community a feeling of identity with local nature and allow them appreciate their functional and aesthetic value [Olaczek 1974, Ciołek 1978, Majdecki 1993, Bogdanowski 1999, Latowski and Zieliński 2001, Bożętka 2007, Różańska et al. 2008].

By the year 2008, the total of 6954 historic parks and gardens had been inventoried in Poland and registered as monuments. The greatest number of such parks is situated in the region of Wielkopolska where 978 historic parks and gardens were recorded of the total area of 2496 ha of which 785 are former manor house, palace and castle objects [Parki i ogrody... 2009].

Although in the past, landowners' residencies and green areas surrounding them were maintained in ingenious, creative and logical ways, their consistency has either been considerably disturbed or destroyed completely. The economical crisis at the end of 1920s, war plunders, nationalisation after World War II as well as current neglect of former manor house parks contributed to the degradation of many valuable objects. Despite the fact that after World War II, palaces and manor houses together with the parks surrounding them served many different functions, generally speaking, successive 'administrators' abandoned their aesthetic values. Consequently, at the beginning of the 21<sup>st</sup> century, from among several thousand land estates which existed during the times of the Second Polish Republic, only about 900 survived in a condition giving hope for reconstruction [Różańska and Szpanowski 2008]. One of such objects is a historic, XIX-century park-palace complex in Swadzim situated near Poznań.

The aim of this study was to make an inventory and elaborate valorisation of the dendroflora of the palace park in Swadzim. In addition, the authors also presented suggestions regarding the improvement of the conditions of maintenance of the park dendroflora.

## **THE HISTORY OF PARK-PALACE COMPLEX IN SWADZIM**

The oldest records of Swadzim date back to 1288 when it was described as Swacino. Data from 1386 mention Spanczin and Svacim. During the 13<sup>th</sup> and 14<sup>th</sup> century, the area of the present park was the property of the Swadzimski family. From 1580 onwards, the estate was the property of the Kierskis and later, in about 1793, the property was purchased by Szymon Konarowski and in the 19<sup>th</sup> century, it was taken over by the Kašinowski family. From the beginning of the 20<sup>th</sup> century until the 2<sup>nd</sup> World War, the village of Swadzim belonged to the Plucinskis [Rataj 1976]. Even though the park and the palace were established in the 19<sup>th</sup> century as confirmed by Prussian maps from this period [Map...], documentation describing their beginnings is missing. First information about this establishment is connected with its reconstruction carried out in 1910 by Leon Pluciński. After World War II, the estate was nationalised and in 1960s it became part of the Agricultural Experimental Station of the then Higher Agricultural School. In those times, the palace served as a warehouse and as a students' hostel. In the year 2000, the palace was returned to the heir Leon Pluciński, Wanda Plucińska-Auge and after her death in 2004, the palace became property of the Poznań Metropolitan Curia.

The palace was built in the 19<sup>th</sup> century however, due to lack of original plans and design, Roger Sławski, the person responsible for its expansion in 1910, is considered as the palace designer. In 1924, the palace was further expanded by the addition of its southern wing which was designed by Stanisław Mieczkowski [Płóciennik 2006]. This eclectic object combines neo-baroque and neo-classical currents in Polish architecture of the turn of the 19<sup>th</sup> and 20<sup>th</sup> centuries [Libicki and Libicki 2003, Płóciennik 2006,

Dwór... 2007]. The palace was restored after the war and it was additionally renovated. On the 16<sup>th</sup> August 1989, the object was registered as a monument under number 2177/A.

The park changed its design several times from the moment of its establishment [www.mapy.amzp.pl]. Even though it is difficult to ascertain unequivocally the exact moment of interference in its spatial arrangement, it can be assumed with a fair amount of certainty that changes were introduced already at the beginning of the last century. Moreover, the park was expanded several times and tending treatments were performed in the second half of the 20<sup>th</sup> century. The inventory of the Swadzim park prepared by Rataj [1976] divided its area into four sections connected with the time of establishment of its individual fragments. At the present time, the park has lost its spatial and functional arrangement. Absence of care and changing property conditions caused that little has remained from its original design. Nevertheless, the park complex was placed under conservation, ecological and design care on 14.02.1979 and was allocated number 1784/A in the monument register. The conservation protection of the park establishment in Swadzim covers its entire area (Fig. 1). Its ecological protection area was expanded by 50 m from the northern park limit (including the north-eastern pond), by 50 m from the road Swadzim-Batorowo on the western border of the area, runs along the border of the orchard in the south-western end of the park, runs 50 m from the Swadzim-Lusowo

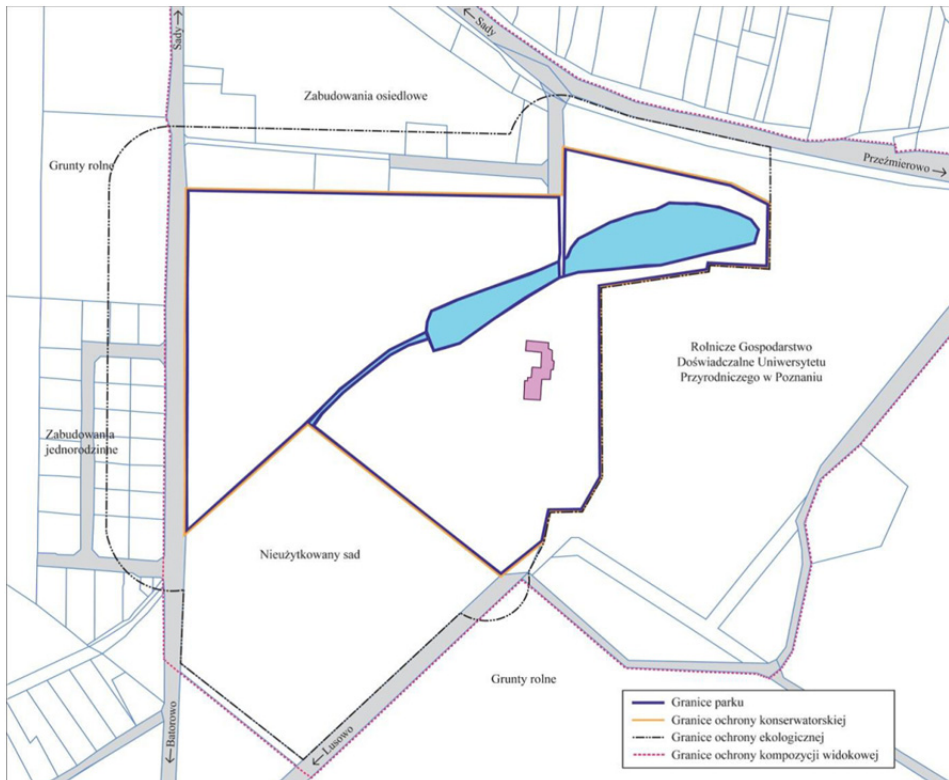


Fig. 1. Borders park in Swadzim  
Rys. 1. Granice parku w Swadzimiu

road in south-east and runs from the east to the border with the area belonging to the Agricultural Experimental Station. The limits of the landscape protection composition run along roads as well as roadside alleys adjacent to the park. According to Wielkopolski Voivodeship Monument Conservator, the park fulfils, primarily, recreational functions but is also important for its aesthetic and biocenotic functions.

## STUDY AREA

The park-palace complex is situated in the south-western part of Swadzim village (GPS: 52°26' N; 16°44' E), in Wielkopolska Voivodeship, district of Poznań, Tarnowo Podgórne commune, 12 km west of the boundary of the city of Poznań close to the country road No. 92. The park is situated at the altitude of approximately 90 m a.s.l.

At the moment, the park occupies the area of 82 161 m<sup>2</sup>. A stream cuts across the park and there are two ponds, one in its north-eastern part and one in the centre (Fig. 1). The southern part of the park is taken up by lawns as well as by trees and bushes growing either separately or in groups, whereas its northern part constitutes a compact tree stand. The two parts of the park are connected by a *Carpinus betulus* alley and an adjacent avenue of *Quercus rubra* (at present, part of it is situated outside the park).

According to Kondracki's [2002] physical-geographic regionalisation, the studied area is situated on Owińska-Kiekrz Hills (Poznań Lake District). X maintains that the studied park is situated on podzolic-rusty, podzolic soils and podzols developed from loose sands of various origins, loamy sands and light boulder clays. In accordance with natural-forest regionalisation [Trampler et al. 1990], the study area is located in the III<sup>rd</sup> Wielkopolska-Pomorze Region, 7<sup>th</sup> District of Wielkopolska-Kujawy Lowland and in Wielkopolska Lake District Mezonegion (III.7.b).

The study area is characterised by the following climatic data [Woś 1994]: mean length of the vegetation season lasts 220 days; mean annual air temperature is 8.0°C, mean annual precipitation – 528 mm, mean length of snow cover – 49.9 days, mean air relative humidity is at the level of 78% and major wind directions are: W and SW at the mean velocity of 4.0 m/s.

## METHODS

Dendroflora inventory was performed during 2010 vegetation season and measurements were conducted along a 50 m wide transect running north-south across the area of the entire object.

All trees with breast height diameter over 15 cm were measured. Trees joined at the base and separating at the height of less than 1.3 m were treated as separate specimens.

The frequency of species occurrence was determined on the basis of the number of individuals: 1 to 5 – very rare, 6 to 10 – rare, 11 to 20 dispersed, 21 to 40 – frequent, 41 to 80 very frequent and > 81 – common.

Circumferences of monumental trees were adopted according to Kasprzak's [2005] local classification. The following tree itemization was adopted: monumental, nearly monumental (circumferences 10% smaller than monumental) and splendid trees with circumferences 20% smaller than monumental.

The heights of inventoried trees and bushes were measured with the assistance of a Suunto PM-5/1250 height gauge. In addition, also areas (in m<sup>2</sup>) occupied by bushes

and climbers were measured. Positions of stumps were also marked. The health condition of the examined trees was assessed using Kamiński and Czerniak [2000] scale.

Names plant species were given according to Seneta and Dolatowski [2009]. Statistical characterisation of the examined flora was performed using articles by Jackowiak [1993] and Żukowski and Jackowiak [1995] and classification of socio-ecological groups is given after Jackowiak [1993].

The group of “special care” species included those species which were subject of legal protection and those which were on the so called all country [Zarzycki et al. 2006] and Wielkopolska [Żukowski and Jackowiak 1995] ‘red lists’ as well as rare and endangered species on the area of the City of Poznań [Jackowiak 1993]. Due to local characters of investigations, the authors adopted the division of species according to degrees of threat developed for Wielkopolska and Poznań by Żukowski and Jackowiak [1995]. Categories of threat were additionally supplemented by species potentially threatened (P) distinguished by Jackowiak [1993].

The final outcome of the performed investigations was a distribution map of woody plants on the area of the studied object developed on the basis of an orthophotomap from [Ortofotomapa... 1999] service as well as satellite photographs of the park [Zdjęcie...]. The position was determined with the assistance of a hand-held GPS navigation device (Garmin Summit HC) with possibility of identification of the geographical position of any point in terrain. In order to elaborate the map, the parameters of plant distribution collected in the course of the inventory were processed with the assistance of a data digital processing program from GPS receivers (ExpertGPS 3.87). Points indicating the position of specific elements of dendroflora after integration with satellite pictures, topographic details from the GeoPortal service and the map of the park were subjected to processing with the assistance of a program for vector graphics Adobe Illustrator CS3. In the next step, the inventoried woody plants as well as terrain details were plotted onto the developed picture map in 1:1000 scale. The map can be found in the master’s dissertation of Janicki [2010] in Department of Forestry Natural Foundations, Poznan University of Life Sciences.

## RESULTS

### The general characteristics of the dendroflora

The total of 1886 trees, bushes and climbers deriving from 64 species belonging to 38 genera and 18 families were found to occur in the park establishment in Swadzim (Table 1). The greatest number of species derive from the *Pinaceae* (12-18.8%) and *Aceraceae* and *Rosaceae* families (9-14.1% each), whereas from the remaining 15 families, from 1 (1.63%) to 4 (6.3%) species were identified.

Trees are represented by 39 species, bushes – by 20 species, plants occurring in both forms – 4 species and climbers – 1 species. 28 stumps were found to occur in the studied park.

The authors determined frequency of occurrence of individual species. Eight species were classified as common, 2 – very frequent, 6 – frequent, 12 – dispersed, 6 – rare and the most numerous group of 28 as very rare. The most numerous (common and very frequent) in the studied area were *Quercus robur* (275 trees – 14.8%), *Robinia pseudo-acacia* (192 – 10.3%), *Acer pseudoplatanus* (190 – 10.2%), *Carpinus betulus* (179 – 9.6%), *Q. rubra* (152 – 8.2%), *Fagus sylvatica* (122-6.6%), *A. platanoides* (59 – 3.2%), *Aesculus hippocastanum* (41 – 2.2%) and, in the case of bushes – *Sambucus nigra*.

Table 1. The list of species of arborescent plants in park in Swadzim  
 Tabela 1. Wykaz gatunków roślin drzewiastych parku w Swadzimiu

Taxon – Takson	Family – Rodzina
1	2
<i>Acer campestre</i> L.	Aceraceae
<i>Acer negundo</i> L.	Aceraceae
<i>Acer platanoides</i> L.	Aceraceae
<i>Acer platanoides</i> L. ‘Schwedleri’	Aceraceae
<i>Acer pseudoplatanus</i> L.	Aceraceae
<i>Acer pseudoplatanus</i> L. ‘Atropurpureum’	Aceraceae
<i>Acer saccharinum</i> L.	Aceraceae
<i>Acer saccharinum</i> L. ‘Laciniatum Wieri’	Aceraceae
<i>Acer tataricum</i> subsp. <i>ginnala</i> (Maxim) Wesm.	Aceraceae
<i>Aesculus hippocastanum</i> L.	Hippocastanaceae
<i>Berberis vulgaris</i> L. ‘Atropurpurea’	Berberidaceae
<i>Betula pendula</i> Roth	Betulaceae
<i>Betula pubescens</i> Ehrh.	Betulaceae
<i>Caragana arborescens</i> Lam.	Fabaceae
<i>Carpinus betulus</i> L.	Betulaceae
<i>Clematis vitalba</i> L.	Ranunculaceae
<i>Cornus alba</i> L. ‘Sibirica Variegata’	Cornaceae
<i>Cornus mas</i> L.	Cornaceae
<i>Cornus sanguinea</i> L.	Cornaceae
<i>Crataegus monogyna</i> Jacq.	Rosaceae
<i>Chamaecyparis lawsoniana</i> (A. Murray bis) Parl.	Pinaceae
<i>Euonymus europaeus</i> L.	Celastraceae
<i>Fagus sylvatica</i> L.	Fagaceae
<i>Forsythia</i> × <i>intermedia</i> Zabel	Oleaceae
<i>Fraxinus excelsior</i> L.	Oleaceae
<i>Fraxinus pennsylvanica</i> Marshall	Oleaceae
<i>Juniperus squamata</i> Buch.-Ham. ex Lamb.	Pinaceae
<i>Juniperus sabina</i> L.	Pinaceae
<i>Juniperus</i> cfr. <i>chinensis</i> L.	Pinaceae
<i>Juglans cinerea</i> L.	Juglandaceae
<i>Juglans nigra</i> L.	Juglandaceae
<i>Larix decidua</i> Mill.	Pinaceae

Table 1 – cont. / Tabela 1 – cd.

1	2
<i>Lonicera xylosetum</i> L.	Caprifoliaceae
<i>Malus pumila</i> Mill.	Rosaceae
<i>Picea abies</i> (L.) H. Karst.	Pinaceae
<i>Picea glauca</i> (Moench) Voss	Pinaceae
<i>Picea pungens</i> Engelm	Pinaceae
<i>Pinus nigra</i> J.F. Arnold	Pinaceae
<i>Pinus sylvestris</i> L.	Pinaceae
<i>Populus ×canadensis</i> Moench	Salicaceae
<i>Populus alba</i> L.	Salicaceae
<i>Populus nigra</i> L.	Salicaceae
<i>Prunus padus</i> L.	Rosaceae
<i>Prunus spinosa</i> L.	Rosaceae
<i>Pseudotsuga menziesii</i> (Mirb.) Franco	Pinaceae
<i>Pyrus communis</i> L.	Rosaceae
<i>Quercus robur</i> L.	Fagaceae
<i>Quercus rubra</i> L.	Fagaceae
<i>Ribes nigrum</i> L.	Grossulariaceae
<i>Ribes uva-crispa</i> L.	Grossulariaceae
<i>Robinia pseudoacacia</i> L.	Fabaceae
<i>Rosa canina</i> L.	Rosaceae
<i>Salix alba</i> L.	Salicaceae
<i>Sambucus nigra</i> L.	Caprifoliaceae
<i>Sorbus aucuparia</i> L.	Rosaceae
<i>Spiraea ×vanhouttei</i> (Briot) Zabel	Rosaceae
<i>Spiraea chamaedryfolia</i> L.	Rosaceae
<i>Symphoricarpos albus</i> (L.) S.F. Blake	Caprifoliaceae
<i>Syringa vulgaris</i> L.	Oleaceae
<i>Thuja occidentalis</i> L.	Pinaceae
<i>Tilia americana</i> L.	Tiliaceae
<i>Tilia cordata</i> Mill.	Tiliaceae
<i>Tilia platyphyllos</i> Scop.	Tiliaceae
<i>Ulmus laevis</i> Pall.	Ulmaceae

The examined dendroflora was dominated by species of alien origin, primarily, xenophytes (61%) or rarely (2%) – ephemerophytes. Domestic species i.e. spontaneophytes (12%) and apophytes (25%) constituted a much smaller proportion of dendroflora.

Majority of the examined trees (967; 59.8%) had circumferences ranging from 45 to 105 cm, 555 trees (34.3%) – from 104 to 204 cm, 77 trees (4.8%) – from 205 to 304 cm and there were only 17 trees (1.1%) with circumferences ranging from 295 to 464 cm.

The height of the majority of the inventoried trees (1228; 76%) ranged from 16 to 20 m. As to the remaining height classes, the most numerous were trees measuring 21-25 m (217; 12.4%) and 11-15 m (127; 7.9%), whereas two height class groups: 6-10 m and 26-30 m trees were represented by 20 individuals each (1.2%). Three trees measured 1-5 m and only one tree exceeded the height of 30 m.

The health condition of the majority of the inventoried plants was either very good or good (88.2%; Fig. 2). Relatively few trees (9.3%) were damaged to the degree which required carrying out tending operations and 40 (2.5%) specimens were dead.

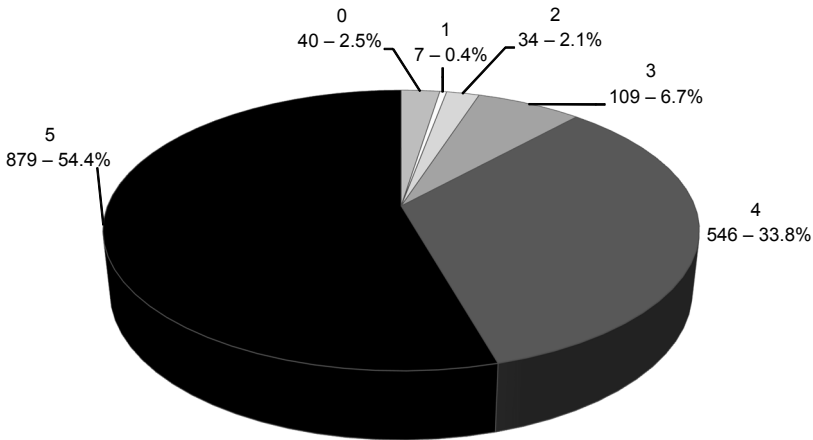


Fig. 2. The number and percentage participation of trees in the health condition classes [according to Kamiński and Czerniak 2000]: 5 – very good, 4 – good, 3 – medium, 2 – bad, 1 – very bad, 0 – dead.

Rys. 2. Liczba i udział procentowy drzew w klasach stanu zdrowotnego [według Kamińskiego i Czerniaka 2000]: 5 – bardzo dobry, 4 – dobry, 3 – średni, 2 – zły, 1 – bardzo zły, 0 – martwe

### Species of “special care”

No species of woody plants covered by legal protection or species considered as rare or endangered in the entire area of Poland [Rozporządzenie... 2004, Czerwona lista... 2006] were found in the established park in Swadzim. *Juniperus sabina* and *Ribes nigrum* even though they are found on lists of protected, as well as rare and endangered plants in Poland, they do not occur in the studied park in their natural sites. *J. sabina* was planted here and *R. nigrum* is probably an ‘escapee’ from the neighbouring gardens.



From among rare and endangered species in Wielkopolska [Żukowski and Jackowiak 1995], *Acer campestre* (7 trees) and *Populus nigra* (1 tree; Table 2) were identified. From Poznań perspective, *Betula pubescens* (2 trees) classified by Jackowiak [1993] as seriously threatened, is a very important species. Other species found in the park included: *Carpinus betulus* (176 trees), *Cornus sanguinea* (14 bushes), *Euonymus europaeus* (12 bushes), *Pinus sylvestris* (1 dead tree) as well as *Prunus padus* (14 trees) treated as potentially threatened species of varying degree of hazard (Table 2).

Table 2. The species endangered in Wielkopolska and Poznań in park in Swadzim  
Tabela 2. Gatunki zagrożone w Wielkopolsce i w Poznaniu w parku w Swadzimiu

Species – Gatunek	Categories for endangered species – Kategoria zagrożenia	
	Wlkp.	Poznań
<i>Acer campestre</i>	R	*
<i>Betula pubescens</i>	*	V
<i>Carpinus betulus</i>	*	P1
<i>Cornus sanguinea</i>	*	P1
<i>Euonymus europaeus</i>	*	P1
<i>Pinus sylvestris</i>	*	P2
<i>Populus nigra</i>	R	*
<i>Prunus padus</i>	*	P2

Wlkp. – Wielkopolska, species: R – rare, V – potently endangered, P – potentially liable to danger, \* – not endangered.

Wlkp. – Wielkopolska, gatunki: R – rzadkie, V – silnie zagrożone, P – potencjalnie narażone, \* – niezagrożone.

### The most valuable specimens of dendroflora

The total of 101 trees of considerable circumferences were found to grow in the park including: 38 trees of monumental circumferences, 21 – of circumferences close to monumental, as well as 42 splendid trees.

Among the most valuable specimens of dendroflora, *Acer pseudoplatanus* (13 trees), and *A. platanoides*, *Aesculus hippocastanum* and *Robinia pseudoacacia* (11 trees of each species) occupied the highest proportion (Fig. 3).

The most splendid trees in the park comprised: *Populus ×canadensis* (circumference 462 cm, height 34 m), *Salix alba* (446 cm, 23 m) as well as 3 trees of *Aesculus hippocastanum* (405, 380 and 370 cm).

Worth mentioning such interesting specimens as a group of *Tilia cordata* growing from one stem, a group of beautiful *Carpinus betulus*, as well as unusually shaped, split *C. betulus*. Still another interesting dendrologic object was the *Quercus rubra* alley planted paralelly to the *C. betulus* avenue.

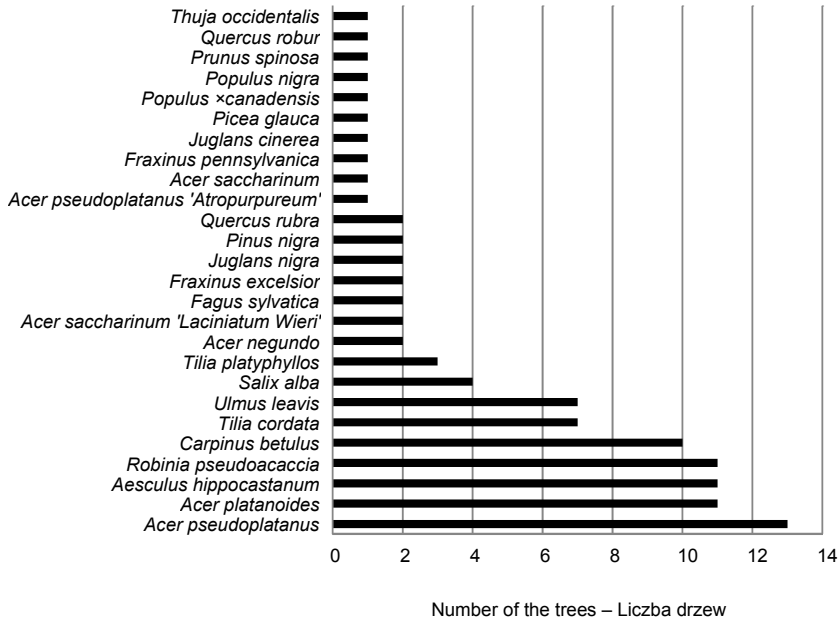


Fig. 3. Number of monumental measure trees, trees with measures close to monumental and splendid trees

Rys. 3. Liczba drzew poszczególnych gatunków o obwodach pomnikowych, zbliżonych do pomnikowych i okazałych

### The comparison our results with the previous inventory

During the inventory carried out in the park in Swadzim in 1976 by Rataj, he identified 1602 trees and listed species of bushes growing there. These data show that in the course of 34 years, park dendroflora underwent gradual naturalisation.

The share of *Carpinus betulus* increased by over six times (difference of 147 trees), *Quercus robur* nearly tripled (difference of 177 trees), *Acer pseudoplatanus* – doubled (together with its purple variety, the difference of 117 trees) and *Robinia pseudoacacia* (difference of 99 trees; Table 3). The number of such species as: *Aesculus hippocastanum*, *Salix alba*, *Tilia cordata* and *T. platyphyllos* also increased during this period. On the other hand, serious losses occurred during this period, namely the number of *Picea abies* trees declined over 13 times (300 trees dropped out), the number of *Q. rubra* trees dropped by two times (194 trees dropped out) and only 1 of 17 *Tilia americana* trees remained.

In comparison with the previous inventory, no *Corylus avellana*, *Juniperus virginiana*, *Ligustrum vulgare*, *Philadelphus* sp., *Pinus strobus*, *Prunus mahaleb*, *Sambucus nigra* 'Laciniata' and *Viburnum opulus* was determined in the course of this inventory. On the other hand, many taxa not found in Rataj's inventory [1976], e.g. *Acer platanoides* 'Schwedleri', *Chamaecyparis lawsoniana*, *Clematis vitalba*, *Cornus alba* 'Sibirica Variegata', *Juniperus sabina*, *J. cfr. chinensis*, *J. squamata*, *Malus pumila*, *Picea glauca*, *Ribes nigrum*, *R. uva-crispa*, *Spiraea ×vanhouttei* and *S. chamaedryfolia*, were identified in the current inventory.

Data from the current inventory are not fully compatible with Rataj's [1976] results because he frequently only identified the presence of a given species without giving numbers of specimens. At other times, discrepancies should be attributed to different qualification of a given species, e.g. the species recognised by Rataj [1976] as *Fraxinus americana*, in our opinion should be classified as *F. pennsylvanica*.

## SUMMARY AND PROTECTION RECOMENDATIONS

With its 1886 trees, bushes and climbers from 64 species belonging to 18 families, the park in Swadzim distinguishes itself by considerable dendrologic value.

The neglected park can boast few valuable species and varieties of trees and bushes which might give it a specific character. The greatest assets of this object include numerous valuable species (101) of monumental or close to monumental circumferences and splendid trees. At the present time 6 natural monuments are growing in the park. There is an urgent need to select the most valuable trees and bushes (including *Carpinus betulus* alley and the avenue of *Quercus rubra*) and apply for the protection in the form of natural monuments of all trees and bushes which are in good health condition and have monumental circumferences.

It is necessary to elaborate a plan of park revalorization. As soon as possible measures should be undertaken to prevent further naturalisation of the park tree stand. Attempt should be made to restrict spontaneous regeneration of woody plant species associated with fertile oak-hornbeam and riparian forest sites (e.g. *Carpinus betulus*, *Quercus robur*, *Acer pseudoplatanus* and *Tilia cordata*) but, first and foremost, to stop the spread of expansive populations of alien species (e.g. *Robinia pseudoacacia*, *Quercus rubra*, *Acer negundo* and *Symphoricarpos albus*).

In the stand, only old specimens in good health condition as well as other valuable species of trees and bushes should be left. Dying and dead trees as well as many young trees which regenerate spontaneously in the entire park area should be marked for cutting.

Species of high site requirements should form the basis for stand regeneration because they can find optimal conditions for their growth and development in the park. The collection could be supplemented with appropriately selected introduced species.

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## **DENDROFLORA ZABYTKOWEGO PARKU PAŁACOWEGO W SWADZIMIU KOŁO POZNANIA (WOJ. WIELKOPOLSKIE)**

**Streszczenie.** W XIX-wiecznym, zabytkowym parku w Swadzimiu koło Poznania zinventaryzowano 1886 drzew, krzewów i pnączy z 64 gatunków. Obecnie park jest zaniedbany. Konieczny jest projekt rewaloryzacji obiektu. W zadrzewieniach parku dominują *Quercus robur*, *Robinia pseudoacacia*, *Acer pseudoplatanus*, *Carpinus betulus*, *Q. rubra* i *Fagus sylvatica*, a w warstwie krzewów – *Sambucus nigra*. Drzewa parku mają najczęściej wysokości od 16 do 20 m, a obwody od 45 do 114 cm. Stan zdrowotny większości z nich jest dobry lub bardzo dobry. Stwierdzono występowanie pojedynczych gatunków rzadkich i zagrożonych. Zinventaryzowano 101 okazałych drzew z 26 taksonów, wśród których dominują *A. pseudoplatanus*, *A. platanoides*, *Aesculus hippocastanum*, *R. pseudoacacia* oraz *C. betulus*. W porównaniu do ewidencji Rataja z 1976 roku w dendroflorze parku są widoczne przemiany w kierunku jej naturalizacji. Drzewostan wymaga cięć i zabiegów pielęgnacyjnych.

**Słowa kluczowe:** dendroflora, drzewa pomnikowe, park, Swadzim

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