



VASCULAR FLORA OF A FORMER MANOR PARKS IN NIEBĘDZINO, POGORZELICE AND ŻELAZKOWO (THE ŁEBA VALLEY)

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**ABSTRACT.** This paper presents results of research into vascular flora of three manor house parks in Niebędzino, Pogorzelice and Żelazkowo situated in the Nowa Wieś Lęborska Commune (the Łeba Valley). 275 species were found, including 186 apophytes, 31 archeophytes, 27 ergasiophytes, 25 kenophytes and eight cultivars. 82 species were found among dendric flora and 193 species of herbal flora. From the rare herbaceous plants in the scale of the region of protected ones of the analysed parks there are: *Achillea ptarmica*, *Anemone ranunculoides*, *Chenopodium polyspermum*, *Conium maculatum*, *Convallaria majalis*, *Galanthus nivalis*, *Hypericum humifusum*, *Ornithogalum umbellatum*, *Polypodium vulgare*, *Ranunculus sceleratus*, *Taxus baccata*, *Viburnum opulus*, *Vinca minor*.

**KEY WORDS:** ex-manor parks, vascular flora, apophytes, antropophytes, the Łeba Valley, ATPOL

INTRODUCTION

Most existing rural parks, the number of which in Poland is estimated around 10 000 (OLACZEK 1974) are from the nineteenth century and are in most instances in a very bad state. The manor park in the Łeba Valley was established by representatives of German families, former inhabitants of the area. At present, most of them are frequently sad examples of progressive decay, often of devastating human activity. The parks which have survived till now deserve a particular attention and care. Designed, arranged, nourished and used by subsequent owners, they are very often places of valuable dendroflora and banks of genes, especially valuable in the case of foreign species, which had managed to domesticate themselves well.

The aim of the paper is to make inventory and analyse the vascular flora of manor parks in Niebędzino, Pogorzelice and Żelazkowo.

MATERIAL AND METHODS

The field research was held from May to September in the period of 2005-2006 in rural parks situated in the Commune of Nowa Wieś Lęborska. The parks in Pogorzelice and Żelazkowo are included in the national conservation records, while the park in Niebędzino has not been registered. The name of the park was given following an old German name and an ATOL square.

During field work, older descriptions concerning examined parks were considered (Provincial Office for Monument Protection in Gdańsk, Branch in Słupsk for

the period 1970-1992). Beside lists of flora, inventory of dendroflora was made, which was documented by measurements of the most substantial examples of trees at the height of 130 cm.

The terminology of taxons was adopted after MIREK et AL. (2002) and SENETA and DOLATOWSKI (2003), of geographical-historic groups after KORNAŚ (1968) and ZAJĄC et AL. (1988). The location of the studied parks was presented in Figure 1.

*Niebędzino (Wobensin), ATPOL: CA 64*

The first remark of the village comes from the period 1335-1341 in a document describing *Nibensin* as a habitat bordering the property of Redkowice (*Rettkowitz*) (DOROW 2005). In the fief letter from 1375, the family of von Pirch was mentioned as owners, and in the register of gentry from 1386, Jesk von Pirch was listed. In 1756 the family of von Pirch were also owners of Redkowice and Chocielewko (*Chotzlow*). In the period 1892-1909 the estate was administered by Maximillian von Pirch (SCHULTZ 1912). After his death in 1934, his son Georg Alexander Fritz became the administrator of the estate. Annie von Pirch was the last owner of Niebędzino estate (DOROW 2005).

The park of the area of 2.2 hectares was founded in the nineteenth century in the naturalistic style on the plan of an irregular pentagon. At the site of the manor house, which was pulled down at the end of the 1970's, the Commune Office of Nowa Wieś Lęborska established a community center with EU financial support and put the park area in order. The whole site functions as "A Park and Recreation Leisure Center – Green Enclave" now (unpublished materials of Commune Office

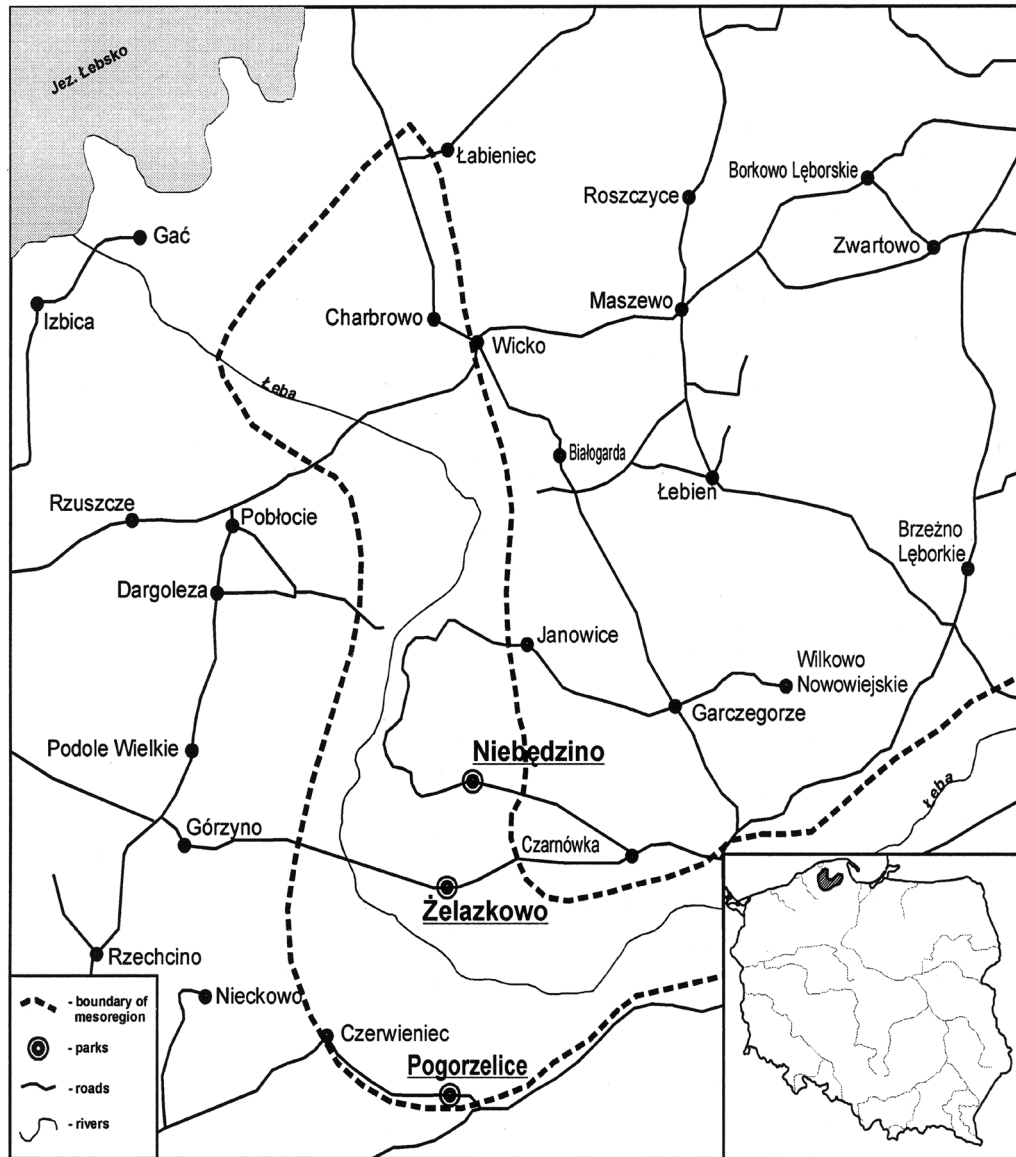


FIG. 1. The location of a former manor parks in the Łeba Valley

of Nowa Wieś Łebska). The park area is in proper order. The park alleys are paved with cobblestone. The site comprises a playground for children.

The tree stand of the park is dominated by: *Acer platanoides*, *A. pseudoplatanus*, *Ulmus minor*, *Fraxinus excelsior*, along with: *Tilia cordata*, *Carpinus betulus*, *Quercus robur*. The bush layer comprises brushwood: *Acer platanoides*, *A. pseudoplatanus*, *Corylus avellana*, *Crataegus monogyna*, *Philadelphus coronarius*, *Symphoricarpos albus*, *Rubus idaeus*. The park is characteristic for substantial volume of *Humulus lupulus*, which creeps up the trees as well as expands over the substratum.

In the part of the park bordering the community center, the following individuals are worth attention: *Fagus sylvatica* of the tree trunk girth of 335 cm, *Aesculus carnea* of the girth of 285 cm and *Aesculus hippocastanum* of 260 and 285 cm of girth. In the northern part of the park plan there are the most imposing trees, i.e.: *Aesculus hippocastanum* (360 cm), *Fraxinus excelsior* (365, 360 cm), *Quercus robur* (300 cm), *Tilia cordata* (185 cm), *Tilia platyphyllos* (245 cm), a double conductor – *Carpinus betulus* (285 cm).

The park is separated from the village dwellings by a row of 28 trees – *Acer platanoides* of the tree trunk girths 120, 140, and 160 cm respectively. At the end of the tree row, there is *Quercus robur* of the tree trunk girth of 315 cm, *Tilia cordata* (320 cm), a group of seven specimen of *Carpinus betulus* of the tree trunk girths of 175 and 220 cm, and 11 specimen of *Acer platanoides*, the most imposing of which are 220 and 230 cm of the tree trunk girths.

*Pogorzelice (Langeböse), ATPOL: CA 64*

By 1426, Pogorzelice was an old fiefdom of von Grumbkow family. Then, the estate was purchased by the family of von Stojentin. The subsequent owners were in the period 1470-1517: Hans von Stojentin and temporarily in 1473 – Jerstaff von Stojentin, and in 1481 – Marin von Stojentin. In 1688, the estate was purchased by Joahim Ernst and the state returned into the hands of the family of von Grumbkow. The inspection record form 1717 provides that the Pogorzelice estate was administered by Obrist von Stoyenthin and his sons – Lorentz Christoph and Peter Otto. From 1747, the owners changed many times (PAGEL 1989). By the close of the

eighteenth century, the Pogorzelice estate comprised the grange of Wussitten (non-existent now), a water mill, a **blacksmith's shop, and a tavern** (BRÜGGEMANN 1784).

In 1803, Pogorzelice was inherited by captain Karl von Zitzewitz. In 1821, he sold it to Ferdinand von Paris. Karl von Zitzewitz died in 1824 and his son Julius bought the estate for 21 000 rix-dollars in 1837. In 1870, the estate was inherited by his son Paul, who sold the manor house and in 1893 moved to Berlin where he became a **director of "Borussia" Insurance Company**. At the beginning of the twentieth century, Pogorzelice was purchased by Herbert von Massow, who in 1901 built a lime brick factory; in 1906 – a distillery and in 1907 a recreation center in Łeba. By the beginning of the World War II, he was the owner of Pogorzelice (PAGEL 1989).

After World War II, the estate was nationalized. At the site of the grange, a State Farm Base was founded. New ground roads appeared, old paths were obliterated, many trees were cut down and the remaining part of the green area was substantially neglected. In the 1990s, the State Agricultural Agency took over the estate.

The manor house consisted of three parts constructed in different years. The oldest one, in the middle, was built around 1650 and in 1750 two side wings were constructed (FARYNA-PASZKIEWICZ et AL. 2003). At present, the manor house has been adapted for living quarters of employees. In its vicinity, grow *Fagus sylvatica* "Purpurea" (250 cm), *Acer saccharinum* (210 cm). Within the area of the yard, modern brick farm edifices stand. From the side of the main entrance, a fragment of the old brick wall can be found.

The tree stand of the park of 2.6 hectares in the area is dominated by *Acer platanoides*, *Tilia cordata*, *Carpinus betulus*, *Betula pendula*, *Fagus sylvatica*, next to which there are: *Quercus robur*, *Ulmus laevis*, *U. minor*, *Fraxinus excelsior*, *Aesculus hippocastanum*, *Salix aurita*, *S. fragilis*, *S. purpurea*. In the line of bushes the following species were found: *Corylus avellana*, *Crataegus laevigata*, *Sambucus nigra*, *Rhamnus catharica*, *Rubus idaeus*, *Ribes spicatum*, *R. uva-crispa*, *Spiraea salicifolia*.

In the central part of the park, there is site a concentration of *Acer platanoides* with the most imposing trees of the size of 240 cm, 255 cm, 275 cm. Next to them, there are two specimens of *Picea abies* (250 cm and 310 cm). The oldest preserved part of the park comprises an alley, which consists of 12 individual specimens of *Tilia cordata*, of which the largest tree trunk girths are: 415, 450, 455, 460 cm. The alley leads to the remnants of the old family cemetery with preserved fragments of the tombstones. A beautiful specimen of *Carpinus betulus* (395 cm) draws our attention. Next to the cemetery, there is a big number *Convallaria majalis*, *Galanthus nivalis*, *Hedera helix*, *Vinca minor*. Fragments of a hedgegrow – *Carpinus betulus*, *Fagus sylvatica* are preserved from the northern and south-western part of the park plan.

Żelazkowo (Karolinenthal), ATPOL: CA 64

In 1834, the first remark appeared concerning the state, which was separated from the land area belonging to nearby Redkowice (Rettkewitz) (SCHULTZ 1912). From 1838 Werner von Selchow from 1838 was the owner, who was the Head of Łębork Bytów State District Administration in the period 1845-1851, President of the Gou-

vernment in Frankfurt (CRAMER 1858). In 1873 Werner von Selchow applied to the Łębork Head of State District Administration for establishment of Żelazkowo as a separate estate area.

In 1876, land improvement work started in the Łeba Valley. The Żarnowski Canal (*Brenkenhof Kanal*) was established then, which drained the peat swamps on the Łeba River and the meadows belonging to the Żelazkowo Estate (SCHULTZ 1912).

Frederich von Selchow was the owner of the estate from 1893, and in 1894, a Berlin merchant Julius Meyerheim became the owner of the estate. He divided the estate, of which only 290 ha of the land remained within its substance. From 1897, the owners of the estate were: Konrad Bühring, Joseph Zelasko, Besser, a merchant – Karl Frank, Max Kuhn, baron von Grote, Count Behr Bandelin and baron von Wolff (SCHULTZ 1912). From the turn of 1931/1932 by the end of 1945 the estate was administered by a land inspector – Otto Elten (DOROW 2005).

After 1945, the land of the former grange was turned as a property of State Treasury and a State Farm was established there. The manor house was adapted for dwelling purposes, the garden was neglected. It led to destruction of old meteorological instruments. A water intake was built in the vicinity of the access road along with a **building of water pumping station**. Numerous temporary farm facilities were introduced in the garden, closets, garages and fences. Old crop gardens were neglected. In the 1970s, big modern cow sheds were built to the south of the old yard. In addition, the park area was used as a timber site. From the side of the road to Stowiecino, the park of the area of 3.95 ha is surrounded by a stone wall, on which there is abundance of *Polypodium vulgare*. The western border of the park site comprises an alley consisting of 14 specimen of *Tilia cordata* of the trunk girth of 210 cm and 330 cm, four individual of *T. platyphyllos* and one *Aesculus hippocastanum*. In the vicinity of the alley scrubs of *Cornus alba*, *Euonymus europaea* and *Philadelphus coronarius* were found and several scrubs of *Achillea ptarmica*. In the northern part of the park site a group of seven individuals of *Thuja occidentalis* is found, in the vicinity of which there is an abundance of *Convallaria majalis*. In the eastern part of the park, there are young plantings of *Corylus colurna* with *Picea pungens* nearby. The proper park is situated to the west of the manor house behind the farm buildings. The park area is separated from the farm buildings by a **10-meter belt of young plantings of *Quercus robur***.

To the southern façade of the manor house two specimens of *Fagus sylvatica* (320 cm and 360 cm) grow along with *Tilia cordata* (365 cm). In the central part of the park, there is a recreation area with a volleyball play ground, benches and a place for a bonfire. In its vicinity there are three individuals of *Quercus rubra* (334, 365, 370 cm) and *Quercus robur* (330 cm). Besides, there are *Sorbaria sorbifolia*, *Symphoricarpos albus* and *Taxus baccata*.

In the southern part of the park, there is majority of species which like high level of ground water which suffer from temporary inundation, i.e. *Alnus glutinosa*, *Fraxinus excelsior*, and in the northern part there are: *Tilia cordata*, *T. platyphyllos*, *Picea abies*, *Acer platanoides*.

ides, *Quercus robur*. At the bush level the following species were found: *Ribes nigrum*, *R. alpinum*, *Sambucus nigra*, *Viburnum opulus*, *Frangula alnus*. List of vascular plants recorded in former manor parks is presented in Table 1.

TABLE 1. List of vascular plants recorded in former manor parks in Niebędzino, Pogorzelice and Żelazkowo

Species	Geographical-historical status in Poland	Parks		
		N	P	Ż
1	2	3	4	5
Tree layer				
<i>Abies alba</i> Mill.	Kult.	.	+	+
<i>Acer platanoides</i> L.	Ap	+	+	+
<i>Acer pseudoplatanus</i> L.	Ap	+	+	.
<i>Acer saccharinum</i> L.	Erg.	.	+	.
<i>Aesculus carnea</i> Hayne	Erg.	+	.	.
<i>Aesculus hippocastanum</i> L.	Ken	+	+	+
<i>Alnus glutinosa</i> (L.) Gaertn.	Ap	+	+	+
<i>Betula pendula</i> Roth	Ap	+	+	+
<i>Betula pubescens</i> Ehrh.	Ap	.	+	+
<i>Carpinus betulus</i> L.	Ap	+	+	+
<i>Cerasus avium</i> (L.) Moench	Erg.	.	+	.
<i>Corylus avellana</i> L.	Ap	+	+	+
<i>Corylus colurna</i> L.	Erg.	.	.	+
<i>Fagus sylvatica</i> L.	Ap	+	+	+
<i>Fagus sylvatica</i> L. 'Purpurea'	Kult.	.	+	+
<i>Fraxinus excelsior</i> L.	Ap	+	+	+
<i>Laburnum anagyroides</i> Medik.	Erg.	.	+	.
<i>Malus sylvestris</i> Mill.	Ap	.	+	.
<i>Padus avium</i> Mill.	Ap	+	+	+
<i>Picea abies</i> (L.) H. Karst.	Ken	+	+	+
<i>Picea pungens</i> Engelm.	Kult.	.	.	+
<i>Pinus sylvestris</i> L.	Ap	.	+	+
<i>Populus nigra</i> L.	Ap	.	.	+
<i>Populus tremula</i> L.	Ap	+	+	+
<i>Pseudotsuga menziesii</i> (Mirb.) Franco	Kult.	.	+	+
<i>Quercus petraea</i> (Matt.) Liebl.	Ap	.	.	+
<i>Quercus robur</i> L.	Ap	+	+	+
<i>Quercus rubra</i> L.	Ken	.	+	+
<i>Robinia pseudoacacia</i> L.	Ken	+	+	+
<i>Salix alba</i> L.	Ap	+	.	.
<i>Salix aurita</i> L.	Ap	.	+	+
<i>Salix caprea</i> L.	Ap	.	.	+
<i>Salix fragilis</i> L.	Ap	.	+	.
<i>Salix purpurea</i> L.	Ap	.	+	.
<i>Salix viminalis</i> L.	Ap	.	.	+
<i>Sorbus aucuparia</i> L.	Ap	+	+	+
<i>Thuja occidentalis</i> L.	Kult.	.	+	+
<i>Tilia cordata</i> Mill.	Ap	+	+	+
<i>Tilia platyphyllos</i> Scop.	Erg.	+	+	+
<i>Ulmus glabra</i> Huds.	Ap	.	.	+
<i>Ulmus laevis</i> Pall.	Ap	+	+	.
<i>Ulmus minor</i> Mill. emend. Richens	Ap	.	+	+
Shrubby layer				
<i>Acer platanoides</i> L.	Ap	+	+	+
<i>Acer pseudoplatanus</i> L.	Ap	+	+	.
<i>Berberis thunbergii</i> DC.	Kult.	.	+	.
<i>Berberis vulgaris</i> L.	Ap	+	.	+
<i>Caragana arborescens</i> Lam.	Erg.	.	+	.
<i>Cornus alba</i> L.	Ken	.	.	+
<i>Corylus avellana</i> L.	Ap	+	+	+
<i>Cotoneaster integerrimus</i> Medik.	Kult.	+	.	+
<i>Crataegus laevigata</i> (Poir.) DC.	Ap	.	+	+

1	2	3	4	5
<i>Crataegus monogyna</i> Jacq.	Ap	+	+	+
<i>Euonymus europaea</i> L.	Ap	.	+	+
<i>Euonymus fortunei</i> (Turcz.) Hand.-Mazz.	Kult.	.	.	+
<i>Forsythia suspensa</i> (Thunb.) Vahl	Erg.	+	.	+
<i>Frangula alnus</i> Mill.	Ap	.	+	+
<i>Hedera helix</i> L.	Ap	+	+	+
<i>Ilex aquifolium</i> L.	Erg.	.	.	+
<i>Ligustrum vulgare</i> L.	Erg.	+	+	.
<i>Lonicera xylosteum</i> L.	Erg.	+	+	.
<i>Lycium barbarum</i> L.	Ken	+	.	.
<i>Philadelphus coronarius</i> L.	Erg.	+	+	+
<i>Prunus spinosa</i> L.	Ap	.	+	.
<i>Pyracantha coccinea</i> M. Roem	Erg.	+	.	.
<i>Rhamnus cathartica</i> L.	Ap	.	+	.
<i>Ribes nigrum</i> L.	Ap	.	+	+
<i>Ribes spicatum</i> E. Robson	Ap	.	+	.
<i>Ribes uva-crispa</i> L.	Ken	+	.	+
<i>Rosa multiflora</i> Thunb.	Ken	.	+	+
<i>Rosa rubiginosa</i> L.	Ap	+	.	.
<i>Rosa rugosa</i> Thunb.	Ken	+	+	.
<i>Rubus caesius</i> L.	Ap	+	+	.
<i>Rubus idaeus</i> L.	Ap	+	+	+
<i>Rubus plicatus</i> Weihe & Nees	Ap	.	+	.
<i>Sambucus nigra</i> L.	Ap	+	+	+
<i>Solanum dulcamara</i> L.	Ap	.	.	+
<i>Sorbaria sorbifolia</i> (L.) A. Braun	Ken	.	.	+
<i>Spirea salicifolia</i> L.	Erg.	+	+	+
<i>Spirea × vanhouttei</i> (Briot) Zabel	Erg.	.	+	.
<i>Symphoricarpos albus</i> (L.) S.F. Blake	Ken	+	+	+
<i>Syringa vulgaris</i> L.	Ken	+	+	+
<i>Taxus baccata</i> L.	Ap	.	+	+
<i>Viburnum opulus</i> L.	Ap	.	+	+
<i>Vinca minor</i> L.	Erg.	.	.	+
Herb layer				
<i>Achillea millefolium</i> L.	Ap	+	+	+
<i>Achillea ptarmica</i> L.	Ap	.	.	+
<i>Aegopodium podagraria</i> L.	Ap	+	+	+
<i>Agrimonia eupatoria</i> L.	Ap	.	+	.
<i>Agrostis stolonifera</i> L.	Ap	.	.	+
<i>Alchemilla monticola</i> Opiz	Ap	.	.	+
<i>Alliaria petiolata</i> (M. Bieb.) Cavara & Grande	Ap	+	+	+
<i>Amaranthus retroflexus</i> L.	Ken	.	.	+
<i>Anchusa arvensis</i> (L.) M. Bieb.	Ar	.	+	+
<i>Anemone nemorosa</i> L.	Ap	.	+	+
<i>Anemone ranunculoides</i> L.	Ap	.	.	+
<i>Anthemis cotula</i> L.	Ar	.	+	.
<i>Anthoxantum odoratum</i> L.	Ap	.	.	+
<i>Antriscus sylvestris</i> (L.) Hoffm.	Ap	+	+	+
<i>Arctium lappa</i> L.	Ap	.	+	.
<i>Artemisia vulgaris</i> L.	Ap	+	+	+
<i>Asparagus officinalis</i> L.	Erg.	+	+	.
<i>Aster novae-angliae</i> L.	Ken	.	+	.
<i>Aster novi-belgii</i> L.	Ken	+	.	+
<i>Atriplex patula</i> L.	Ar	.	+	.
<i>Ballota nigra</i> L.	Ar	.	.	+
<i>Bellis perennis</i> L.	Ap	+	+	+
<i>Berteroa incana</i> (L.) DC.	Ap	+	.	+
<i>Bidens tripartita</i> L.	Ap	+	.	+
<i>Caltha palustris</i> L.	Ap	.	.	+
<i>Calystegia sepium</i> (L.) R. Br.	Ap	.	.	+
<i>Campanula rotundifolia</i> L.	Ap	.	+	.
<i>Cannabis sativa</i> L.	Erg.	.	+	.
<i>Capsella bursa-pastoris</i> (L.) Medik.	Ar	+	+	+
<i>Cardamine amara</i> L.	Ap	.	.	+
<i>Cardamine pratensis</i> L. s. str.	Ap	.	+	.
<i>Carex hirta</i> L.	Ap	+	.	+



1	2	3	4	5	1	2	3	4	5
<i>Centaurea cyanus</i> L.	Ar	+	.	+	<i>Impatiens parviflora</i> DC.	Ken	+	+	.
<i>Centaurea jacea</i> L.	Ap	+	+	.	<i>Inula britannica</i> L.	Ap	.	+	.
<i>Centaurea scabiosa</i> L.	Ap	+	+	.	<i>Juncus bufonius</i> L.	Ap	+	+	+
<i>Cerastium holosteoides</i> Fr. emend. Hyl.	Ap	+	+	+	<i>Juncus effusus</i> L.	Ap	+	+	+
<i>Chamaenerion angustifolium</i> (L.) Scop.	Ap	.	+	+	<i>Lactuca serriola</i> L.	Ar	+	.	+
<i>Chamomilla suaveolens</i> (Pursh) Rydb.	Ken	+	+	+	<i>Lamium album</i> L.	Ar	+	+	+
<i>Chelidonium majus</i> L.	Ap	+	+	+	<i>Lamium purpureum</i> L.	Ar	.	+	+
<i>Chenopodium album</i> L.	Ap	+	+	+	<i>Lapsana communis</i> L.	Ap	+	+	+
<i>Chenopodium hybridum</i> L.	Ar	.	.	+	<i>Lotus uliginosus</i> Schkuhr	Ap	.	+	+
<i>Chenopodium polyspermum</i> L.	Ap	.	.	+	<i>Lupinus polyphyllus</i> Lindl.	Ken	+	.	+
<i>Chrysosplenium alternifolium</i> L.	Ap	.	.	+	<i>Luzula pilosa</i> (L.) Willd.	Ap	.	+	.
<i>Cirsium arvense</i> (L.) Scop.	Ap	+	+	+	<i>Lychnis flos-cuculi</i> L.	Ap	+	.	.
<i>Cirsium oleraceum</i> (L.) Scop.	Ap	.	.	+	<i>Lycopus europaeus</i> L.	Ap	.	+	+
<i>Conium maculatum</i> L.	Ar	+	.	.	<i>Lysimachia vulgaris</i> L.	Ap	.	.	+
<i>Consolida ajacis</i> (L.) Schur	Erg.	.	+	.	<i>Lythrum salicaria</i> L.	Ap	.	.	+
<i>Convallaria majalis</i> L.	Ap	+	+	+	<i>Malva neglecta</i> Wallr.	Ar	+	.	.
<i>Convolvulus arvensis</i> L.	Ap	+	+	+	<i>Melandrium album</i> (Mill.) Garcke	Ar	+	+	+
<i>Conyza canadensis</i> (L.) Cronquist	Ken	.	+	+	<i>Melilotus alba</i> Medik.	Ap	+	+	+
<i>Crepis tectorum</i> L.	Ap	+	.	+	<i>Melilotus officinalis</i> (L.) Pall.	Ap	.	+	.
<i>Dactylis glomerata</i> L.	Ap	+	+	+	<i>Matricaria maritima</i> L. subsp. <i>inodora</i> (L.) Dostál	Ar	+	+	+
<i>Daucus carota</i> L.	Ap	+	+	+	<i>Mentha arvensis</i> L.	Ap	.	+	+
<i>Dryopteris carthusiana</i> (Vill.) H.P. Fuchs	Ap	.	.	+	<i>Mercurialis perennis</i> L.	Ap	+	.	.
<i>Dryopteris filix-mas</i> (L.) Schott	Ap	.	.	+	<i>Mycelis muralis</i> (L.) Dumort.	Ap	.	+	+
<i>Elymus repens</i> (L.) Gould	Ap	+	+	+	<i>Myosotis arvensis</i> (L.) Hill	Ar	+	+	+
<i>Equisetum arvense</i> L.	Ap	+	+	+	<i>Myosotis palustris</i> (L.) L. emend. Rchb.	Ap	.	+	+
<i>Equisetum pratense</i> Ehrh.	Ap	.	+	.	<i>Odontites serotina</i> (Lam.) Rchb.	Ap	.	.	+
<i>Equisetum sylvaticum</i> L.	Ap	.	.	+	<i>Ornithogalum umbellatum</i> L.	Erg.	.	+	.
<i>Erophila verna</i> L.	Ap	+	+	+	<i>Oxalis acetosella</i> L.	Ap	+	+	+
<i>Erysimum cheiranthoides</i> L.	Ap	+	+	+	<i>Paeonia officinalis</i> L.	Erg.	.	+	.
<i>Euphorbia helioscopia</i> L.	Ar	+	+	+	<i>Papaver rhoeas</i> L.	Ar	.	+	+
<i>Euphorbia peplus</i> L.	Ar	.	+	+	<i>Papaver somniferum</i> L.	Erg.	+	.	.
<i>Festuca pratensis</i> Huds.	Ap	.	+	+	<i>Phacelia tanacetifolia</i> Benth.	Erg.	.	+	.
<i>Ficaria verna</i> Huds.	Ap	.	+	+	<i>Phragmites australis</i> (Cav.) Trin. ex Steud.	Ap	+	+	+
<i>Fragaria vesca</i> L.	Ap	+	+	.	<i>Plantago intermedia</i> Gilib.	Ap	+	.	.
<i>Fumaria officinalis</i> L.	Ar	.	+	+	<i>Plantago lanceolata</i> L.	Ap	+	+	+
<i>Gagea lutea</i> (L.) Ker Gawl.	Ap	.	+	.	<i>Plantago major</i> L.	Ap	+	+	+
<i>Gagea pratensis</i> (Pers.) Dumort	Ap	+	.	+	<i>Poa annua</i> L.	Ap	+	+	+
<i>Galanthus nivalis</i> L.	Erg.	+	+	+	<i>Poa nemoralis</i> L.	Ap	+	+	+
<i>Galeobdolon luteum</i> Huds.	Ap	+	+	+	<i>Poa pratensis</i> L.	Ap	.	.	+
<i>Galeopsis speciosa</i> Mill.	Ap	.	.	+	<i>Polygonatum multiflorum</i> (L.) All.	Ap	.	+	.
<i>Galeopsis tetrahit</i> L.	Ap	+	+	+	<i>Polygonum aviculare</i> L.	Ap	+	+	+
<i>Galinsoga ciliata</i> (Raf.) S.F. Blake	Ken	.	+	.	<i>Polygonum bistorta</i> L.	Ap	.	+	+
<i>Galinsoga parviflora</i> Cav.	Ken	+	+	+	<i>Polygonum hydropiper</i> L.	Ap	.	+	+
<i>Galium aparine</i> L.	Ap	+	+	+	<i>Polygonum persicaria</i> L.	Ap	+	+	+
<i>Galium mollugo</i> L.	Ap	+	+	+	<i>Polypodium vulgare</i> L.	Ap	.	.	+
<i>Galium verum</i> L.	Ap	.	.	+	<i>Potentilla anserina</i> L.	Ap	+	+	+
<i>Geranium molle</i> L.	Ken	.	.	+	<i>Potentilla collina</i> Wibel	Ap	.	+	.
<i>Geranium pusillum</i> Burm. F. ex L.	Ar	.	+	.	<i>Prunella vulgaris</i> Huds.	Ap	+	.	.
<i>Geranium robertianum</i> L.	Ap	+	+	+	<i>Ranunculus acris</i> L.	Ap	+	+	+
<i>Geum rivale</i> L.	Ap	+	+	+	<i>Ranunculus auricomus</i> L.	Ap	.	.	+
<i>Glechoma hederacea</i> L.	Ap	+	+	+	<i>Ranunculus bulbosus</i> L.	Ap	.	.	+
<i>Gnaphalium sylvaticum</i> L.	Ap	.	.	+	<i>Ranunculus flammula</i> L.	Ap	.	.	+
<i>Gnaphalium uliginosum</i> L.	Ap	+	.	+	<i>Ranunculus repens</i> L.	Ap	+	+	+
<i>Helianthus tuberosus</i> L.	Ken	.	+	.	<i>Ranunculus sceleratus</i> L.	Ap	.	.	+
<i>Hemerocallis × hybrida</i> Hort.	Erg.	.	+	.	<i>Raphanus raphanistrum</i> L.	Ar	+	+	+
<i>Heracleum sphondylium</i> L.	Ap	.	+	.	<i>Rorippa sylvestris</i> (L.) Besser	Ap	+	+	+
<i>Herniaria glabra</i> L.	Ap	.	+	.	<i>Rudbeckia laciniata</i> L.	Ken	.	+	.
<i>Holcus lanatus</i> L.	Ap	.	.	+	<i>Rumex acetosa</i> L.	Ap	+	+	+
<i>Holcus molis</i> L.	Ap	+	+	+	<i>Rumex acetosella</i> L.	Ap	+	+	+
<i>Humulus lupulus</i> L.	Ap	.	+	+	<i>Rumex conglomeratus</i> Murray	Ap	.	.	+
<i>Hypericum humifusum</i> L.	Ap	.	+	.	<i>Rumex crispus</i> L.	Ap	.	.	+
<i>Hypericum perforatum</i> L.	Ap	+	+	+	<i>Rumex obtusifolius</i> L.	Ap	+	.	.
<i>Hypochoeris glabra</i> L.	Ap	.	+	.	<i>Saponaria officinalis</i> L.	Ap	+	+	+
<i>Impatiens noli-tangere</i> L.	Ap	.	.	+	<i>Scilla sibirica</i> Haw.	Erg.	+	+	.
					<i>Scirpus sylvaticus</i> L.	Ap	+	+	+
					<i>Scleranthus annuus</i> L.	Ar	+	+	+

1	2	3	4	5
<i>Scrophularia nodosa</i> L.	Ap	.	.	+
<i>Sedum maximum</i> (L.) Hoffm.	Ap	.	+	.
<i>Sinapis arvensis</i> L.	Ar	+	+	+
<i>Sisymbrium loeselii</i> L.	Ken	+	.	.
<i>Sisymbrium officinale</i> (L.) Scop.	Ar	+	+	+
<i>Sonchus arvensis</i> L.	Ap	.	+	.
<i>Sonchus oleraceus</i> L.	Ar	.	.	+
<i>Spergula arvensis</i> L.	Ar	+	+	+
<i>Stachys palustris</i> L.	Ap	+	+	+
<i>Stellaria graminea</i> L.	Ap	.	+	+
<i>Stellaria media</i> (L.) Vill.	Ap	+	+	+
<i>Stellaria nemorum</i> L.	Ap	.	+	+
<i>Symphytum officinale</i> L.	Ap	.	.	+
<i>Tanacetum vulgare</i> L.	Ap	+	+	+
<i>Taraxacum officinale</i> F.H. Wigg.	Ap	+	+	+
<i>Thlaspi arvense</i> L.	Ar	+	+	+
<i>Torilis japonica</i> (Houtt.) DC.	Ap	+	.	+
<i>Trifolium pratense</i> L.	Ap	.	+	+
<i>Trifolium repens</i> L.	Ap	+	+	+
<i>Tussilago farfara</i> L.	Ap	+	+	+
<i>Urtica dioica</i> L.	Ap	+	+	+
<i>Urtica urens</i> L.	Ar	.	.	+
<i>Verbascum nigrum</i> L.	Ap	+	+	.
<i>Veronica arvensis</i> L.	Ar	+	+	+
<i>Veronica chamaedrys</i> L.	Ap	+	+	+
<i>Veronica officinalis</i> L.	Ap	.	.	+
<i>Veronica triphyllos</i> L.	Ar	.	+	.
<i>Vicia cracca</i> L.	Ap	+	+	+
<i>Vicia hirsuta</i> (L.) Gray	Ar	+	+	+
<i>Vicia sativa</i> L.	Erg.	+	+	+
<i>Vicia villosa</i> Roth	Ar	.	.	+
<i>Viola reichenbachiana</i> Jord. ex Boreau	Ap	.	+	.

Explanations: N – Niebędzino, P – Pogorzelice, Ż – Żelazkowo, Ap – apophyta, Ar – archeophyta, Erg. – ergasiophyta, Ken – kenophyta, Kult. – cultivars.

### RECAPITULATION

At the studies area 275 species were found, including 163 common ones. The park complex in Żelazkowo is the richest in species – 203. The fewest number of species was found in Niebędzino – 142 and in Pogorzelice – 195 taxons. Among vascular flora of the parks, the substantial advantage of indigenous species was found (185 apophytes). Among species of foreign origin there were: 31 archeophytes, 27 ergasiophytes 25 kenophytes and eight cultivars. The trees and bushes comprise 28.9% of the defined dendroflora of the parks (82 species), 71.11% fall for green flora (193 taxons).

From the species of trees and bushes of the foreign origin the following were found *Acer saccharinum*, *Aesculus carnea*, *Aesculus hippocastanum*, *Corylus colurna*, *Fagus sylvatica*, *Picea pungens*, *Pseudotsuga menziesii*, *Quercus rubra*, *Robinia pseudoacacia*, *Thuja occidentalis*, *Cornus alba*, *Rosa multiflora*, *R. rugosa*, *Sorbaria sorbifolia*, *Symphoricarpos albus*, *Syringa vulgaris*.

Among the species of indigenous dendroflora the largest share have *Acer platanoides*, *Alnus glutinosa*, *Betula pendula*, *Carpinus betulus*, *Picea abies*, *Quercus robur*, *Tilia cordata*, *Corylus avellana*, *Crataegus monogyna*, *Sambucus nigra*. From the rare herbaceous plants in the scale of the region of protected ones of the analysed parks there are *Achillea ptarmica*, *Anemone ranunculo-*

*ides*, *Chenopodium polyspermum*, *Conium maculatum*, *Convallaria majalis*, *Dryopteris carthusiana*, *Galanthus nivalis*, *Hypericum humifusum*, *Ornithogallum umbellatum*, *Polypodium vulgare*, *Ranunculus sceleratus*, *Taxus baccata*, *Viburnum opulus*, *Vinca minor*.

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