

MONUMENTAL PARKS IN THE SOUTHERN PART OF KRAJNA

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Abstract

This paper presents results of field studies in historical former manor park of the Krajna Region which were made during two vegetation seasons, in 2013 and 2014. The studies covered eight monumental manor parks located in five communes (Krajenka commune – Maryniec, Łobżenica commune – Chlebno, Górka Klasztorna, Sośno commune – Wąwelnio, Wyrzysk commune – Dąbki, Falmierowo, Wysoka commune – Gmurowo, Jezioraki Kosztowskie). The study aim at presenting geographical-historical status in Poland of the chosen former manor parks of the Krajna and especially tang into consideration the most precious specimen of dendroflora. A lot of old trees, trees alleys, trees lines, alien species and protected taxa were found on the parks' areas. 472 species were found, including 164 constitute synanthropic spontaneophytes (apophytes), 94 – non-synanthropic spontaneophytes and 29 – half-synanthropic spontaneophytes, 42 archaeophytes, 40 kenophytes and 103 – diaphytes. 149 taxa were found among dendric flora and 323 taxa of herbal flora. From the rare dendric and herbaceous flora in the scale of the region of the analysed park there are: *Abies procera*, *Acer rubrum*, *Achillea ptarmica*, *Calystegia pulchra*, *Crataegus pedicellata*, *Liriodendron tulipifera*, *Metasequoia glyptostroboides*, *Phellodendron amurense*, *Picea omorika*, *Ptelea trifoliata*, *Sanicula europaea*, *Tilia americana* and *Vicia grandiflora*.

Key words: former manor parks, vascular flora, Krajna Region, ATPOL

INTRODUCTION

Krajna is a historical region at the border of Wielkopolska (Greater Poland) and Kaszuby (Kashubian Region) and is included either to Greater Poland or Pomerania. It was connected with a dispute of historians, which has not been solved until recently, concerning the course of the border between the tribes of Polans and Pomeranians. Now, it is generally agreed that a southern bank the Noteć River constituted the border (Hładylowicz 1932, Szafran 1961). From the administrative point of

view it does not constitute any unit since it belongs to three provinces: Kuyavia-Pomerania, Pomerania and Greater Poland. From geographical point of view, Krajna is known especially for the Krajeńskie Lakeland shaped by the last glaciation, which is crossed with parallel series of frontal moraines exceeding the height of 160 m a.s.l. (Kondracki 1998). At the turn of the 18th and 19th centuries, the type of park solutions of a more natural, domestic character was established in Pomerania and Greater Poland connected with the local landscape. In consequence, the parks were arranged based on the existing forest enclaves or tree complexes (Majdecki 2008). Gardens and parks constitute symptoms of culture and economy of the past generations. Post manor parks are precious natural objects which at the same time are vital documents of art and customs in Poland of the past. They constitute examples of development of spatial forms and functional systems changes over the centuries in accordance with the popular principles of the art of gardening (Drzał 1982). The park complexes in Krajna were established at the second half of the 18th and at the beginning of the 20th century. They were established at the courts and manor houses belonging to great German families (Duncker 1857-1884, Neuschäffer 1994).

The composition and the view of the park was connected with the surrounding landscape and constituted its integral part. All park systems of Krajna represent just such a style. Former manor parks are the sanctuaries of noble species of old trees whose shape and forms are rare in natural habitats. Such tree stands constitute a specific bank of genes, and even more important bank genes are taxons of foreign origin. The ones which survived are well adapted to the climate and constitute the most valuable reproductive material of a given species or variety (Lipińska and Mianowska 1995).

The research aimed at evaluation of the present status of monumental manor park complexes and the cloister park at the area of Krajna with a special focus on valuable items of dendroflora.

MATERIAL AND METHODS

The research into the flora of vascular plants at monumental parks at the area of Krajna was done in the years 2013-2014. The research comprised 15 parks in 7 communes, however 14 of them were the court and manor parks, and in Górkla Klasztorna – a cloister park. The location of the described park systems is represented in Fig. 1. In spite of the detailed flora lists, the circumferences of the magnificent trees were measured at the height of 130 cm from their base. The classification criteria of monumental trees were adopted according to Ruciński (1998). The nomenclature of the vascular plants was provided after Mirek et al. (2002). The nomenclature of dendroflora, varieties and botanic forms is in accordance with the research of Seneta and Dolatowski (2003). Geographical-historical flora division presented here is based on other papers, including Jackowiak (1990) and Chmiel (2006). The legal status of the species was established according to the Ordinance of the Ministry of Environment Protection from 2014. During the field research, unpublished papers from the years 1976-1985 (Provincial Authority for Monument Protection in Poznań and Toruń) were used. The place names and the physiographic names binding before 1945 were established after Kaemmerer (1988).

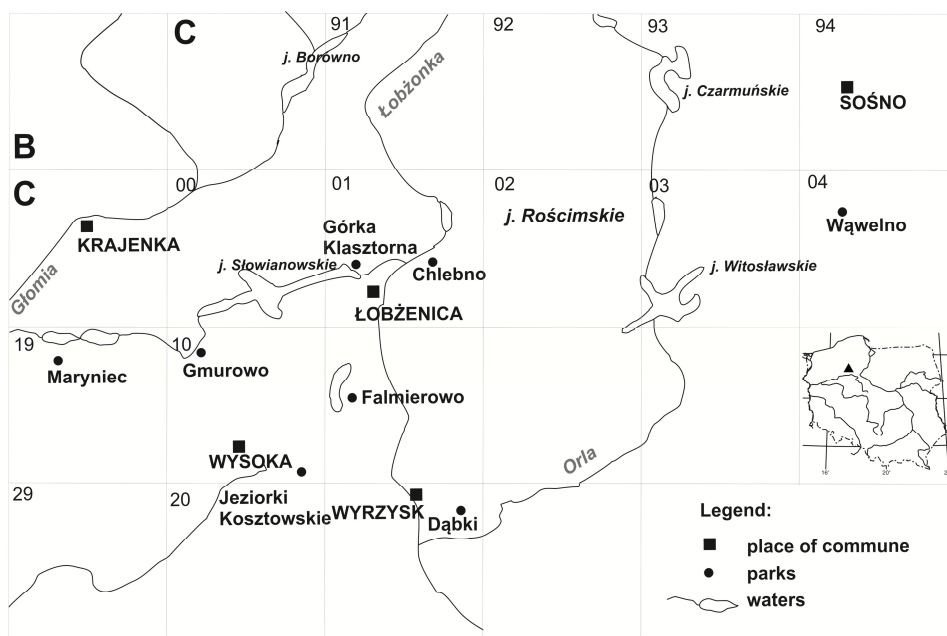


Fig. 1. Location of the described parks of southern part of Krajna
Source: Own elaboration basing on Mapy topograficzne 1982

After the name of a place, the number of entry of the park into the national register of monuments along with its area was given in italics (Wendlandt et al. 1992) and the number of square – ATPOL (Zajac 1978).

CHARACTERISTICS OF PARKS

KRAJENKA COMMUNE

Maryniec (*A-447/86*), *3.9 ha*, ATPOL: CC19

The first information on concerning separation of Maryniec manor estate (previously Gacki) from the Stare estate, comes from 1853. At that time, the Orland family, who built a neoclassicist manor house, was the owner of the estate. The park might have been established at the same time. Both the court building and the park were modernized to certain extent in 1920s. One can draw such conclusions from the façade of the building at the side of the park pond, as to functionalism in 1920s in Germany, and the age of most part of the tree stand (about 100 years). In the period 1939-1945 the building was turned into an orphanage. Since 1945 till 1982 the owners changed several times, bringing the park and the manor buildings to successive destruction. They were: a sugar refinery in Nakło, the „Konrad” coal mine, the Konin aluminum foundry, Inspectorate of Education in Łódź, an agricultural cooperative from Dolnik and a building construction enterprise from Piła which dealt with a general redecoration of the manor house and put the park into order cutting down the tree brushwood

and getting rid of deadwood (Mezer-Uciechowska and Uciechowski 1985). By the end of 1990 the building was used as a summer vacation center for schoolchildren. At present the manor park complex belongs to State Treasury.

The landscape park is characterized by domination of leafy treestands: *Robinia pseudacacia*, *Acer platanoides*, *Tilia cordata*, *Aesculus hippocastanum*. Among them, *Acer saccharinum* of 495 cm of circumference by the park pond and another individual with 410 cm of circumference at the corner of the manor house are worth mentioning. In the park, grow other interesting taxons: magnificent *Buxus sempervirens* by the manor building, *Thuja plicata* of 195 cm of circumference, a tree form of *Taxus baccata* (160 cm), *Fagus sylvatica* 'Pendula' with the circumference of 240 cm, *Acer rubrum* (210 cm) and *Quercus robur* 'Fastigiata' (205 cm). On the side of the manor house yard, by the park pond, towards the farm field, leads a tree lane of *Carpinus betulus* comprising 38 trees. The coniferous dendroflora is represented by: *Pinus nigra*, *Pseudotsuga menziesii* and *Picea abies*.

ŁOBŻENICA COMMUNE

Górka Klasztorna (A-266/76), 7.6 ha, ATPOL: CC01

Górka Klasztorna is the oldest sanctuary of the Virgin Mary in Poland. In the chronicles of the St. Bernardine Order from 1079 the information on „oak grove on the water well”. In 1111 a wooden chapel was built in the grove, and in 1225 the area was taken over by the Augustinian Order. In the year 1404, Arnold Wałdowski – the owner of Łobżenica granted the Augustinian Order the land for construction of the cloister, with a reservation of a particular protection of a beautiful „oak grove”. The year 1575 was recorded in the chronicles of the order as the year of destruction, since Urszula – the wife of Jan Erazm Krotowski burnt down the chapel in the park. In order to avoid devastation of the park tree stand, Krzysztof Kościelecki the castellan of Inowrocław issued an edict in 1591 on protection of „the oak grove”. In 1626, Zygmunt Raczyński – a Justice of Nakło became a tenant of the Łobżenica estate and built a new chapel in the park and a cloister designated for the Bernardine Order. During the Swedish invasion in 1657, the cloister and the park were seriously damaged. In the period 1675-1685, a church and a brick cloister were built in place of the former cloister. In 1829, Prussian authorities liquidated the Bernardine Order and the church became a property of Łobżenica. The cloister existing today constructed in Baroque style consists of two wings: the southern one adjacent to the cloister walls and the northern one connected with the church by a joint gabled roof covered with the roof tiles. Next to the cloister, on the side of the park, there are three neo Gothic little chapels constructed in the first half of the 19th century (Uciechowski et al. 1976a).

In the landscape park, outside the cloister walls, the spatial composition is emphasized by a clear arrangement of the lane including lime trees and horse – chestnut trees. Between them grow the oaks of the already mentioned „oak grove”. Some of the oaks reach imposing size: 4 trees have circumference from 505 to 580 cm, 11 trees – from 400 to 490 cm, 16 trees – from 310 to 395 cm. Beside them, in the park treestand grow: *Tilia cordata*, *Aesculus hippocastanum*, *Ulmus minor*, *Betula pendula* and *Carpinus betulus*, of which the magnificent ones have circumferences of

260 and 285 cm. In the undergrowth, worth mentioning are: *Viola odorata*, *Galeobdolon luteum*, *Ranunculus lanuginosus* and a kenophyte – *Geranium pyrenaicum*.

Within the area of the cloister walls, the remnants of the old orchard and a vegetable garden are preserved. By the Pilgrim's House, the perennial flower beds are surrounded by hedges of *Symphoricarpos albus*, *Thuja occidentalis* and *Buxus sempervirens*. In the forest plantings of the area the coniferous plants dominate, such as: *Picea abies*, *P. pungens*, *Chamaecyparis pisifera* and *Metasequoia glyptostroboides* – very rarely found in parks.

Chlebno (A-313/77), 13.2 ha, ATPOL: CC01

The estate in Chlebno was established in the period of 1773-1774, when Count Łochocki was the owner who remained there until 1820. From that period of time originate the plantings in the oldest part of the park at the side of the Lubcza River. From 1821 the estate was administered by the Land Court in Piła. In 1834 the manor estate in Chlebno along with Łuchow, Rataje and Wiktorówka were bought by Walter Ebers. He cut down a part of the forest complex widening the park area. In the years 1885-1900, the estate was managed by Erich Limburg Stirum who built a manor house and had new plantings. After World War II the estate was taken over by Social Security Authority in Bydgoszcz and from 1948 the manor house was a recreation center. In 1964 a State Welfare Center for Adults was established (Uciechowski et al. 1976b). At present, the manor house is a seat of a Welfare Center for Women.

The manor house dominates in the landscape park. It is surrounded mainly by leafy trees such as: *Acer platanoides*, *Aesculus hippocastanum*, *Robinia pseudacacia*, *Carpinus betulus*, *Tilia cordata*. The fringes of the clearing are separated from the forest complex by the hedge of *Thuja occidentalis*. From the garden façade, our attention is drawn by a magnificent *Platanus xhispanica* 'Acerifolia' with the circumference of 530 cm and *Larix decidua* (265 cm). By the access road to the manor park complex grow two trees of *Quercus robur* (420 and 430 cm). At the corner of the manor house grows a tree form *Taxus baccata* with the circumference of 225 cm. The three *Liriodendron tulipifera* constitute undisputable decoration of the park.

SOŚNO COMMUNE

Wąwelno (A-213/I-2/87), 4.0 ha, ATPOL: CC04

Around 1860, when the Wąwelno estate belonged to the Grabowski family, a manor house park was established, which can be estimated by the age of the trees growing close to the palace building. In 1888, in place of the old, small manor house, a two storey, neo-Classicist palace with a semicircle access road was erected for Adolf Frenzel (Kaja 2002). Since the beginning of the 20th century it belonged to: 1902 – Joachim von Bethmann, 1912 – Egbert Hayessen, 1920-1926 – the Morawski family, respectively. After the war the estate was taken over by State Treasury and belonged to State Land Property. Subsequently, in 1950s, the estate belonged to the Sandomierz-Wielkopolska Seed Growing Station. In 1960 a state farm was estab-

lished in Wąwelnio. Since the end of 1980s the estate has been administered by a Farmer agricultural partnership (Chmielnik 1991). In the manor house yard, the objects which registered the course of the war were preserved and three of them are included in the register of monuments: a distillery built in 1864, a sheep shed (1885-1868) and a granary (1893). The house of the administrator from 1900 and the gardener's house from 1904 are close to the southern part of the yard (Felińska 1989).

The attractive character of this rural enclave is enriched by the rows of *Carpinus betulus* and *Acer pseudoplatanus* which clearly separated the park quarters. In particular quarters, dendroflora is represented by the leafy trees: *Tilia cordata*, *Aesculus hippocastanum*, *Fagus sylvatica*, *Acer platanoides* and *A. pseudoplatanus*. Coniferous trees such as: *Larix decidua*, *Pseudotsuga menziesii* and *Picea abies* are complementary to the leafy dendroflora. At the side of the garden façade of the palace grow magnificent *Quercus robur* with the circumference of 320 and 350 cm. In front of the palace grows *Ulmus minor* with circumference of 300 cm. In the undergrowth, on the fringes of both park quarters from the side of the manor buildings *Viola odorata* was found.

WYRZYSK COMMUNE

Dąbki (A-387/81), 6.06 ha, ATPOL: CC21

Since the middle of the 18th till the end of the Second World War, the estate in Dąbki was in the hands of the Bniński family. In 1758 Friedrich von Goltz sold the estate to Konstanty Bniński – the castellan of Chełmno. In 1872 Count Ignacy Bniński, the owner of Samostrzel, built a palace designed by an architect from Poznań – Marian Cybulski. In 1880 Dąbki along with the manor estates of Osinówek and Dąbskie Olędry comprised over 5,000 morgen (a German measure of about 1.4 acre). After the death of Ignacy the estate in Samostrzel was taken over by his daughter Maria who, along with Bolesław – her older brother, established an entailed estate in Dąbki. In 1900 Bolesław Bniński became the first Entailer, after his death his son Konstanty Łukasz. After Maria's death in 1934 the whole estate was taken over by Konstanty Łukasz Bniński. The estate in Krajna was properly maintained until 1939. At the turn of 1949/1950 a state farm was established in Dąbki. The palace comprised offices and a kindergarten (Uciechowski and Zieliński 1978). At present, the palace is a private property.

In the English park, a wide clearing dominates which is situated at the side of the garden façade of the place. On the clearing, there are groups of *Acer saccharinum*, of which the most magnificent are 360, 375 and 380 cm, *Chamaecyparis pisifera*, *Rosa rugosa*, *Syringa vulgaris* and *Physocarpus opulifolius*. The fringes of the park pond are covered with *Salix fragilis*, *Cornus alba* and *Populus xcanadensis*. In front to the palace a rosary covers the circular access drive. In its vicinity grow *Fagus sylvatica* 'Purpurea' of the circumferences of 300 and 310 cm, *Aesculus hippocastanum* (330 and 329 cm), *Taxus baccata* and *Malus pumila*. A lane of lime trees leads to the palace, of which the most magnificent one has 390 cm. *Hedera helix* winds up several trees.

Falmierowo (A-314/77), 4.48 ha, ATPOL: CC11

The village since the 14th century was the nest of the Grudziński family. In 1650 Andrzej Karol Grudziński bought several hundred morgens of land from Łobzenica and Złotów and built a big manor house (Fankidejski 1881). In 1864 Count Johann von Ramm built a castle with a glass roof and a distillery in the park. In 1926, the palace in Falmierowo was severely damaged by fire. In the same year a new neo Renaissance palace was built in place of the burnt one. In front of the palace, a big flower bed with an agave and a rockery was built. The last owner of Falmierowo was Hans von Ramm. After the Second World War, the palace was adapted to the needs of the pensioners of a State Pensioners' Home and since 1947 it was the seat of a State Social Welfare House (Mezer-Uciechowska et al. 1976). At present, the palace is the seat of the Social Assistance Center. The maintenance of the park is worth mentioning. It is an imitable example of care of the tree stand and park infrastructure (Zątek and Nowak 1985).

The park tree stand constitutes a compact complex in the part adjacent to the road Łobzenica-Wyrzysk, and perfectly separates the park from the road traffic. It is dominated by: *Acer platanoides*, *Carpinus betulus*, *Robinia pseudacacia* and *Aesculus hippocastanum*. On the park clearing surrounded by the hedge made of *Ligustrum vulgare* grow interesting manumetal trees: *Quercus robur* (420 cm circumference) and *Fagus sylvatica* (530 cm) and two *Quercus robur* 'Fastigiata'. In the park, many interesting trees were deleted from the list of natural monuments due to the necrosis of the trunk or fungal diseases. They are: *Pinus strobus*, *Quercus petraea*, *Tsuga canadensis* and *Tilia cordata* (Engel 1997).

WYSOKA COMMUNE**Gmurowo (A-399/81), 8.65 ha, ATPOL: CC10**

From the analysis of the age of the park tree stands results that the park was separated about 1820 from the forest complex and was developed by the first owner Wilhelm Orland (the original name of the village was Orlandshof). Orland lost the manor house playing cards and was forced to release the estate to the hands of the Gmurowski family, so the present name of the village. The existing palace in Gmurowo where Kazimierz Gmurowski the last owner of the estate lived was built in 1871 (the date was engraved in a granite stone already in foundation). A forester house was situated near the palace, which was built before 1871. It constituted the oldest element of the manor buildings and next to it: the horse stable, granary and living quarters for farm hands. The forester's house was dismantled down to foundations in 1977 (Mikołajczak 2002). During the Second World War Heinrich Bulke relocated the Gmurowski family to the manor estate in Przedgórze. In 1941, Kazimierz Gmurowski died and was buried at the cemetery in Wysoka. After the war, the palace and the manor buildings was taken over by the State Farm (Mezer-Uciechowska and Zieliński 1978a). The State Farm in Gmurowo functioned till 1992, in 1993 the estate was administered by Agency for Agricultural Estates. Since 1998 the estate is a private property.

The landscape park was founded on a basis of a forest complex adjacent to the palace and manor buildings. The tree stand comprises *Quercus robur*, *Ulmus minor*,

Carpinus betulus, *Acer pseudoplatanus* and *Aesculus hippocastanum*. Around a tidy park clearings grow: *Quercus petraea* with a circumference of 330 cm, *Fraxinus excelsior*, of which some have 240 and 260 cm of circumference. In the undergrowth grow masses of *Convallaria majalis*, *Polygonatum multiflorum* and *Viola odorata*. Behind the wet land resulting from beaver dams, grows a lane of *Picea abies*, among them *Ulmus glabra* and bushes of *Philadelphus coronarius*. Its fringe is covered with *Ranunculus sceleratus*. Protected *Lilium martagon* is a feature of the park.

Jeziorki Kosztowskie (A-397/81), 6.05 ha, ATPOL: CC10

The first manor buildings including the court and pig shed were built in 1880 and were adjacent to the park. In 1882, Józef Sikorski became the owner of the estate and did planting around the park pond. In 1904, the estate was bought by Gustav Büttner. At that time the work was initiated in connection with development of the park infrastructure and planting of alien species of trees. Amongst the old park tree stands a shrine was built in which the family of Büttners were buried – the last owners of Jeziorki Kosztowskie. In 1937 the estate was divided and only the residuary part was left – 160 hectares along with the manor house (Mikołajczak 2002). After the Second World War, the District Land Authority in Wyrzysk transferred the residuary part to the Department of Social Care of Provincial Office in Bydgoszcz which established an old peoples' home there. In 1950, a Farm Cooperative was established in Jeziorki Kosztowskie. In 1956, the old manor house was put down and a residential house with offices was built on its foundations where the medical surgery, canteen and the community center was arranged. The turn of 1950s and 60s meant further devastation of the composition of the tree stand of the park. The lime trees along the main lane to the court were cut down, the park pond was not cleaned, the southern part of the park clearing was overgrowing with self-sown trees (Mezer-Uciechowska and Zieliński 1978b).

The park in the eclectic style preserved its spatial arrangement from the years 1890-1910. The visible part of the lanes, ponds, fragments of old tree stands and the wall on the side of the road constitute a landscape composition. The domestic dendroflora dominates: *Acer platanoides*, *A. pseudoplatanus*, *Fagus sylvatica*, *Robinia pseudacacia*, *Tilia cordata* and *Ulmus glabra*. In the park tree stands, alien taxons have their special place: *Phellodendron amurense* (three trees), *Larix leptolepis*, *Pseudotsuga menziesii* and nice examples of *Juglans regia* and *Abies alba*. The ponds are surrounded by fields of *Petasites hybridus*. By the muddy banks the patches of *Iridetum pseudacori* and *Ranunculus sceleratus* were found. Close to the chapel of Büttners grow: *Quercus robur* of the circumference of 395 cm, *Taxus baccata*, *Fagus sylvatica* 'Purpurea' with the circumference of 345 cm, *Ulmus minor* var. *suberosa*. In that part of the park in the undergrowth and over some trees *Hedera helix* appears.

CONCLUSIONS

Within the limits of the former manor parks of Krajna 472 plant species were discovered, of which 149 are representatives of dendroflora and 323 – herbal flora.

They belong to 294 genera (of which 199 are congeneric) and 94 families. Over 98% species belong to 2 classes of Angiospermous – Dicotyledonous and Monocotyledonous (Table 1, 2). The number of species in a particular family varies from 1 to 44. The species richest families are: *Asteraceae*, *Rosaceae*, *Poaceae*, *Fabaceae*, *Lamiaceae*, *Brassicaceae*, *Scrophulariaceae* and they comprise over half of the whole park flora. The sequence of the presented families is close to the sequence presented for Poland's flora by Pawłowska (1977).

Variability of the number of species per genera is from 1 to 36. The most numerous species represented in the park flora are: *Vicia* and *Acer* (totally 19 taxons). Also, relatively numerous are: *Salix* (8 taxons), *Geranium*, *Polygonum*, *Prunus* and *Veronica* (6 taxons each) and *Poa*, *Rumex* and *Trifolium* (5 taxons each). Former manor park in Jeziorki Kosztowskie is the richest park as to the number of species (231 taxons), while the park in Maryniec (Table 3) is the poorest one (113). The flora of the parks in Krajna is dominated by the species of the native origin – 287, of which: 164 constitute synanthropic spontaneophytes (apophytes), 94 – non-synanthropic spontaneophytes and 29 – half-synanthropic spontaneophytes (Table 1, 2). In the native dendroflora, a big share have, among others: *Acer platanoides*, *Alnus glutinosa*, *Betula pendula*, *Carpinus betulus*, *Corylus avellana*, *Crataegus monogyna*, *Fagus sylvatica*, *Populus tremula*, *Quercus robur*, *Sambucus nigra*, *Sorbus aucuparia* and *Tilia cordata*. The flora of foreign origin is represented by 185 species, of which: 42 are archaeophytes, 40 – kenophytes and 103 – diaphytes. Among the trees and bushes of foreign origin, the following were discovered, among others: *Acer negundo*, *Chamaecyparis lawsoniana*, *Ch. nootkatensis*, *Crataegus pedicellata*, *Juniperus virginiana*, *Liriodendron tulipifera*, *Metasequoia glyptostroboides*, *Phello-dendron amurense*, *Ptelea trifoliata*, *Pseudotsuga menziesii*, *Sorbaria sorbifolia* and *Tilia americana*. In the vascular flora of the parks, protected, rare and nationally endangered species and species endangered in Pomerania are found (Table 1, 2). They comprise, among others: *Achillea ptarmica*, *Carex remota*, *Dactylorhiza majalis*, *Epipactis helleborine*, *Ononis arvensis*, *O. spinosa* and *Polypodium vulgare*. There were 22 taxa from locally rare category (RR), e.g.: *Acer campestre*, *Anemone ranunculoides*, *Betonica officinalis*, *Calystegia pulchra*, *Catalpa bignonioides*, *Crataegus pedicellata*, *Geranium pyrenaicum*, *Ornithopus perpusillus*, *Ribes alpinum*, *Sanicula europaea* and *Vicia grandiflora*.

Table 1

List of dendroflora in former manor parks of the Krajna

Family/Species	Status g-h	Parks							
		Ch	Db	Fa	Gm	GK	JK	Ma	Wo
1	2	3	4	5	6	7	8	9	10
Pinaceae									
<i>Abies alba</i> Mill.	Dia			+	+		+		
<i>Abies concolor</i> (Gordon et Glend.) Lindl. ex Hildebr.	Dia						+		+
<i>Abies procera</i> Rehder	Dia					+			

1	2	3	4	5	6	7	8	9	10
<i>Pseudotsuga menziesii</i> (Mirb.) Franco	Dia	+	+	+	+		+	+	+
<i>Tsuga canadensis</i> (L.) Carrière	Dia								+
RR <i>Picea omorika</i> (Pančić) Purk.	Dia			+					
<i>Picea abies</i> (L.) H. Karst.	Ken	+	+	+	+	+	+	+	+
<i>Picea pungens</i> Engelm.	Dia		+			+	+	+	
<i>Larix kaempferi</i> (Lamb.) Carrière	Dia						+		
<i>Larix decidua</i> Mill.	Dia	+	+				+		+
<i>Pinus strobus</i> L.	Dia							+	+
<i>Pinus nigra</i> J.F. Arnold	Dia			+				+	
<i>Pinus sylvestris</i> L.	Ap	+			+		+		+
!! <i>Pinus mugo</i> Turra	Dia					+			
Taxodiaceae									
RR <i>Metasequoia glyptostroboides</i> Hu & W.C. Cheng	Dia					+			
Cupressaceae									
<i>Chamaecyparis nootkatensis</i> (D. Don) Spach	Dia	+				+			
<i>Chamaecyparis pisifera</i> (Siebold et Zucc.) Endl.	Dia		+	+		+			
<i>Chamaecyparis lawsoniana</i> (A. Murray bis) Parl.	Dia		+						+
<i>Thuja occidentalis</i> L.	Dia	+	+	+		+		+	
<i>Thuja plicata</i> Donn ex D. Don	Dia							+	
<i>Juniperus communis</i> L.	Sp		+	+					+
<i>Juniperus sabina</i> L.	Dia								+
<i>Juniperus virginiana</i> L.	Dia								+
Taxaceae									
!! <i>Taxus baccata</i> L.	Dia	+	+	+			+	+	+
Salicaceae									
<i>Salix pentandra</i> L.	Sp	+					+		
<i>Salix fragilis</i> L.	Ap	+			+		+	+	
<i>Salix alba</i> L.	Ap			+					+
<i>Salix xsepulcralis</i> Simonk.	Dia		+						
<i>Salix viminalis</i> L.	Ap		+				+		
<i>Salix aurita</i> L.	Sp						+		
<i>Salix caprea</i> L.	Ap			+	+				
<i>Salix cinerea</i> L.	Sp		+		+				
<i>Populus xcanadensis</i> Moench	Dia		+	+					
<i>Populus tremula</i> L.	Ap	+				+			+

1	2	3	4	5	6	7	8	9	10
<i>Populus alba</i> L.	Ap		+		+				
<i>Populus nigra</i> L. 'Italica'	Dia	+	+		+		+		
Juglandaceae									
<i>Juglans regia</i> L.	Dia			+			+		
Betulaceae									
<i>Betula pubescens</i> Ehrh.	Sp	+						+	
<i>Betula pendula</i> Roth	Ap	+		+	+	+	+		
<i>Betula pendula</i> Roth 'Youngii'	Dia							+	
<i>Alnus glutinosa</i> (L.) Gaertn.	Sp	+					+	+	
Corylaceae									
<i>Carpinus betulus</i> L.	Sp	+		+	+	+		+	+
<i>Corylus avellana</i> L.	Sp	+	+	+		+			+
<i>Corylus avellana</i> L. 'Fuscorubra'	Dia						+		
Platanaceae									
<i>Platanus xhispanica</i> Mill. ex Münchh. 'Acerifolia'	Dia	+				+			+
Fagaceae									
<i>Fagus sylvatica</i> L.	Sp/Ap			+				+	+
<i>Fagus sylvatica</i> L. 'Pendula'	Dia							+	
<i>Fagus sylvatica</i> L. 'Purpurea'	Dia	+	+	+			+		
<i>Quercus robur</i> L.	Sp/Ap	+	+	+	+	+	+		+
<i>Quercus robur</i> L. 'Fastigiata'	Dia			+				+	
<i>Quercus petraea</i> (Matt.) Liebl.	Sp					+		+	
<i>Quercus rubra</i> L.	Ken	+			+		+		+
Ulmaceae									
<i>Ulmus laevis</i> Pall.	Ap		+		+		+		+
<i>Ulmus minor</i> Mill. emend. Richens	Ap			+	+	+			+
<i>Ulmus minor</i> var. <i>suberosa</i> (Moench) Soó	Ap			+			+		
<i>Ulmus glabra</i> Huds.	Ap			+	+				+
Loranthaceae									
<i>Viscum album</i> L.	Ap					+	+		
Aristolochiaceae									
<i>Aristolochia macrophylla</i> Lam.	Dia				+				
Ranunculaceae									
<i>Clematis vitalba</i> L.	Ken					+			
Berberidaceae									
<i>Berberis vulgaris</i> L.	Sp/Ap		+	+			+		

1	2	3	4	5	6	7	8	9	10
<i>Berberis thunbergii</i> DC.	Dia	+							+
<i>Mahonia aquifolium</i> (Pursh) Nutt.	Dia					+			+
Magnoliaceae									
RR <i>Liriodendron tulipifera</i> L.	Dia	+							
<i>Magnolia acuminata</i> (L.) L.	Dia					+			
Philadelphaceae									
<i>Philadelphus coronarius</i> L.	Dia	+		+		+		+	+
<i>Deutzia scabra</i> Thunb.	Dia								+
Grossulariaceae									
<i>Ribes uva-crispa</i> L.	Ken			+					
<i>Ribes nigrum</i> L.	Sp	+					+		
RR <i>Ribes alpinum</i> L.	Dia			+					+
<i>Ribes aureum</i> Pursh	Dia				+				
Rosaceae									
<i>Physocarpus opulifolius</i> (L.) Maxim.	Dia		+						
<i>Sorbaria sorbifolia</i> (L.) A. Braun	Ken						+		
<i>Spiraea japonica</i> L.	Dia		+						
<i>Spiraea salicifolia</i> L.	Dia	+							
<i>Rubus idaeus</i> L.	Sp	+		+		+		+	+
<i>Rubus caesius</i> L.	Ap				+				+
<i>Rubus plicatus</i> Weihe et Nees	Sp	+							
<i>Kerria japonica</i> L.	Dia					+			
<i>Rosa multiflora</i> Thunb.	Dia		+	+					
<i>Rosa rugosa</i> Thunb.	Dia		+						+
<i>Rosa rubiginosa</i> L.	Ap	+							
<i>Rosa canina</i> L.	Ap				+			+	
<i>Potentilla fruticosa</i> L.	Dia		+			+			
<i>Chaenomeles japonica</i> (Thunb.) Lindl. ex Spach	Dia								+
<i>Pyrus communis</i> L.	Sp/Ap							+	
<i>Malus domestica</i> Borkh.	Dia		+	+					
<i>Sorbus aucuparia</i> L.	Sp	+	+		+		+	+	
<i>Cotoneaster horizontalis</i> Decne.	Dia								+
RR <i>Crataegus pedicellata</i> Sarg.	Ken			+					
<i>Crataegus monogyna</i> Jacq.	Ap	+		+				+	+
<i>Crataegus laevigata</i> (Poir.) DC.	Ap		+	+	+				
<i>Prunus mahaleb</i> L.	Dia						+		

1	2	3	4	5	6	7	8	9	10
<i>Prunus padus</i> L.	Sp			+	+				
<i>Prunus serotina</i> Ehrh.	Ken							+	
<i>Prunus avium</i> (L.) Moench.	Sp	+		+					
<i>Prunus spinosa</i> L.	Ap	+			+	+	+		
<i>Prunus cerasifera</i> Ehrh.	Ken			+			+		+
Fabaceae									
<i>Laburnum anagyroides</i> Medik.	Dia			+			+		
<i>Sarothamnus scoparius</i> (L.) W.D.J. Kochr	Ken	+			+			+	+
<i>Robinia pseudoacacia</i> L.	Ken	+		+	+		+	+	
<i>Caragana arborescens</i> Lam.	Dia			+			+		+
Rutaceae									
RR <i>Ptelea trifoliata</i> L.	Dia		+						
RR <i>Phellodendron amurense</i> Rupr.	Dia						+		
Anacardiaceae									
<i>Rhus typhina</i> L.	Dia						+		
Aceraceae									
<i>Acer pseudoplatanus</i> L.	Ap	+	+	+	+	+	+	+	+
<i>Acer pseudoplatanus</i> L. 'Atropurpureum'	Dia			+					
<i>Acer pseudoplatanus</i> L. 'Leopoldii'	Dia								+
<i>Acer rubrum</i> L.	Dia							+	
<i>Acer saccharinum</i> L.	Dia		+					+	+
<i>Acer negundo</i> L.	Ken				+	+			
<i>Acer platanoides</i> L.	Ap	+	+	+	+	+	+	+	+
<i>Acer platanoides</i> L. 'Globosum'	Dia					+			
RR <i>Acer campestre</i> L.	Ap								+
Hippocastanaceae									
<i>Aesculus hippocastanum</i> L.	Ken	+	+		+	+	+	+	+
<i>Aesculus flava</i> Sol.	Dia						+		
Celastraceae									
<i>Euonymus europaea</i> L.	Ap			+	+				+
<i>Euonymus fortunei</i> (Turcz.) Hand. Mazz.	Dia		+			+			
Buxaceae									
<i>Buxus sempervirens</i> L.	Dia					+		+	
Rhamnaceae									
<i>Rhamnus cathartica</i> L.	Ap						+		
<i>Frangula alnus</i> Mill.	Sp	+			+		+		

1	2	3	4	5	6	7	8	9	10
Vitaceae									
<i>Vitis vinifera</i> (G.C. Gmel.) Hegi	Dia	+				+			
<i>Parthenocissus quinquefolia</i> (L.) Planch.	Dia			+				+	
Tiliaceae									
<i>Tilia platyphyllos</i> Scop.	Ap		+	+			+		+
<i>Tilia cordata</i> Mill.	Ap	+	+	+	+	+	+	+	+
RR <i>Tilia americana</i> L.	Dia							+	
Tamaricaceae									
<i>Tamarix tetrandra</i> Pall. ex M. Bieb.	Dia								+
Eleagnaceae									
!! <i>Hippophaë rhamnoides</i> L.	Dia					+			
Cornaceae									
<i>Cornus mas</i> L.	Dia			+		+			
<i>Cornus alba</i> L.	Dia		+				+		+
<i>Cornus sanguinea</i> L.	Sp/Ap		+				+		
Araliaceae									
<i>Hedera helix</i> L.	Ap	+	+			+	+	+	
Ericaceae									
<i>Calluna vulgaris</i> (L.) Hull	Sp	+							
<i>Rhododendron xcatawbiense</i> Michx.	Dia		+	+					
<i>Vaccinium myrtillus</i> L.	Sp	+							
Oleaceae									
<i>Forsythia xintermedia</i> Zabel	Dia	+							
<i>Fraxinus excelsior</i> L.	Ap	+	+	+	+	+	+	+	+
<i>Fraxinus excelsior</i> L. 'Pendula'	Dia					+			
<i>Fraxinus pennsylvanica</i> Marshall	Ken						+		
<i>Syringa vulgaris</i> L.	Dia		+	+			+	+	
<i>Ligustrum vulgare</i> L.	Dia			+					
Solanaceae									
<i>Lycium barbarum</i> L.	Ken					+			
<i>Solanum dulcamara</i> L.	Sp/Ap						+		
Bignoniaceae									
RR <i>Catalpa bignonioides</i> Walter	Dia					+			
Apocynaceae									
<i>Vinca minor</i> L.	Dia		+			+			+

1	2	3	4	5	6	7	8	9	10
Caprifoliaceae									
<i>Sambucus nigra</i> L.	Ap	+		+		+	+	+	+
<i>Viburnum opulus</i> L.	Sp						+		
<i>Symphoricarpos albus</i> (L.) S.F. Blake	Dia	+		+	+	+	+	+	
! <i>Lonicera periclymenum</i> L.	Sp					+			
<i>Lonicera xylosteum</i> L.	Sp				+				

Explanations:

Status g-h – geographical-historical status

Ap – synanthropic spontaneophytes (apophytes), Arch – archaeophytes, Dia – diaphytes, Ken – kenophytes, Sp – non-synanthropic spontaneophytes, Sp/Ap – half-synanthropic spontaneophytes

Sites: Ch – Chlebno, Db – Dąbki, Fa – Falmierowo, Gm – Gmurowo, GK – Górka Klasztorna, JK – Jeziorki Kosztowskie, Ma – Maryniec, Wo – Wąwelno

RR – locally rare

Legal protection of species in Poland:

!! – species under strict protection

! – species under partial protection

Table 2

List of herbaceous plants in former manor parks of the Krajna

Family/Species	Status g-h	Parks							
		Ch	Db	Fa	Gm	GK	JK	Ma	Wo
1	2	3	4	5	6	7	8	9	10
Equisetaceae									
<i>Equisetum sylvaticum</i> L.	Sp	+			+		+		
<i>Equisetum pratense</i> Ehrh.	Sp		+	+					+
<i>Equisetum arvense</i> L.	Ap	+	+		+	+	+		+
Hypolepidaceae									
<i>Pteridium aquilinum</i> (L.) Kuhn	Sp	+			+		+		
Polypodiaceae									
<i>Polypodium vulgare</i> L.	Sp						+		
Athyriaceae									
<i>Athyrium filix-femina</i> (L.) Roth.	Sp	+							
! <i>Matteucia struthiopteris</i> (L.) Tod.	Dia			+		+			
Cannabaceae									
<i>Humulus lupulus</i> L.	Sp/Ap	+			+		+		
Urticaceae									
<i>Urtica urens</i> L.	Arch	+		+	+		+		+
<i>Urtica dioica</i> L.	Ap	+	+	+	+	+	+	+	+
Polygonaceae									
<i>Polygonum aviculare</i> L.	Ap	+	+	+	+	+	+	+	+
<i>Polygonum bistorta</i> L.	Sp				+		+		
<i>Polygonum hydropiper</i> L.	Ap	+		+			+		

1	2	3	4	5	6	7	8	9	10
<i>Polygonum persicaria</i> L.	Ap		+		+	+			
<i>Polygonum lapathifolium</i> L. subsp. <i>lapathifolium</i>	Ap	+	+			+		+	+
<i>Polygonum lapathifolium</i> L. subsp. <i>pallidum</i> (With.) Fries	Ap			+	+		+		
<i>Fallopia convolvulus</i> (L.) A. Löve	Arch	+			+	+	+	+	
<i>Reynoutria japonica</i> Houtt.	Ken				+		+		
<i>Rumex acetosella</i> L.	Ap	+		+			+		+
<i>Rumex acetosa</i> L.	Ap		+		+	+		+	+
<i>Rumex obtusifolius</i> L.	Ap	+			+	+			+
<i>Rumex conglomeratus</i> Murray	Sp/Ap	+			+		+		
<i>Rumex crispus</i> L.	Ap		+		+			+	
Chenopodiaceae									
<i>Chenopodium album</i> L.	Ap	+	+	+	+	+	+	+	+
<i>Atriplex patula</i> L.	Ap		+				+		
Caryophyllaceae									
<i>Stellaria nemorum</i> L.	Sp	+			+	+	+		
<i>Stellaria media</i> (L.) Vill.	Ap	+	+	+	+	+	+	+	+
<i>Stellaria holostea</i> L.	Sp	+			+			+	
<i>Stellaria graminea</i> L.	Ap	+				+		+	
<i>Cerastium holosteoides</i> Fr. emend. Hyl.	Ap		+	+				+	+
<i>Scleranthus annuus</i> L.	Arch				+		+	+	
<i>Herniaria glabra</i> L.	Ap		+	+				+	
<i>Spergula arvensis</i> L.	Arch	+		+	+		+		+
<i>Lychnis flos-cuculi</i> L.	Sp	+			+		+		
<i>Melandrium album</i> (Mill.) Garcke	Ap			+	+	+	+		
RR <i>Melandrium rubrum</i> (Weig.) Garcke	Sp				+				
<i>Saponaria officinalis</i> L.	Ap		+		+		+		+
Ranunculaceae									
<i>Eranthis hyemalis</i> (L.) Salisb.	Dia	+			+				+
<i>Caltha palustris</i> L.	Sp	+			+		+		+
<i>Anemone nemorosa</i> L.	Sp	+		+	+		+	+	
RR <i>Anemone ranunculoides</i> L.	Sp		+				+		
RR <i>Hepatica nobilis</i> Schreb.	Sp	+			+				
<i>Ficaria verna</i> Huds.	Sp	+		+	+			+	+
<i>Ranunculus sceleratus</i> L.	Ap				+		+		
<i>Ranunculus repens</i> L.	Ap	+		+		+	+		+
<i>Ranunculus lanuginosus</i> L.	Sp					+			
<i>Ranunculus acris</i> L.	Ap	+	+		+	+	+		+
<i>Aquilegia x hybrida</i> Hort.	Dia			+		+			

1	2	3	4	5	6	7	8	9	10
Papaveraceae									
<i>Papaver somniferum</i> L.	Dia		+		+				
<i>Papaver rhoeas</i> L.	Arch	+		+			+		+
<i>Chelidonium majus</i> L.	Ap	+	+	+	+	+	+	+	+
Commelinaceae									
<i>Dicentra spectabilis</i> (L.) Lemaire	Dia	+				+			
Fumariaceae									
<i>Fumaria officinalis</i> L.	Arch		+		+		+	+	+
Brassicaceae									
<i>Sisymbrium officinale</i> (L.) Scop.	Arch	+			+		+		+
<i>Descurainia sophia</i> (L.) Webb ex Prantl	Arch	+	+		+		+	+	
<i>Alliaria petiolata</i> (M. Bieb.) Cav. & Grande	Ap	+	+	+	+	+	+		+
<i>Arabidopsis thaliana</i> (L.) Heynh.	Ap	+	+		+	+	+	+	+
<i>Erysimum cheiranthoides</i> L.	Ap		+		+		+		
RR <i>Hesperis matronalis</i> L. subsp. <i>matronalis</i>	Ken						+		
<i>Rorippa sylvestris</i> (L.) Besser	Ap	+				+			
<i>Cardamine pratensis</i> L.	Sp	+				+			+
<i>Cardamine amara</i> L.	Sp				+		+		
<i>Berteroa incana</i> (L.) DC.	Ap	+		+					+
<i>Erophila verna</i> (L.) Chevall.	Ap	+	+		+	+		+	+
<i>Capsella bursa-pastoris</i> (L.) Medik.	Arch		+	+	+	+	+		+
<i>Thlaspi arvense</i> L.	Arch	+		+	+		+		+
<i>Sinapis arvensis</i> L.	Arch		+				+		
<i>Raphanus raphanistrum</i> L.	Arch	+			+			+	
Crassulaceae									
<i>Sedum maximum</i> (L.) Hoffm.	Sp/Ap	+				+			
<i>Sedum acre</i> L.	Ap		+					+	
Saxifragaceae									
<i>Bergenia crassifolia</i> (L.) Engl.	Dia			+		+			
<i>Chrysosplenium alternifolium</i> L.	Sp	+	+		+		+	+	
Rosaceae									
<i>Filipendula ulmaria</i> (L.) Maxim.	Sp	+			+		+		
<i>Agrimonia eupatoria</i> L.	Ap		+					+	
<i>Geum rivale</i> L.	Sp	+			+		+		
<i>Geum urbanum</i> L.	Ap				+		+		
<i>Potentilla anserina</i> L.	Ap	+	+	+		+	+		+
<i>Potentilla erecta</i> (L.) Rausch.	Sp						+		
<i>Potentilla argentea</i> L.	Ap		+						

1	2	3	4	5	6	7	8	9	10
<i>Fragaria vesca</i> L.	Sp	+		+	+		+	+	+
<i>Alchemilla monticola</i> Opiz	Ap	+					+		
Fabaceae									
<i>Lupinus polyphyllus</i> Lindl.	Ken	+				+			+
<i>Lupinus luteus</i> L.	Dia		+		+		+		
<i>Vicia sepium</i> L.	Sp			+		+			
RR <i>Vicia grandiflora</i> Scop.	Ken						+		
<i>Vicia sativa</i> L.	Arch	+		+	+		+		+
<i>Vicia angustifolia</i> L.	Arch		+	+		+			
<i>Vicia hirsuta</i> (L.) Gray	Arch	+	+		+	+	+		+
<i>Vicia sylvatica</i> L.	Ap				+				
<i>Vicia villosa</i> Roth	Arch			+					+
<i>Vicia cracca</i> L.	Ap	+		+			+		
<i>Lathyrus pratensis</i> L.	Ap	+			+		+		+
<i>Pisum sativum</i> L.	Dia		+		+				
<i>Medicago lupulina</i> L.	Ap	+				+		+	
<i>Melilotus alba</i> Medik.	Ap				+		+	+	
<i>Melilotus officinalis</i> (L.) Pall.	Ap		+			+	+		+
<i>Ononis spinosa</i> L.	Ap		+						
<i>Ononis arvensis</i> L.	Sp/Ap						+		
<i>Trifolium dubium</i> Sibth.	Ap	+				+		+	
<i>Trifolium repens</i> L.	Ap	+	+	+	+	+	+	+	+
<i>Trifolium pratense</i> L.	Ap	+	+	+	+		+		+
<i>Trifolium incarnatum</i> L.	Dia								+
<i>Trifolium arvense</i> L.	Ap	+	+		+		+		
<i>Lotus uliginosus</i> Schkuhr	Sp				+	+			
<i>Lotus corniculatus</i> L.	Ap	+			+				
RR <i>Ornithopus perpusillus</i> L.	Ap	+							
<i>Ornithopus sativus</i> Brot.	Dia			+		+			
Oxalidaceae									
<i>Oxalis fontana</i> Bunge	Ken				+				
<i>Oxalis acetosella</i> L.	Sp	+		+				+	
Geraniaceae									
<i>Geranium macrorrhizum</i> L.	Dia				+				
<i>Geranium pratense</i> L.	Ap	+			+		+		
<i>Geranium robertianum</i> L.	Sp/Ap	+			+			+	+
RR <i>Geranium pyrenaicum</i> Burm. F.	Ken					+			
<i>Geranium pusillum</i> Burm. F. ex L.	Arch		+	+			+		
<i>Geranium molle</i> L.	Ken						+		
<i>Erodium cicutarium</i> (L.) L'Hér.	Ap	+		+	+			+	+

1	2	3	4	5	6	7	8	9	10
Tropaoleaceae									
<i>Tropaolum majus</i> L.	Dia		+		+	+			
Euphorbiaceae									
<i>Euphorbia helioscopia</i> L.	Arch	+		+	+		+		+
<i>Euphorbia peplus</i> L.	Arch								+
<i>Euphorbia cyparissias</i> L.	Sp/Ap	+					+		
Balsaminaceae									
<i>Impatiens glandulifera</i> Royle	Ken	+			+		+		
<i>Impatiens parviflora</i> DC.	Ken	+	+		+		+		+
<i>Impatiens noli-tangere</i> L.	Sp						+		
Malvaceae									
<i>Malva alcea</i> L.	Arch					+			
<i>Malva neglecta</i> Wallr.	Arch		+		+		+		
<i>Lavatera trimestris</i> L.	Dia	+			+				
Clusiaceae									
<i>Hypericum perforatum</i> L.	Ap	+		+	+	+	+		+
Violaceae									
<i>Viola arvensis</i> Murray	Arch	+	+	+	+	+	+	+	+
<i>Viola tricolor</i> L.	Ap		+						
<i>Viola reichenbachiana</i> Jord. ex Boreau	Sp	+					+		
<i>Viola odorata</i> L.	Arch			+	+	+		+	+
Cucurbitaceae									
<i>Bryonia alba</i> L.	Ken				+				
<i>Echinocystis lobata</i> (F. Michx.) Torr. & A. Gray	Ken						+		
Lythraceae									
<i>Lythrum salicaria</i> L.	Sp	+			+		+		
Onagraceae									
<i>Oenothera biennis</i> L.	Ap	+		+				+	
<i>Chamaenerion angustifolium</i> (L.) Scop.	Ap	+					+		
<i>Epilobium hirsutum</i> L.	Ap				+				
<i>Epilobium parviflorum</i> Schreb.	Sp		+						
<i>Epilobium palustre</i> L.	Sp						+		
<i>Epilobium ciliatum</i> Raf.	Ken				+				+
Apiaceae									
RR <i>Sanicula europaea</i> L.	Sp	+							
<i>Chaerophyllum temulum</i> L.	Ap				+				+
<i>Anthriscus sylvestris</i> (L.) Hoffm.	Ap	+	+	+	+	+	+	+	+
<i>Pimpinella saxifraga</i> L.	Ap	+				+			

1	2	3	4	5	6	7	8	9	10
<i>Aegopodium podagraria</i> L.	Sp/Ap	+	+	+	+	+	+	+	+
<i>Stium latifolium</i> L.	Sp						+		
<i>Carum carvi</i> L.	Ap		+		+				
<i>Peucedanum palustre</i> (L.) Moench	Sp						+		
<i>Pastinaca sativa</i> L.	Ap				+				+
<i>Heracleum sibiricum</i> L.	Ap	+				+		+	+
<i>Daucus carota</i> L.	Ap	+		+	+	+	+		+
Primulaceae									
<i>Lysimachia nummularia</i> L.	Sp				+		+		
<i>Lysimachia vulgaris</i> L.	Sp	+					+		
<i>Lysimachia punctata</i> L.	Dia		+	+		+		+	
<i>Trientalis europaea</i> L.	Sp	+			+				+
<i>Anagallis arvensis</i> L.	Arch		+	+			+	+	
Rubiaceae									
<i>Galium aparine</i> L.	Ap	+	+	+	+	+	+	+	+
<i>Galium odoratum</i> (L.) Scop.	Sp	+				+			+
<i>Galium mollugo</i> L.	Ap		+	+			+		
Convolvulaceae									
<i>Cuscuta europaea</i> L.	Ap						+		
<i>Calystegia sepium</i> (L.) R. Br.	Sp	+			+		+		
RR <i>Calystegia pulchra</i> Brummit et Heyw.	Dia						+		
<i>Convolvulus arvensis</i> L.	Ap		+	+	+				+
Boraginaceae									
<i>Echium vulgare</i> L.	Ap			+				+	
<i>Symphytum officinale</i> L.	Sp	+			+		+		
<i>Anchusa arvensis</i> (L.) M. Bieb.	Arch		+	+			+		+
<i>Myosotis arvensis</i> (L.) Hill	Arch	+		+	+	+		+	+
<i>Myosotis stricta</i> Link ex Roem & Schult.	Ap			+				+	
Callitrichaceae									
<i>Callitriche cophocarpa</i> Sendtn.	Sp/Ap						+		
Lamiaceae									
<i>Ajuga reptans</i> L.	Sp	+		+			+		
<i>Galeopsis speciosa</i> Mill.	Sp				+		+		
<i>Galeopsis tetrahit</i> L.	Ap	+	+	+	+	+	+		+
<i>Lamium album</i> L.	Arch	+	+	+	+	+	+	+	
<i>Lamium maculatum</i> L.	Sp	+					+		
<i>Lamium amplexicaule</i> L.	Arch		+			+			+
<i>Lamium purpureum</i> L.	Arch	+		+			+	+	

1	2	3	4	5	6	7	8	9	10
<i>Galeobdolon luteum</i> Huds.	Sp	+			+	+	+		+
<i>Leonurus cardiaca</i> L.	Arch	+					+		
RR <i>Betonica officinalis</i> L.	Sp	+							
<i>Stachys sylvatica</i> L.	Sp	+			+	+	+		
<i>Glechoma hederacea</i> L.	Ap	+	+	+	+	+	+	+	+
RR <i>Nepeta cataria</i> L.	Arch					+			
<i>Prunella vulgaris</i> L.	Ap		+						+
<i>Lycopus europaeus</i> L.	Sp/Ap	+					+		
<i>Mentha arvensis</i> L.	Ap	+				+	+		
<i>Mentha aquatica</i> L.	Sp/Ap					+	+		
<i>Salvia splendens</i> Sello	Dia			+	+				
Solanaceae									
<i>Physalis alkekengi</i> L.	Ken			+	+				
<i>Datura stramonium</i> L.	Ken					+			
Scrophulariaceae									
<i>Verbascum thapsus</i> L.	Ap								+
<i>Verbascum nigrum</i> L.	Ap	+					+		
<i>Scrophularia nodosa</i> L.	Sp/Ap	+			+				
<i>Linaria vulgaris</i> Mill.	Ap		+	+					+
<i>Digitalis purpurea</i> L.	Ken				+				+
<i>Veronica arvensis</i> L.	Ap	+	+			+	+		
<i>Veronica hederifolia</i> L.	Ap		+	+					
<i>Veronica persica</i> Poir.	Ken	+		+	+	+	+	+	
<i>Veronica beccabunga</i> L.	Sp						+		
<i>Veronica officinalis</i> L.	Sp/Ap	+							
<i>Veronica chamaedrys</i> L.	Ap	+	+	+	+	+	+	+	+
<i>Melampyrum nemorosum</i> L.	Sp	+							+
<i>Euphrasia rostkoviana</i> Hayene	Sp				+				+
<i>Odontites serotina</i> (Lam.) Rchb.	Sp	+					+		
Plantaginaceae									
<i>Plantago major</i> L.	Ap	+	+	+	+	+	+	+	+
<i>Plantago intermedia</i> Gilib.	Ap	+					+		
<i>Plantago lanceolata</i> L.	Ap		+	+	+		+	+	+
Adoxaceae									
<i>Adoxa moschatellina</i> L.	Sp	+			+				+
Dipsacaceae									
<i>Knautia arvensis</i> (L.) J.M. Coult.	Ap		+		+				+

1	2	3	4	5	6	7	8	9	10
Campanulaceae									
<i>Campanula glomerata</i> L.	Ap					+			
<i>Campanula rotundifolia</i> L.	Sp/Ap	+			+				+
<i>Campanula patula</i> L.	Ap			+					
<i>Campanula rapunculoides</i> L.	Ap						+		
<i>Jasione montana</i> L.	Ap		+						
Asteraceae									
<i>Eupatorium cannabinum</i> L.	Sp	+					+		
<i>Solidago virgaurea</i> L.	Sp	+			+		+		+
<i>Solidago gigantea</i> Aiton.	Ken	+		+		+		+	
<i>Solidago canadensis</i> L.	Ken		+						+
<i>Bellis perennis</i> L.	Ap	+	+	+	+	+	+	+	+
<i>Aster novi-belgii</i> L.	Ken			+	+	+		+	
<i>Conyza canadensis</i> (L.) Cronquist	Ken	+				+			
<i>Gnaphalium uliginosum</i> L.	Ap	+			+		+		
<i>Bidens tripartita</i> L.	Ap						+		
<i>Rudbeckia laciniata</i> L.	Ken		+		+			+	
<i>Helianthus tuberosus</i> L.	Ken	+	+		+		+		+
<i>Galinsoga parviflora</i> Cav.	Ken	+	+	+	+	+	+		+
<i>Galinsoga ciliata</i> (Raf.) S.F. Blake	Ken	+				+			
<i>Cosmos bipinnatus</i> Cav.	Dia			+	+		+		
<i>Anthemis arvensis</i> L.	Arch		+						+
<i>Achillea millefolium</i> L.	Ap	+	+	+	+	+	+	+	+
RR <i>Achillea ptarmica</i> L.	Sp						+		
<i>Matricaria maritima</i> L. subsp. <i>inodora</i> (L.) Dostál	Arch	+	+	+	+	+	+	+	+
<i>Chamomilla recutita</i> (L.) Rauschert	Arch		+		+		+		
<i>Chamomilla suaveolens</i> (Pursh) Rydb.	Ken	+	+	+	+		+		+
<i>Tanacetum vulgare</i> L.	Ap	+		+	+				
<i>Leucanthemum vulgare</i> Lam.	Ap			+		+			
<i>Artemisia vulgaris</i> L.	Ap	+	+	+	+	+	+	+	+
<i>Artemisia campestris</i> L.	Ap	+							
<i>Tussilago farfara</i> L.	Ap	+	+	+	+	+	+		+
<i>Petasites hybridus</i> (L.) P. Gaertn., B. Mey. & Scherb.	Ap				+		+		
<i>Senecio vulgaris</i> L.	Arch	+			+				
<i>Senecio viscosus</i> L.	Ap		+						

1	2	3	4	5	6	7	8	9	10
<i>Senecio jacobaea</i> L.	Ap	+		+	+		+	+	
<i>Arctium tomentosum</i> Mill.	Ap	+					+		
<i>Arctium lappa</i> L.	Ap		+		+			+	+
<i>Cirsium arvense</i> (L.) Scop.	Ap	+	+	+	+	+	+	+	+
<i>Cirsium oleraceum</i> (L.) Scop.	Sp	+					+		
<i>Centaurea cyanus</i> L.	Arch		+		+	+	+	+	+
<i>Centaurea jacea</i> L.	Ap	+		+					
<i>Cichorium intybus</i> L.	Arch				+				+
<i>Hypochoeris radicata</i> L.	Ap				+				
<i>Leontodon autumnalis</i> L.	Ap		+	+				+	
<i>Tragopogon pratensis</i> L.	Ap	+		+	+		+		+
<i>Sonchus oleraceus</i> L.	Arch		+			+			+
<i>Sonchus arvensis</i> L.	Ap	+					+		
<i>Lactuca serriola</i> L.	Arch				+				
<i>Mycelis muralis</i> (L.) Dumort.	Sp	+					+		
<i>Taraxacum officinale</i> F.H. Wigg.	Ap	+	+	+	+	+	+	+	+
<i>Lapsana communis</i> L.	Ap			+		+			
<i>Doronicum caucasicum</i> M. Bieb.	Dia	+	+			+			
<i>Crepis tectorum</i> L.	Ap			+					
<i>Crepis biennis</i> L.	Ap						+	+	
<i>Hieracium umbellatum</i> L.	Ap	+				+			
<i>Hieracium pilosella</i> L.	Ap		+					+	
Alismataceae									
<i>Alisma plantago-aquatica</i> L.	Sp/Ap						+		
Hydrocharitaceae									
<i>Hydrocharis morsus-ranae</i> L.	Sp						+		
Liliaceae									
<i>Hemerocallis fulva</i> L.	Dia	+			+	+			
<i>Gagea lutea</i> (L.) Ker Gawl.	Sp				+				
!! <i>Lilium martagon</i> L.	Sp				+				
<i>Lilium candidum</i> L.	Dia			+		+			
<i>Ornithogalum umbellatum</i> L.	Dia	+					+		
<i>Scilla sibirica</i> Haw.	Dia	+		+		+			
<i>Allium oleraceum</i> L.	Ap							+	
<i>Maianthemum bifolium</i> (L.) F.W. Schmidt	Sp	+				+	+		
<i>Polygonatum multiflorum</i> (L.) All.	Sp				+				+
<i>Asparagus officinalis</i> L.	Ken				+			+	

1	2	3	4	5	6	7	8	9	10
Convallariaceae									
<i>Convallaria majalis</i> L.	Sp		+		+	+			
Amaryllidaceae									
! <i>Leucojum vernum</i> L.	Dia	+			+	+			+
! <i>Galanthus nivalis</i> L.	Dia					+		+	
<i>Narcissus poëticus</i> L.	Dia		+		+	+			
Iridaceae									
<i>Iris pseudacorus</i> L.	Sp	+			+		+		
Juncaceae									
<i>Juncus effusus</i> L.	Ap	+			+		+		
<i>Juncus conglomeratus</i> L. emend. Leers.	Ap						+		
<i>Juncus bufonius</i> L.	Ap	+		+	+		+	+	
<i>Juncus articulatus</i> L. emend. K. Richt.	Sp/Ap		+						+
<i>Luzula pilosa</i> (L.) Willd.	Sp	+			+	+			
<i>Luzula campestris</i> (L.) DC.	Sp/Ap						+		
Poaceae									
<i>Festuca rubra</i> L.	Ap			+				+	
<i>Lolium perenne</i> L.	Ap	+			+	+			+
<i>Poa compressa</i> L.	Ap			+			+		
<i>Poa annua</i> L.	Ap	+	+	+	+	+	+	+	+
<i>Poa pratensis</i> L.	Ap	+		+			+		
<i>Poa trivialis</i> L.	Sp/Ap				+		+		
<i>Poa nemoralis</i> L.	Sp/Ap	+	+			+	+		+
<i>Dactylis glomerata</i> L.	Ap	+	+	+	+	+	+	+	+
<i>Apera spica-venti</i> (L.) P. Beauv.	Arch		+		+				
<i>Calamagrostis epigeios</i> (L.) Roth	Ap	+		+		+		+	
<i>Glyceria fluitans</i> (L.) R. Br.	Sp						+		
<i>Bromus hordeaceus</i> L.	Ap		+	+		+		+	+
<i>Elymus repens</i> (L.) Gould	Ap	+	+	+	+	+	+	+	+
<i>Arrhetherum elatius</i> (L.) P. Beauv. ex J. Presl & C. Presl	Ap	+							+
<i>Deschampsia caespitosa</i> (L.) P. Beauv.	Sp/Ap	+				+	+		
<i>Deschampsia flexuosa</i> (L.) Trin.	Sp		+					+	+
<i>Holcus lanatus</i> L.	Ap	+		+		+	+		
<i>Holcus mollis</i> L.	Ap		+		+	+		+	
<i>Agrostis stolonifera</i> L.	Ap	+					+		
<i>Phleum pratense</i> L.	Ap		+		+		+	+	

1	2	3	4	5	6	7	8	9	10
<i>Alopecurus pratensis</i> L.	Ap			+			+		
<i>Phalaris arundinacea</i> L.	Ap	+					+		
<i>Milium effusum</i> L.	Sp	+			+	+			+
<i>Echinochloa crus-galli</i> (L.) P.B.	Arch		+				+		+
<i>Phragmites australis</i> (Cav.) Trin. ex Steud.	Sp/Ap	+					+		
<i>Setaria viridis</i> (L.) P. Beauv.	Arch		+	+		+		+	
Lemnaceae									
<i>Lemna minor</i> L.	Sp/Ap	+			+		+		
<i>Spirodela polyrhiza</i> (L.) Schleid.	Sp/Ap				+		+		
Typhaceae									
<i>Typha latifolia</i> L.	Sp/Ap				+		+		
Cyperaceae									
<i>Scirpus sylvaticus</i> L.	Sp	+			+	+			+
<i>Carex remota</i> L.	Sp				+		+		
! <i>Carex arenaria</i> L.	Sp/Ap	+							
<i>Carex nigra</i> Reichard	Sp		+			+			+
<i>Carex hirta</i> L.	Ap						+		
<i>Carex acutiformis</i> Ehrh.	Sp	+					+		
Orchidaceae									
! <i>Epipactis helleborine</i> (L.) Crantz	Sp/Ap						+		
! <i>Dactylorhiza majalis</i> (Rchb.) P.F. Hunt & Summerh.	Sp	+							

Explanations:

Status g-h – geographical-historical status:

Ap – synanthropic spontaneophytes (apophytes), Arch – archaeophytes, Dia – diaphytes, Ken – kenophytes, Sp – non-synanthropic spontaneophytes, Sp/Ap – half-synanthropic spontaneophytes

Sites: Ch – Chlebno, Db – Dąbki, Fa – Falmierowo, Gm – Gmurowo, GK – Górka Klasztorna, JK – Jeziorki Kosztowskie, Ma – Maryniec, Wo – Wąwelnio

RR – locally rare

Legal protection of species in Poland:

!! – species under strict protection

! – species under partial protection

Table 3

Share of geographical-historical groups in vascular flora in the former manor parks of the Krajna

Status g-h Parks	Arch		Ap		Sp		Sp/Ap		Ken		Dia		Total		Number of taxon
	D*	Z*	D	Z	D	Z	D	Z	D	Z	D	Z	D	Z	
Chlebno	–	17	13	73	13	43	1	15	5	10	15	8	47	166	213
Dąbki	–	21	10	61	4	7	3	3	2	6	24	7	43	105	148
Falmierowo	–	19	15	62	6	7	3	1	5	6	24	8	53	103	156
Gmurowo	–	25	17	58	6	35	1	5	6	14	5	13	35	150	185
Górka Klasztorna	–	15	12	53	5	14	1	6	5	9	23	14	46	111	157
Jezioriki Kosztowskie	–	25	16	74	7	46	4	16	7	11	21	4	55	176	231
Maryniec	–	14	8	47	5	9	1	2	4	5	17	1	35	78	113
Wąwelno	–	22	14	52	4	19	2	5	5	7	24	4	49	109	158

Explanations:

Status g-h – geographical-historical status

Ap – synanthropic spontaneophytes (apophytes), Arch – archaeophytes, Dia – diaphytes, Ken – kenophytes, Sp – non-synanthropic spontaneophytes,

Sp/Ap – half-synanthropic spontaneophytes

* D – dendroflora, Z* – herbaceous flora

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ZABYTKOWE PARKI POŁUDNIOWEJ CZĘŚCI KRAJNY

Streszczenie

Badania nad florą roślin naczyniowych zabytkowych parków na terenie Krajny prowadzono w latach 2013-2014. Badaniami objęto 8 parków w 5 gminach, z czego 7 to parki dworskie i folwarczne, zaś jeden, w Górcie Klasztornej, jest parkiem klasztornym. Na ich terenie stwierdzono wiele cennych gatunków i odmian drzew i krzewów. Zachowały się liczne szpalery, żywopłoty i grupy drzew. W parku w Maryńcu zanotowano pomnikowy *Acer saccharinum* o obwodzie 495 cm, w parku klasztornej w Górcie Klasztornej grupę czterech *Quercus robur* o obwodach 505-580 cm. Na szczególną uwagę w zachowaniu bioróżnorodności zasługują parki w Chlebnie i Jeziorkach Kosztowskich. Rosną tam rzadkie gatunki obcego pochodzenia, m.in.: *Larix leptolepis*, *Liriodendron tulipifera*, *Metasequoia glyptostroboides*, *Phellodendron amurense* i *Platanus xhispanica* 'Acerifolia'. W parkach stwierdzono 11 taksonów objętych ochroną prawną, z czego 4 ścisłą i 7 częściową. Stanowiska niektórych z nich mają antropogeniczne pochodzenie, m.in. *Galanthus nivalis*, *Hippophaë rhamnoides*, *Leucoium vernum*, *Matteucia struthiopteris*, *Pinus mugo* i *Taxus baccata*. Z rzadkich roślin zielnych w parkach godne odnotowania są: *Lilium martagon* w Gmurowie, *Sanicula europaea*, *Dactylorhiza majalis* i *Galium odoratum* w Chlebnie oraz *Epipactis helleborine* i *Calystegia pulchra* w Jeziorkach Kosztowskich.

Parki wiejskie południowej części Krajny są cennymi obiektami przyrodniczymi zasługującymi na specjalną troskę i powinny być objęte opieką konserwatorską.

