

Introduction

The palace and park complex in Wilanów is a unique work of landscape art, an expression of centuries-old evolution of the mutual relationship between nature and culture. The way these two fundamentally different spheres interpenetrate reflects the changes in the subsequent residence owners' attitude towards nature. The original landscape in the form of the escarpment and primeval valley of the Vistula River (the first nature – *natura naturans*), with all its richness of geo- and biodiversity, has become a basis for subsequent anthropogenic layers (the second and third nature – *natura naturata*).¹ The most crucial of them was the characteristic Baroque layout formed in the late seventeenth century: the villa – the garden – the park – the landscape, expressing the era's concept of a harmonious combination of the worlds of nature and culture. The estate became a rudiment for a unique landscape complex developed in the following centuries, called the 'Wilanów demesne'. In addition to the Wilanów park, its most important green areas were the filial residences: Natolin, Morysin and Gucin. In the late nineteenth century, the entire complex – including farms, forests and cultivated fields – occupied approx. 3013.5 hectares.² The Polish architect Kazimierz Kleczkowski wrote about Wilanów: 'Among the most diverse specimens of local and exotic flora, of vegetation natural and trammelled by art, of works of architecture, sculpture and painting grafted on the ground of Wilanów, there is a certain harmonious general coherence, similar to the one connecting various figures of a painting'.³

However, historical changes and contemporary civilisational development have brought about a number of negative effects, disturbing the historical spatial order of the complex and impoverishing its resources of fauna and flora. Faced with the need to rehabilitate the degraded landscape, the Museum of King Jan III's Palace at Wilanów decided to treat the restored and protected nature as the fourth nature: *natura protectata*.⁴

NATURA PROTECTATA. THE CONCEPT OF WILANÓW NATURAL COLLECTIONS

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1 M. Kaczyńska, *Wpływ założenia pałacowo-ogrodowego w Wilanowie i jego założeń filialnych na przemiany krajobrazu* (Warszawa, 2011), pp. 58–67.

2 P. Szpanowski, *Warstwy krajobrazu klucza wilanowskiego* (Warszawa, 2015), pp. 35–72.

3 K. Kleczkowski, 'Estetyka Wilanowa. Ogród i pałac w Wilanowie', *Ateneum. Pismo naukowe i literackie*, vol. 69, 1893, no. 1, p. 576.

4 M. Siewniak, 'Wartości kulturowe i przyrodnicze parków zabytkowych. Natura – kultura', *Kurier Konserwatorski*, no. 7, 2010, pp. 5–10.



This idea assumes a renewed alliance of nature and culture as equivalent parts of the landscape. Regardless of the adopted definition, the landscape is understood as a complete, albeit diverse whole consisting of three elements: geodiversity, biodiversity, and human activity.⁵ Numerous contemporary doctrinal documents and conventions, including the European Landscape Convention, highlight the spatial hierarchy understood in this way.

In recent years, landscape protection has therefore become a concern of many circles, including museums, which was most fully reflected in the resolution 'Responsibility of Museums Towards Landscape' adopted by the ICOM General Assembly on 9 July 2016 in Milan. Its signatories state: 'Museums are part of the landscape. [...] The collections forming part of their heritage cannot be explained without the landscape'.⁶ The provisions of the resolution are primarily the sum of the provisions of the European Landscape Convention and the Italian museological thinking, according to which the whole of Italy is an 'open-air museum' and 'the collection, the building in which it is located, and the surrounding city are deeply bound together as three mutually illuminating forms of museums'.⁷ The resolution has not only changed the importance of these institutions but, above all, it has imposed new tasks and a very high responsibility on them, as guardians and proponents of spatial values.⁸ The Museum of King Jan III's Palace at Wilanów has been performing such a function for many years, undertaking a number of activities as part of the *genius loci* strategy.⁹

The concept of natural collections under the label of *natura protectata* is aimed at outlining the idea of managing natural resources treated as integral and equivalent parts of the historical landscape (landscape assets). The case of the Wilanów residence is special due to the increasing human pressure, which has led to the degradation of habitats and, consequently, to the depletion of the fauna, flora and fungi species present at the site. That has given origin to the idea of comprehensive nature protection within the museum area, based on four levels: species protection, habitat protection, ecosystem protection, and landscape protection and formation (Fig. 1). Therefore, the concept of the collection of Wilanów's nature is intended not only to help with the management of

5 A. Richling, J. Solon, *Ekologia krajobrazu* (Warszawa, 2011), pp. 18–22.

6 Resolution No. 1 'The Responsibility of Museums Towards Landscape', adopted by ICOM's 31st General Assembly, 9 June 2016, Milan, icom.museum/wp-content/uploads/2018/07/ICOMs-Resolutions_2016_Eng.pdf (accessed 25 October 2022).

7 A. Chastel, 'Italia museo dei musei', in: *I musei*, ed. A. Emiliani (Milano, 1980), p. 14.

8 A. Garlandini, 'ICOM Milan 2016: The New Responsibilities of Museums towards Landscapes', *Museums and Cultural Landscapes*, vol. 69, 2017, nos. 1–2, pp. 164–75.

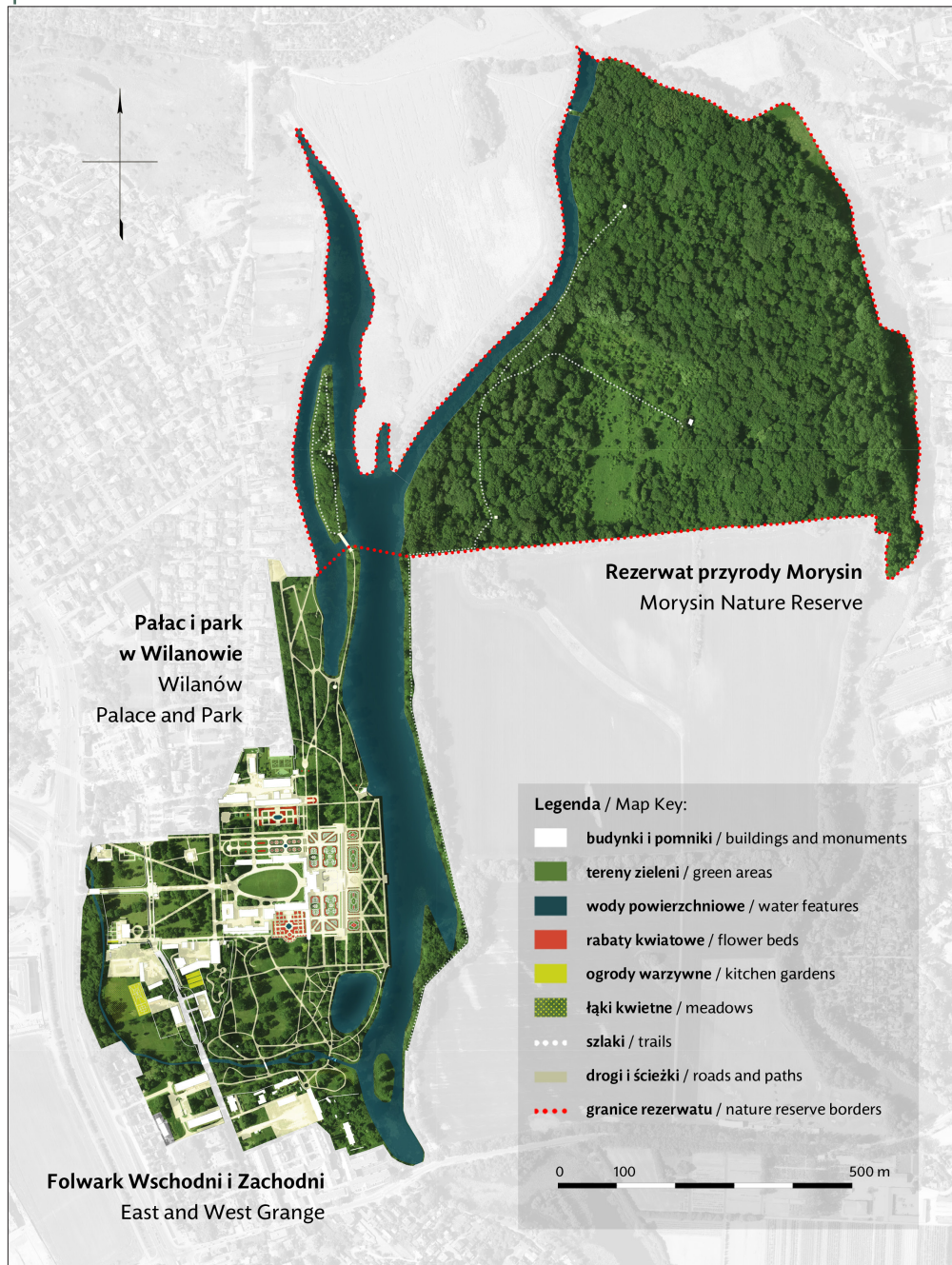
9 P. Jaskanis, P. Szpanowski, 'O potrzebie strategii zarządzania historyczną rezydencją – przypadek wilanowski', *Wiadomości Konserwatorskie*, 2008, no. 23, pp. 139–43.

the existing resources, but also to provide a response to contemporary threats to biodiversity and landscape. This particular type of representation is to encourage visitors not only to admire but, above all, to contemplate the landscape and reflect on its historical, present and future state, on the needs of its formation and protection, as well as on the values expressed in it.

il. 1

Map of the grounds of the
Museum of King Jan III's
Palace at Wilanów

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Characteristics of current natural resources – animals

The fauna inhabiting the gardens and parks, the Morysin nature reserve and the Wilanów Lake area is an important element of the natural wealth of the Museum of King Jan III's Palace. This is owed to the diverse fauna habitats and the proximity of the Vistula, which plays the role of a migration corridor. The only animals raised by the Museum are bees inhabiting an apiary located by the Służewiec Stream, in the garden behind the Commissary's House, and ornamental fish species kept in the fountain of the Orangery Garden.

In the bird inventory conducted in 2014-2016, it was shown that the Wilanów ornithofauna numbers 91 species of birds, 37 of which have also been found to breed here.¹⁰ The total size of the breeding population was over 250 pairs, among which the most numerous were the common starling *Sturnus vulgaris*, the mallard *Anas platyrhynchos*, the great tit *Parus major*, the common wood pigeon *Columba palumbus*, the common chaffinch *Fringilla coelebs*, the Eurasian blue tit *Cyanistes caeruleus*, and the blackbird *Turdus merula*. The noteworthy breeding species include the black tern *Chlidonias niger* and the little bittern *Ixobrychus minutus*. Other species, like the mute swan *Cygnus olor*, nest in the immediate vicinity of the park and may visit the gardens with their young. In the palace park, there is a large number of cavity nesters – birds nesting primarily in tree hollows and breeding boxes, e.g. the starling *Sturnus vulgaris*, the great tit *Parus major*, the Eurasian blue tit *Cyanistes caeruleus*, the Eurasian nuthatch *Sitta europaea*, the common redstart *Phoenicurus phoenicurus*, the spotted flycatcher *Muscicapa striata*, the European pied flycatcher *Ficedula hypoleuca*, and the Eurasian tree sparrow *Passer montanus*. It is also worthwhile to mention a rich group of woodpeckers (primary cavity nesters, i.e. birds that peck their breeding hollows by themselves) which consists of seven species: the wryneck *Jynx torquilla*, the green woodpecker *Picus viridis*, the black woodpecker *Dryocopus martius*, the great spotted woodpecker *Dendrocopos major*, the Syrian woodpecker *Dendrocopos syriacus*, the middle spotted woodpecker *Dendrocopos medius*, and the lesser spotted woodpecker *Dendrocopos minor*. A mixed pair of a large woodpecker and a Syrian woodpecker has also been found to be nesting. Among the observed birds, eight species are included in Annex I to the Directive of the European Parliament and of the Council on Conservation of Wild Birds, the so-called bird directive, including the black tern *Chlidonias niger*, the little bittern *Ixobrychus minutus*, the Syrian

10 M. Elas, *Raport końcowy z prac ornitologicznych wykonanych w ramach projektu „Edukacja społeczna w konflikcie urbanizacyjno-ekologicznym na terenie Muzeum Palacu w Wilanowie”, za okres sierpień 2014 r. – luty 2016 r.*, Natural Sciences Analytical Studio (Warszawa, 2016), www.wilanow-palac.pl/download.php/39659/raport_eog_monitoring_i_waloryzacja_awifauny.pdf (accessed 25 October 2022).

woodpecker *Dendrocopos syriacus*, and the middle spotted woodpecker *Dendrocopos medius*.¹¹ It is worth adding that most of bird species found in Poland are covered by strict species protection.¹²

The area of the Wilanów Park and the Morysin Nature Reserve is inhabited by five species of bats: Natterer's bat *Myotis nattereri*, Daubenton's bat *Myotis daubentonii*, the common noctul *Nyctalus noctula*, the brown long-eared bat *Plecotus auritus*, and the western barbastelle *Barbastella barbastellus*.¹³ All these species are covered by strict species protection.¹⁴

Birds and bats are the best-studied groups of vertebrates of the Wilanów gardens and the Morysin nature reserve. As regards the mammals, the study conducted in 2006–2007 identified 28 species (including the domestic dog *Canis familiaris* and the domestic cat *Felis catus*) present in the area.¹⁵ Among them, the otter deserves a special mention as the 'flagship' species of the Wilanów gardens. Its particular meaning is due to an otter named Robak (which means Worm in Polish), tamed by Jan Chryzostom Pasek, who later gave the animal to King John III and recounted its story in his memoirs.¹⁶ Traces of the presence of this species can be currently observed in the gardens.

Another important group of animals are invertebrates, including pollinating insects. The inventory carried out in 2015 concerned the Apidae, among which the honey bee *Apis mellifera* was the most numerous representative. Next were the bumblebees, which accounted for almost half of all the observed Apidae. Within the boundaries of the park, 12 species of the genus *Bombus* were found – 8 species of bumblebees and 4 species of their brood parasites: cuckoo bumblebees. Common and dominant species were the large earth bumblebee *Bombus terrestris*, the white-tailed bumblebee *B. lucorum*, the red-tailed bumblebee

11 Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.

12 Regulation of the Minister of the Environment of 16 December 2016 on the protection of animal species, *Dziennik Ustaw*, 2016, no. 2183.

13 M. Kowalski, *Inwentaryzacja nietoperzy na terenie Muzeum Palacu Króla Jana III w Wilanowie wraz z ogrodami i parkiem Morysin. Sprawozdanie końcowe*, digital file (Warszawa, 2015).

14 Regulation of the Minister of the Environment of 16 December 2016 on the protection of animal species.

15 *Inwentaryzacja fauny plażów, gadów, ptaków i ssaków na terenie kompleksu parkowo-palacowego w Wilanowie*, parts 1–3; ed. T. Gortat, M. Brzeziński, G. Górecki, A. Zaborowska, M. Kozakiewicz, D. Jędraszko-Dąbrowska; part 4, ed. G. Górecki, M. Brzeziński, T. Gortat, Department of Ecology, Faculty of Biology, University of Warsaw (Warszawa, 2006–2007).

16 *Pamiętniki Jana Chryzostoma Paska: z czasów panowania Jana Kazimierza, Michała Korybuta i Jana III* (Poznań, 1836).

B. lapidarius, and the common carder bee *B. pascuorum*.¹⁷ It is worth noting that many species of butterflies are also observed in the Wilanów gardens; however, this group requires a thorough inventory.

Surface water areas, i.e. the Wilanów Lake, the South Pond, the Służewiec Stream, and the Sobieski Canal are a habitat for 41 species of dragonflies.¹⁸ Here, species worth special attention include the scarlet dragonfly *Crocothemis erythraea*, observed in the Wilanów gardens since 2017, as well as the green hawker *Aeshna viridis* and the large white-faced darter *Leucorrhinia pectoralis* – both species covered by strict protection, the latter also listed in Annex II to the Habitats Directive – in addition to the Siberian winterdamselfly *Sympecma paedisca*, partially protected under national law.¹⁹

Finally, the exotic species that appear or have been observed in the gardens are also worth mentioning. Birds include, for example, the rose-ringed parakeet *Psittacula krameri*, the bar-headed goose *Anser indicus* or the Mandarin duck *Aix galericulata*; there are also insects such as the Asian lady beetle *Harmonia axyridis*, which was observed in large numbers even in palace interiors. The exotic animal species found in gardens are primarily fugitives from breeding farms or ones that appeared in the environment in an accidental manner. Yet as animals coming from distant lands, it is worth noting that Jan Chrysostom Pasek's memoirs contain the information that King Jan III owned an exotic bird – a cassowary.²⁰

Characteristics of current natural resources – plants

Plant resources can be clearly divided spatially into Wilanów gardens and parks and the Morysin Nature Reserve. Although they are integrally connected, they have a slightly different character, corresponding to habitat conditions and a different degree of formation by humans. The Morysin

17 M. Borański, *Raport całociowy wstępnej oceny wielkości populacji owadów zapylających na przykładzie pszczołowatych*, digital file (Wilanów, 2015).

18 J. Dobrzańska, S. Filipowicz, A. Sikora, E. Pelnia-Iwanicka, 'Ważki (Odonata) wybranych starorzeczy Wisły w Warszawie', *Odonatrix*, no. 7(2), 2011, pp. 33–40; J. Dobrzańska, *Wpływ przekształceń krajobrazu na zgrupowanie makrobezkręgowców bentosowych starorzeczy Wisły w Warszawie*, doctoral thesis, Warsaw University of Life Sciences (Warszawa, 2013); T. Karasek, *Określenie składu gatunkowego owadów z rzędu Odonata – raport podsumowujący prace wykonane w latach 2014–2015*, www.wilanow-palac.pl/download.php/39660/eog_okreslenie_składu_gatunkowego_owadów_z_rzędu_odonata.pdf (accessed 25 October 2022); F. Holnicki-Szulc, *Elementy środowiska wykorzystywane przez wybrane gatunki ważek (Odonata) występujące na terenie ogrodów wilanowskich oraz ich preferencje siedliskowe*, engineering thesis, Warsaw University of Life Sciences (Warszawa, 2017).

19 Regulation of the Minister of the Environment of 16 December 2016 on the protection of animal species; Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora.

20 *Pamiętniki Jana Chryzostoma Paska*.

reserve represents a unique area of the Vistula floodplain terrace with the remains of a riparian forest and a nineteenth-century park composition. It is dominated by the elm-and-ash riparian forest (*Ficario-Ulmetum minoris*) habitat with elements of the low and middle dry-ground forest (*Tilio-Carpinetum*), as well as willow-poplar riparian forests (*Salici-Populetum*).²¹ The leading tree species are the common ash *Fraxinus excelsior*, the European white elm *Ulmus laevis*, the field elm *Ulmus minor*, and the poplars: white *Populus alba* and black *P. nigra*. Among them there are seventeen monumental trees: white and black poplars, elms, ash trees and small-leaved lindens. Large specimens of bird cherry have also been preserved in the reserve.

The undergrowth of the forest consists primarily of shadow-resistant species such as the common hazel *Corylus avellana*, the European black elderberry *Sambucus nigra*, the common buckthorn *Rhamnus cathartica*, the common spindle *Euonymus europaeus*, and the European dewberry *Rubus caesius*. The shrubs are intertwined with the vines of hedge bindweed *Calystegia sepium* and common hop *Humulus lupulus*. Fallen and rotten tree trunks covered with mosses, ferns and mushrooms can also be found in the lower tier. The lowest tier is a lush, multilayered, often herbaceous ground cover. Its composition depends on the degree of insolation of the interior of the forest; the richness of perennials is especially noticeable in early spring, in flowering meadows composed of species like the wood anemone *Anemone nemorosa*, the yellow wood anemone *A. ranunculoides*, the yellow star-of-Bethlehem *Gage lutea*, the pilewort *Ficaria verna*, the corydalis *Corydalis cava*, the pale wood violet *Viola reichenbachiana*, the wood forget-me-not *Myosotis sylvatica*, the liverwort *Hepatica nobilis*, and the alternate-leaved golden saxifrage *Chrysosplenium alternifolium*. In the summer months, these plants give way to other species, such as the ground elder *Aegopodium podagraria*, the tufted hairgrass *Deschampsia cespitosa*, the meadow-sweet *Filipendula ulmaria*, the wood stitchwort *Stellaria nemorum*, the Western touch-me-not *Impatiens noli-tangere*, the wood avens *Geum urbanum*, the water avens *Geum rivale*, the yellow archangel *Lamium galeobdolon*, the hedge woundwort *Stachys sylvatica*, the woodland geranium *Geranium sylvaticum*, the common nettle *Urtica dioica*, the garlic mustard *Alliaria petiolata*, and the broad-leaved helleborine *Epipactis helleborine*. The water bodies are covered with water lilies: white *Nymphaea alba* and yellow *Nuphar lutea*.²²

21 *Opracowanie ekofizjograficzne do miejscowego planu zagospodarowania przestrzennego otoczenia pałacu wilanowskiego z Morysinem*, Urząd Miasta Stołecznego Warszawy, digital file (Warszawa, 2015), pp. 32–36.

22 K. Będkowski, J. Koc, D. Korpetta, Z. Kowalski, J. Mozgawa, H. Olenderek, E. Piekarski, J. Rokosza, O. Zaborska, *Ewidencja parku zabytkowego Morysin (Warszawa-Mokotów) wraz z inwentaryzacją dendrologiczną*, vols 1–3, typescript (Warszawa,

The tree stand of the Wilanów park consists primarily of native species: the small-leaved linden *Tilia cordata*, the pedunculate oak *Quercus robur*, the common hornbeam *Carpinus betulus*, the European white elm *Ulmus laevis*, and the Norway maple *Acer platanoides*. Some variation of the plant landscape comes from exotic species such as the katsura *Cercidiphyllum japonicum*, the ginkgo *Ginkgo biloba*, the southern catalpa *Catalpa bignonioides*, and the honey locust *Gleditsia triacanthos*. In total, the estimated number of trees is approx. 3,000 specimens. For natural and cultural reasons, their most valuable group is the collection of monumental trees: twenty-eight specimens in the Wilanów park and seventeen in the Morysin reserve. These specimens represent the most characteristic species of the local landscape, including the white poplar *Populus alba*, the small-leaved linden *Tilia cordata*, the pedunculate oak *Quercus robur*, the European white elm *Ulmus laevis*, and the field elm *Ulmus minor*.²³

An important part of the structure of the Wilanów park is the herbaceous vegetation forming the ground cover. It is particularly attractive in spring, when geophytes sprout over large patches of land. The cover consists of many species, including the wood anemone *Anemone nemorosa*, the yellow anemone *A. ranunculoides*, the pilewort *Ficaria verna*, the yellow star-of-Bethlehem *Gagea lutea*, corydalis *Corydalis ssp.*, violets *Viola*, crocuses *Crocus*, primroses *Primula*, and snowdrops *Galanthus nivalis*.²⁴

The Wilanów collection also contains historical species of herbaceous plants used for centuries for decorative or utilitarian purposes. The first group consists of herbaceous plants planted from the seventeenth to the twentieth century in flowerbeds, borders, vases and pots that decorate the surroundings of the building. From the time of King Jan III until the late eighteenth century, the most interesting species included tulips *Tulipa sp.*, the crown imperial *Fritillaria imperialis*, the common snapdragon *Antirrhinum majus*, the garden heliotrope *Heliotropium peruvianum*, carnation *Dianthus spp.* and lilies *Lilium spp.* For a whole century, the Potocki family would decorate the garden with sophisticated compositions created from the herbas and exotic plants which were most popular at the time. In addition to the aforementioned species, the following were used: the jasmine tobacco *Nicotiana glauca*, lobelias *Lobelia*, alternantheras *Alternanthera*, dahlias *Dahlia* and

1988); Ł. Chachulski, J. Mielczarczyk, J. Lekki, W. Mikołajuk, A. Piórkowska, M. Niewiadomski, *Raport z inwentaryzacji szaty roślinnej i flory gatunków zarządzanych przez Muzeum Pałacu Króla Jana III w Wilanowie*, digital file (Warszawa, 2019).

23 *Opracowanie ekofizjograficzne do miejscowego planu zagospodarowania przestrzennego*, pp. 36–41.

24 J. Kuśmierski, D. Makowski, *Wytyczne w zakresie ukształtowania warstwy roślinności zielnej Parku Krajobrazowego Północnego w Wilanowie*, digital file (Warszawa, 2018).

canna lilies *Canna*. These and many other plants are still grown in Wilanów gardens.²⁵

A separate collection consists of almost forty species and varieties of historical roses that decorate the Rose Garden and several park interiors. The most common are white roses *Rosa alba*, damask roses *Rosa damascena*, French roses *Rosa gallica* and Bourbon roses *Rosa x borboniana*.²⁶ Last but not least, plants grown in large pots: citrus and palm trees, as well as exotic specimens constitute a unique decoration of the gardens. These plants originate mainly from the Mediterranean area, such as pomegranates *Punica granatum*, olives *Olea europaea*, bay laurels *Laurus nobilis*, myrtles *Myrtus communis*, date palms *Phoenix canariensis*, and various citrus trees *Citrus*, which originally came from China, but are historically identified with Italy. Among them are oranges *Citrus sinensis* and lemons *Citrus limon*, grown in pots reconstructed after paintings by Bernardo Bellotto. This resource is complemented by specimens of *Agave americana* from Central America, Chinese roses *Hibiscus rosa-sinensis* and banana trees *Musa x paradisiaca* from Southeast Asia, and even species originating from Africa, e.g. the aloe *Aloe arborescens*, coffee trees *Coffea arabica*, strelitzias *Strelitzia Augusta*, and from Australia, like the cabbage tree *Cordyline australis*, the soft tree fern *Dicksonia antarctica*, and the Kentia palm *Howea forsteriana*. To complete the list, over a hundred species of exotic potted plants are grown in Wilanów greenhouses.²⁷

The second group are utilitarian plants grown in various parts of the garden, mainly in the vegetable garden behind the Commissary's House. This resource, reconstructed in recent years, refers to the selection of species known from the census of the utility-and-fruit garden from the time of Elżbieta Sieniawska. Among the vegetables, there are cabbages *Brassica*, pumpkins and squashes *Cucurbita*, cucumbers *Cucumis*, the skirret *Sium sisarum* and gourds *Lagenaria siceraria*. They are complemented by herbaceous plants, e.g. the Welsh onion *Allium fistulosum*, the borage *Borago officinalis*, the common chicory *Cichorium intybus*, the elecampane *Inula helenium*, fruit trees and shrubs, e.g. a domestic apple tree variety *Malus domestica* 'kosztela', black

25 Ł. Przybylak, 'Dekoracyjne formy XIX-wiecznych kompozycji roślinnych w procesie rewaloryzacji założenia pałacowo-ogrodowego w Wilanowie', *Studia Wilanowskie*, vol. 24, 2017, pp. 295–302. Data based on the inventory of spring and summer flowerbeds of the Wilanów Palace, made by Jacek Kuśmierski in 2017–2020.

26 J. Kuśmierski, 'Różany świat Wilanowa', *Świat Rezydencji, Wnętrz i Ogrodów*, nos. 9–10 (86), 2020, pp. 102–09.

27 Data based on the inventory of exotic plants and citrus collections conducted by Jacek Kuśmierski and Damian Makowski in 2020.

mulberry *Morus nigra*, and even cereals, with rye *Secale cereale* topping the list.²⁸

Characteristics of current natural resources – fungi and lichens

An important part of the natural resources of Wilanów and Morysin are the biomes of fungi, including lichenised ones. In Wilanów garden grounds, there are 30 taxa of lichenised fungi.²⁹ The discussed area is certainly richer by several to several dozen species of lichens. The epiphytes worth mentioning include the elegant camouflage lichen *Melanohalea elegantula*, the monk's-hood lichen *Hypogymnia physodes*, the *Physconia persidiosa* and, in particular, the *Parmelina tiliacea* – an indicator species of slightly contaminated areas, retreating due to the deteriorating air quality. In Wilanów gardens, the richest species composition of lichens consists primarily of taxa associated with anthropogenic substrate, such as concrete or sandstone. The leading species are lichens of the genera: *Lepraria* (dust lichens), *Lecanora* (rim lichens), *Physcia*, orange wall lichen *Xanthoria*, as well as the *Polycauliona*.

Horticultural activities and soil fertilisation can paradoxically promote the species diversity of macrofungi with a broad ecological amplitude. Among the known taxa, there are the following: the giant puffball *Calvatia gigantea*, the shaggy ink cap *Coprinus comatus*, St George's mushroom *Calocybe gambosa*, as well as species belonging to the genera *Agaricus* and *Amanita*.

High tree cover density, a significant amount of the so-called dead wood, both in the form of lying logs and standing trees at varying stages of decomposition in the Morysin Nature Reserve, create favourable conditions for the development of fungi, including lichenised fungi – lichens. Among the macrofungi, the 'myco-curiosities' of Morysin include the *Phleogena faginea*, very rare in Poland, known from a few sites in some European countries, or the more frequent giant puffball *Calvatia gigantea*, whose specimens may reach the size of one metre. Among the species growing on tree trunks, the crown-tipped coral *Arctomyces pyxidatus*, rare in Poland, has been recorded in the Morysin nature reserve. The species that are more commonly observed include St George's mushroom *Calocybe gambosa*, forming 'devil's circles', the velvet shank *Flammulina velutipes*, the sulphur polypore *Laetiporus sulphureus*, the dryad's saddle *Polyporus squamosus*, the shaggy ink cap *Coprinus comatus*, once used in the production of ink, the turkey tail *Trametes versicolor*, and others.

28 Data based on the inventory of the vegetable garden behind the Commissary's House, conducted by Jacek Kuśmierski in 2017.

29 Data based on field studies conducted by Marta Poławska in 2018.

Natural resources in the Museum's documents

The starting point for determining the formal conditions of this concept was the analysis of documents constituting the basis for the operation of the Museum of King Jan III's Palace at Wilanów, i.e. the Act on Museums, on the Organisation and Conduct of Cultural Activities, on the Protection and Care of Monuments, and the Museum Statute. In accordance with the content of these documents, the museum fully implements the designated scope of activities towards Wilanów's nature, which belongs to the institution's collection as natural heritage items and as an integral part of its parks and gardens.³⁰ This sphere is constituted by the *genius loci* of the former royal residence, characterised by a harmonious and balanced combination of culture and nature. According to the idea, its basic development potential includes 'cultural and natural resources existing and past, in all forms, in addition to the historical manners of using these resources'.³¹ Despite the increasing inclusion of parks and gardens in the program offer, they are still the least recognised area. Ways to remedy this are contained in the *Wilanów Palace Museum Strategy for 2012–2020* as one of the basic program points to be carried out, including 'the implementation of management of historic parks and gardens through live flora and fauna collections, and ultimately also through habitats'.³² This point naturally fits into the museum's priorities, which include the consolidation of all references to King Jan III and his Wilanów palace in the collective awareness, the popularisation of knowledge about the times of King Jan III and Stanisław Kostka Potocki, and the creation of an offer of comprehensive cultural and natural education.

Detailed guidelines related to the implementation of the collection can be found in the Museum's *Masterplan*, in the chapter devoted to natural collections.³³ However, it contains only a list of completed and planned inventories of fauna and flora, which are to become the basis for the preparation of environmental valorisation. It is worth noting that indirect references to current and future collections can be found in many places of the document. The introduction indicates the revitalisation of the Fig

30 Annex to the regulation of the Minister of Culture, National Heritage and Sport of 28 May 2021 (item 44. Statute of the Museum of King Jan III's Palace at Wilanów, chapter 2, § 7, item 5).

31 P. Jaskanis, "Genius loci" *Muzeum Palacu w Wilanowie: zarys docelowej strategii rozwoju Muzeum Palacu w Wilanowie*, digital file (Warszawa, 2007), p. 5.

32 P. Jaskanis, *Strategia działania Muzeum Palacu w Wilanowie na lata 2012–2020* (Warszawa, 2011), digital file, p. 5; id., *Program działania Muzeum Palacu Króla Jana III w Wilanowie na lata 2020–2024* (Warszawa, 2019), digital file, pp. 23–25, www.wilanow-palac.pl/download.php/39593/1_program_dzialania_muzeum_palacu_krola_jana_iii_w_wilanowie_na_lata_2020_2024_1283_kb_pdf_dosteny.pdf (accessed 25 October 2022).

33 *Masterplan dla Muzeum Palacu Króla Jana III w Wilanowie – wersja 2.0.*, digital file (Warszawa, 2017).

House and the restoration of its former function, which, in combination with the creation of a natural education station, would become ‘an important pillar of the Wilanów flora reconstruction programs’.³⁴ These programs have been implemented in the Museum for many years within the framework of the thematic area of historical use of plants and as one of the basic elements of the ‘Wilanów *imaginarium* of senses’. Fauna and flora are an important part of the catalogue of present and desired sounds, including the voices of birds, the buzzing of insects, and the rustle of trees as belonging to the paramount values of gardens and parks. Guidance in the exhibition sphere of the collection is provided in the chapter with a functional catalogue of areas and objects, where also their intended use is described. According to its content, in the Morysin Nature Reserve, old species of fruit trees and medicinal plants are to be introduced in designated places as part of the Natural Education Centre, established in the Forester’s Lodge. Wilanów gardens and parks, divided into several units, have permanently assigned plant displays, often of a specific character, e.g. Rose Garden – historical varieties of roses, South Park – a flower meadow, South Garden at the Orangery – exhibiting plants grown in large pots. The conceptual sphere includes planting vines on Bacchus’s Hill, establishing a display of magnolias, herbs and flower beds in the Garden at the Fig House and establishing the Garden at the Commissary’s House, intended for the cultivation of historical utility plants, as well as the restoration and extension of the plant display in the Orangery. Enhancements for the fauna include the construction of towers for swifts next to the byre (Holendernia) and in the North Landscape Park, restocking the pond in the South Park with fry, and the restoration of animal husbandry on the Farm. However, all these proposals need to be reviewed and updated again. Fauna and flora is also a part of the development of the museum’s educational program as a leading theme of walk routes (which are devoted to the historical gardens, the farm, and nature), as well as the ‘Topinambur’ project which implements the idea of urban horticulture aimed at growing vegetables, herbs, flowers and fruit trees of historical importance.

The museum’s strategy and *Masterplan* are complemented by a number of specialised studies developed by interdisciplinary teams of employees of various departments as well as external partners. Due to the limited framework of the present concept, three documents considered to be the most important in the context of natural collections were selected and analysed.

The idea of a museum of culture and nature and the methods of its implementation in the activities of the Museum of King Jan III’s Palace at Wilanów were discussed in a study containing the guidelines, identification

³⁴ Ibid., p. 6.

of resources, research projects, as well as activities related to education and popularisation.³⁵ It indicates four pillars of the concept's implementation: inventorying the resources, valorisation, monitoring, and popularisation of the museum's natural values. The historical perspective should be accompanied by modern forms of research and popularisation conducted by an interdisciplinary team. The flora and fauna were briefly characterised, indicating some of the most valuable known species observed in the museum. These resources are the basis for the implemented and proposed educational, research and reconstruction activities.

An elaboration of the above study can be found in the *Plan for the development of natural education* based on natural and legal conditions along with detailed analyses of past activities.³⁶ The mission of natural education carried out at the museum is to sensitise the visitors 'to the need to protect the natural heritage by showing mutual relations between culture and nature'.³⁷ The implementation of this idea is to be based on the existing natural resources and their expansion. Enhancements for the fauna include aviaries with ornamental birds, a falconry station, a run for fallow deer in the Wilanów meadows, and apiaries. The Forester's Lodge, transformed into an educational and scientific centre, is planned to become the operational place for the implementation of educational activities. Their whole scope is to be complemented by special publications and events, e.g. exhibitions of flowers and vegetables, historical plant markets. A valuable theme of natural collections is the social aspect in the form of nature-related volunteering, internships, practice, and training focusing on the issues of nature and landscape protection and sustainable use of resources.

The last important document for natural collections is the plan of revitalisation and development of gardens and parks in Wilanów; the document treats plants as a material that builds historical garden interiors.³⁸ In this context, old tree specimens should be put under particular care. Species intended for new plantings should be selected in accordance with the conditions of a specific spatial unit, primarily in historical terms. Plants are also treated as part of a commercial activity, which would be based on the cultivation and sale of two or three species characteristic of Wilanów, the secondary sale of historical varieties of roses growing in the Rose Garden and of seeds and vegetables from the utilitarian garden

35 J. Dobrzańska, N. Kokoszka, A. Laudy, R. Muranyi, P. Zwierzchowski, *Muzeum Palacu Króla Jana III w Wilanowie – muzeum kultury i natury*, digital file (Warszawa, 2013).

36 J. Dobrzańska, *Plan rozwoju edukacji przyrodniczej w Muzeum Palacu Króla Jan III w Wilanowie*, digital file (Warszawa, 2017).

37 Ibid., p. 88.

38 Ł. Przybylak, *Models of implementation and maintenance activities implemented in the Wilanów garden in response to contemporary restoration challenges of historical gardens*, *Ochrona Zabytków*, no. 2, 2019, pp. 93–119.

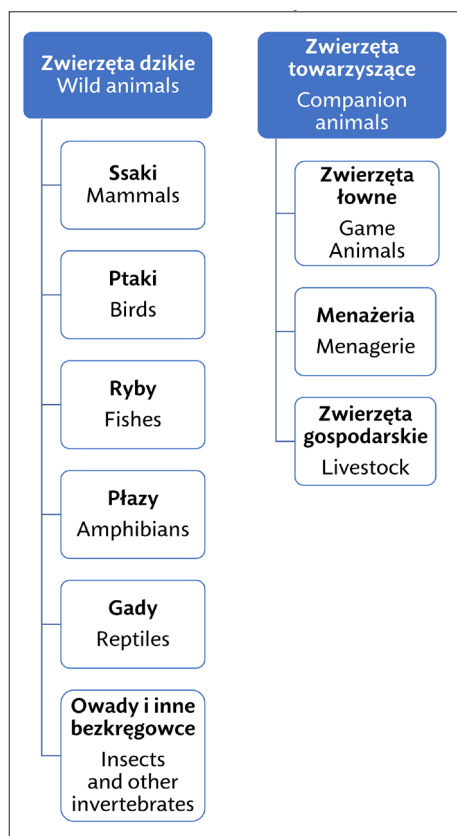


Fig. 2

Distribution scheme for the fauna of the Museum of King Jan III's Palace at Wilanów

Museum of King Jan III's Palace at Wilanów. The presented scheme of the collection includes the following types of resources: existing, in development and planned, in addition to gardens, parks and objects treated as exhibition space.

We propose to divide the fauna resources into two basic categories: wild animals and companion animals (Fig. 2), which will allow for the presentation of their history and changing role in the landscape of Wilanów. The former group, currently exhibited in the museum's gardens and parks and in the Morysin Nature Reserve in a free-living state, was divided into mammals, birds, reptiles, amphibians, fish, as well as insects and other invertebrates, according to the common classification used in natural sciences. The latter group, of historical nature, refers to old traditions of Wilanów where animals were bred: in the preserve (game animals), in the menagerie (ornamental or exotic animals) and on the farm (livestock).

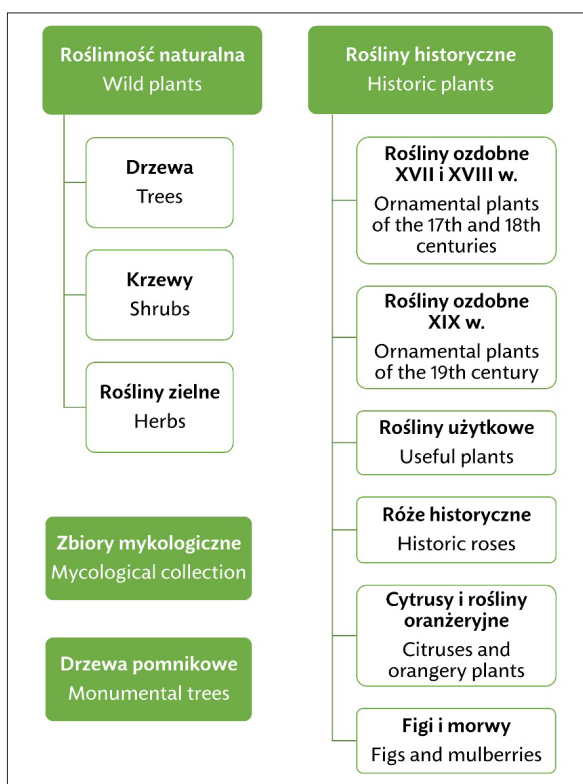
As for the plants and fungi, we propose to divide them into four basic groups: natural vegetation, mycological group, collection of monumental trees, and historical plants (Fig. 3), which will allow for the presentation of their role in individual types of the Wilanów landscape. The first collection currently exhibited in the gardens and parks of the museum

behind the Commissary's House. It was also proposed to establish a nursery of historical trees, shrubs and fruit trees; it would be located at the meadow between the Morysin Nature Reserve and the Royal Axis. The list of proposals for the commercial use of plants is closed with the ideas for creating a line of Wilanów garden souvenirs (e.g. packed flower bulbs), the sale of perennials, and even the cultivation of a special Wilanów rose variety.

Program guidelines and collection scheme

The main program guideline for the Wilanów natural collection is the implementation of the idea of harmony of nature and culture in the landscape, based on the equivalence of natural and historical values (landscape assets). The basic division of the collection was therefore determined based on the systematic categories of organisms used in biological sciences, called kingdoms, three of which were selected for the purposes of this concept: *animalia* (animals), *plantae* (plants) and *fungi* (fungi). The existing natural resources were divided into: gatherings (in the case of uncountable groups) or collections (for countable groups), and assigned the place of exhibition at the

and in the Morysin reserve contain Vistula riverine plants (trees, shrubs, and herbaceous plants). Other components are mycological collections (fungi and lichens) and a collection of monumental trees. The last collection refers to the tradition and history of garden design in Wilanów, where, in each period, plants were a material of the garden and park space or played a utilitarian role (cultivated plants). The uncountable gatherings were grouped into: seventeenth- and eighteenth-century ornamental plants, nineteenth-century ornamental plants, and utility plants, while the separable specimens were divided between the following collections: historical roses; citrus and orangery plants; figs and mulberries.



Summary

The palace and park complex in Wilanów has a rich resource of animals, plants and fungi that are part of important natural habitats. The research conducted so far notwithstanding, we still have not arrived at full knowledge about them. However, the information presented above is an important contribution to further work on the inventorying and cataloguing of the available species. Identifying the phenomena of local resources is one of the priorities in order to fully determine the potential of the Wilanów natural collection. This collection presents a wide range of possibilities for the inclusion of animals and plants in the museum's activities: from basic activities for the protection of heritage, nature and landscape to education, establishing cooperation, practicing science, and promotional campaigns. A similar potential lies in the Wilanów Museum's natural collection. The proposals listed below remain in line with the existing achievements of the institution and open new perspectives in its statutory activities, including collecting and documenting natural resources, looking after them, maintaining them and making them available, conducting scientific research, conducting exhibition and publishing activities, developing an educational program.

Our most important recommendations for the creation of the natural collections at the Museum of King Jan III's Palace at Wilanów include establishing an interdepartmental task team and formalising the concept by updating the most important museum documents and studies. Then,

Fig. 3

Distribution scheme for the flora and fungi of the Museum of King Jan III's Palace at Wilanów

it is necessary to inventory and catalogue the current living natural resources, create program guidelines, and propose a strategy for building and management, as well as a collection development program. The subsequent step should consist in preparing a landscape conservation program based on historical research and analyses, accompanied by establishing a succession of new collections and systematically training employees in charge of those resources, ensuring continuous monitoring and active protection, as well as increasing the use of existing natural resources in the museum's activities.

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