



The Nový Dvůr Arboretum Stěbořice



Guide



Slezské
zemské
muzeum



Pair of adult Atlas Cedars (*Cedrus atlantica*) in the Nový Dvůr Arboretum (1967)

The Nový Dvůr Arboretum

The Nový Dvůr Arboretum is one of the six exhibition premises of the Silesian Museum. It is a botanical garden with a special focus on dendrology, i.e. the study of trees. The arboretum enjoys a special status within the museum, as no other part of the institution administers living exhibits. This gives rise to a number of interesting issues and differences, which may not necessarily be so obvious to the visitor: while the idea of museum-based care is founded on the effort to preserve items in their original form, in the arboretum we endeavour to encourage the growth and development of the items in our collection.

The arboretum is open all year round, and you will find many interesting things displayed there, even when you might not expect it. Our guide is therefore conceived with regard to the individual seasons. Please treat it as instructions for the 'use' of our lovely park.



View from terrace of Nový Dvůr manor house (1973)



View of Nový Dvůr manor house (1910)

History and the present

The origins of the arboretum are closely linked to the owner of the Nový Dvůr estate, Quido Riedl (1878-46). During his time in Nový Dvůr (1906-28) Riedl, with exquisite taste, created a natural, landscaped park in a modestly-sized area of 1.8 hectares, and which contained up to 500 tree species and cultivars from both home and abroad. This park became the foundation for the current arboretum and forms the historical section of the dendrological exhibition, which gradually expanded to its current 23 hectares. In 1928 Quido Riedl returned to his native Bílá Lhota, near the town of Litovel, where, on slightly less than 3 hectares of land, he laid out a similarly impressive park, with a rich collection of trees that later became the foundation for the Bílá Lhota Arboretum. Riedl left the Nový Dvůr estate to his daughter, Elisabeth Schubert and son-in-law Walter Schubert, who tended to the park until the end of the Second World War.



Preserved wooden 'Black Summer-house' in park of the Nový Dvůr Arboretum (1930)

The garden's design concept suffered following the departure of Quido Riedl, as development stagnated and no new innovations were introduced. Care for the park was limited to only essential maintenance. In the post-war period the Nový Dvůr estate went through a number of owners, while the park was deprived of expert supervision and became overgrown and neglected.

The situation changed in 1958, when the park – one of the most valuable dendrological sites in Silesia – was given to the Silesian Museum, which set up the arboretum. The historical part of the dendrological exhibition has been preserved in its natural, landscaped form and, apart from the value of the trees as a collection, the park itself is of immense worth due to its design and composition. The basic structure of the park consists of fully-grown, solitary or grouped pine trees of the Heraltice ecotype, or vegetation surrounding them, which alternate with grassy open spaces. The compositional design of the park allows views of interesting tree combinations showing contrasting structures, textures, habits, autumn colouration or colour and intensity of blossoming.

The newer parts of the dendrological exhibition are based on a different concept. The overall composition is, here, subordinate to the division of the park into geographical units; under the overall title of 'The Trees of Five Continents', each section contains geographically related species. Between 1967-70 a large greenhouse complex was built over an area of 1,300 m², containing an exhibition of subtropical and tropical plants. This



View of Nový Dvůr manor house from years 1914-20

complex was open to visitors for 30 years before it had to be demolished in 2000 due its poor technical condition. It was replaced with a fully-equipped silvicultural greenhouse, part of which was opened to the public in 2010 in the form of a small greenhouse exhibition.

The new manor house was built in the Neo-Renaissance style by Baron Antonín Luft following his acquisition of the Nový Dvůr estate, and used by Quido Riedl between 1906-28. It was confiscated by the Czechoslovakian state in 1945. In the post-war period the manor has housed the Charita organisation from Ostrava (1947-48), was used as a tractor workshop and administrative centre from 1952-54, served as the offices of the local branch of the National Committee from 1958,

and it was only after 1958 that it became the administrative building of the newly established arboretum. The old manor house, built in the Empire style, was built by the then-owner of the Nový Dvůr estate, Ludvík Klettenhof, before 1836. The building stood at the centre of a farm, with a quadrangle situated around 100m to the east of the new manor house, with a tree-lined avenue leading off to the south. Following completion of the building of the new manor house, it served as the administrative building and accommodation for the estate. The derelict, abandoned old manor house building was demolished, together with the northern part of the farm building, in 1965-66.



View of pond with massive *Victoria amazonica* leaves in original greenhouse exhibition (1977)



Quido Riedel, founder of the Nový Dvůr park exhibition, pictured at his native Bílá Lhota near Litovel (1945)

Fragile flowers of early spring

The coldest time of the year is drawing to a close and nature is slowly coming back to life. Although the ground is covered in snow and the mornings are still chilly, the colourful flowers of a number of hardy species can already be seen in many places in the park. One of these species is the Winter Jasmine (*Jasminum nudiflorum*), one of the prettiest bushes flowering in the winter, whose yellow-coloured blooms appear as early as December. Usually destroyed by the January frost, the plant doesn't give up and blooms again in February and March. The jasmine has curving, branches that are 3-5 metres long with an angular cross-section.

The *Hamamelis* genus is a large group of winter flowering plants, which includes six species of true bushes originating from North America and East Asia. Known as 'witch-hazels' these plants will enchant you. With favourable weather conditions, their flowers will open as early as January. If surprised by a chill or snow, the petals roll up in order to survive the unpleasant spell. Apart from early flowering, these plants also enchant us through their marvellous autumn colouring, which ranges from golden-orange to red-bronze. The Chinese Witch-Hazel (*Hamamelis mollis*) and Japanese witch-hazel (*Hamamelis japonica*) originate in China and Japan respectively. You will also be enchanted by the delicate Vernal Witch-hazel (*Hamamelis vernalis*) and the thicker-growing Virginia Witch-hazel (*Hamamelis virginiana*), which in its natural habitat grows on the edge of forests and in undergrowth, similarly to the common hazel. Its light golden blooms appear shortly before the shedding of leaves or during foliage. The bark and leaves are used in pharmacy, and the North American Indians knew that wounds and bruises heal better when these are used. The most common species in Czech parks and gardens is the abundantly flowering Hybrid Witch-hazel (*Hamamelis × intermedia*), whose varied garden cultivars enchant with not only their golden, but also their orange and red blossoms.

One relatively rare plant in deciduous and mixed forests, from hills to mountains, is the Mezereon (*Daphne mezereum*), which produces strongly-scented, carmen to pink flowers from February to April. While beautiful, this shrub is highly poisonous.

One of the most striking heralds of spring in the Czech Republic is the European Cornel (*Cornus mas*), which blossoms from February to April, producing small, yellowish-gold flowers. It is most commonly found on sunny, shrubby hillsides and in the well-lit forests of south Moravia. The cornel is also an ancient kind of fruit

tree, producing a large amount of red drupes, which have a sweet-and-sour taste and are very healthy.

No early-flowering tree is associated with the arrival of spring as much as the Forsythia, which is valued primarily for its rich yellow blossoms. Although there are many species, the most frequently cultivated is the refined hybrid Border Forsythia (*Forsythia × intermedia*), cultivars of which differ from one another in their growth, size of blossom and time of blossoming. The most early blossoming species in the Czech Republic is the Giral'd's Forsythia (*Forsythia giraldiana*), which in the arboretum is fully resistant to the cold.

The Korean Abelialleaf (*Abeliophyllum distichum*), also known as the 'white forsythia', is a rare, frequently flowering species originating in Korea. While closely related to the forsythia, it differs in that it blossoms during March, producing white to pinkish blossoms, with a strong scent of almonds.

The large, bright blossoms of the Flowering Quinces (*Chaenomeles*) are amongst the most popular shrubs in Czech gardens, and flower from March to April. Blossoms are produced in clumps of five and range in colour from white via pink to bright red. Its fruit is a decorative, spicily scented pome, which can, following the first autumn frosts, be turned into marmalade or jam. The most important representatives of this genus are the Japanese Flowering Quince (*Chaenomeles japonica*) and the Common Flowering Quince (*Chaenomeles speciosa*), the hybrid of which is known as the *Chaenomeles × superba*.

The *Corylopsis* is a genus of colourful shrubs originating in east Asia and the Himalayas, which in the Czech Republic grow in the shady forest undergrowth. The most frequently cultivated species in Europe are the Spike Winter Hazel (*Corylopsis spicata*) and the Buttercup Winter Hazel (*Corylopsis pauciflora*). In March and April these plants will light up any dark corner with their dainty light gold to greenish-gold blossoms. In the Arboretum you can also find collector's items such as *Corylopsis platypetala* or Wilmott's Winter Hazel (*Corylopsis willmottiae*).

If you want to enjoy the beautiful scent of blossoms at times when the countryside around is still asleep, go and have a look at the viburnum. Several species of this shrub blossom early in the spring. Farrer's Viburnum (*Viburnum farreri*) originates in north China and its pinkish blossoms can even surprise in November or December. The main blossoming period then comes in March and April. The richly flowering hybrid Bodnan Viburnum (*Viburnum × bodnantense* 'Dawn') will also

spoil the senses of passers-by, with its dark pink blossoms appearing on branches from November to March, its heady aroma spreading far and wide.

Similarly fragrant, and possibly even headier, blossoms are produced by the most frequently blossoming honeysuckles. These are the Winter Honeysuckle (*Lonicera fragrantissima*) and its hybrid, the Winter Beauty Honeysuckle (*Lonicera × purpusii*). These are semi-deciduous shrubs that grow to a height of 2-3 m and produce whitish-gold, heavily scented blossoms between December and March.

The earliest of the magnolias to blossom – in March – is the Star Magnolia (*Magnolia stellata*). This plant has gorgeous white to pink blossoms and is one of the smallest shrub magnolias, originally from Japan.

Rhododendrons are gems in our arboretum, the first of which begin blossoming during February. Amongst the earliest is the dainty Dahurian Rhododendron (*Rhododendron dauricum*), *Rhododendron × praecox* and Korean Rhododendron (*Rhododendron mucronulatum*). Only *R. × praecox* is an evergreen, while the others are deciduous.

Amongst the frequently flowering plants we cannot forget the simple Goat Willow (*Salix caprea*), one of the first spring melliferous trees to flower in spring. The Latin name 'caprea' is derived from the popularity of the leaves amongst goats, which enjoy eating them. In the countryside, beekeepers would plant the goat willow around their beehives as they are the source of bees' first spring sustenance.



Vernal Witch-hazel (*Hamamelis vernalis*) 2



Hybrid Witch-hazel (*Hamamelis × intermedia*) 4



Chinese Witch-hazel (*Hamamelis mollis*) 1



Mezereon (*Daphne mezereum*) 5

European Cornel (*Cornus mas*) 6Buttercup Winter Hazel (*Corylopsis pauciflora*)Girald's Forsythia (*Forsythia giraldiana*) 8Wilmott's Winter Hazel (*Corylopsis willmottiae*) 12White Forsythia (*Abeliophyllum distichum*) 9Winter viburnum (*Viburnum x bodnantense* 'Dawn') 14Winter Honeysuckle (*Lonicera fragrantissima*) 15Star Magnolia (*Magnolia stellata*) 16Korean rhododendron (*Rhododendron mucronulatum*) 17

Flower explosion of full spring

This is the time when the greatest hardies are on the retreat and other actors are entering the stage in all their variegated finery. Apart from the exquisite cherry and rhododendron blossoms, there is a literal explosion of shrub and tree blossoms. Amongst the most remarkable in the arboretum are those of the genus Redbuds (*Cercis*). These small shrubs or trees are characterised by their unique blossom, known as 'cauliflories', where blossoms spring directly on the trunk or on the previous year's or older branches. The hardiest of these, the Eastern Redbud (*Cercis canadensis*) comes from the humid forests of North America and produces clumps of light pink blossoms before the foliage of the tree. The arboretum contains one venerable exemplar, which blossoms at the end of April and beginning of May. Redbud blossoms were gathered by the North American Indians, who enjoyed eating them either raw or boiled.

The arid areas of the Mediterranean and Asia Minor are home to the warmth-loving Judas Tree (*Cercis siliquastrum*), which enchants during May with its flood of deep-pink blossoms. The tree derives its name from the legend that says it was on this tree that Judas hanged himself after betraying Jesus Christ.

In the spring you will see the impressive, horn-shaped blossoms of the Saucer Magnolia (*Magnolia x soulangeana*), which grows in the vicinity of the manor house. Magnolias are an ancient form of wooded plant, a 'living fossil', whose blossoms evolved before bees, and to this day they are still pollinated by beetles.

One interesting group of plants that you'll find in the old park are the dogwoods. The small and inconspicuous blossoms are surrounded by four large bracts that look like flowers and thus attract pollinating insects. Depending on species and cultivar, these bracts are white, greenish or pink. Two dogwood species are kept in the arboretum: Eastern Flowering Dogwood (*Cornus florida*) from North America and the Kousa Dogwood (*Cornus kousa*) from Asia, which blossoms about two weeks after the flowering dogwood. Not far from the dogwoods can be seen the unusual Witch Alder (*Fothergilla major*), which is closely related to the witch-hazels. In the spring the *fothergilla major* is notable for its whitish-gold, brush-like blossoms, and in the autumn for its exquisite golden-red coloured leaves. The bright white, rounded blossoms of the Common Perl Bush (*Exochorda racemosa*) are also striking. The marvellous flowering shrubs of high spring also include the Lace Cup Viburnum (*Viburnum plicatum*), which is remarkable for its distinctive white, umbrella-like blossoms.

One of the most striking flowering shrubs in our parks and gardens is the Common Laburnum (*Laburnum anagyroides*), also known as 'golden rain' due to its long, overhanging clumps of golden-yellow blossoms, which in the hybrid Waterer's Laburnum (*Laburnum × watereri* 'Vossii') can reach lengths of up to 60 cm.

The Horse Chestnut (*Aesculus hippocastanum*) is notable for its erect flower panicles. Next to the manor house there is a massive individual of this species which covers itself in a veil of white every May, attracting a large number of bees. Close to the display pavilion there is also an unusual, dark-pink hybrid, the Red Horse Chestnut (*Aesculus × carnea*). Adjacent to the horse chestnut is a Manna Ash (*Fraxinus ornus*). In contrast to the majority of ashes, this species is of smaller growth, which produces copious amounts of white, scented blossoms arranged in panicles. If damaged it exudes a whitish-gold sap, known as manna, which tastes sweet despite only containing a very small amount of sugar.



Kousa Dogwood (*Cornus kousa*) 22



Witch Alder (*Fothergilla major*) 23



Lace Cup Viburnum (*Viburnum plicatum*) 24



Eastern Redbud (*Cercis canadensis*) 18



Eastern Flowering Dogwood (*Cornus florida*) 21



Horse Chestnut (*Aesculus hippocastanum*) 26



Red Horse Chestnut (*Aesculus × carnea*) 27

By the pond you can feast your eyes on the low-hanging, pink-blossoming sakura *Prunus* 'Accolade' with its overhanging branches. The most frequently cultivated decorative cherry-tree in Japan is a hybrid of unknown origin, the Yoshino Cherry (*Prunus × yedoensis*). This tree is notable for its simple, snowy-white blossoms, pinkish in the middle, and in the autumn for its golden-yellow to brick-red foliage. Many types of cherry-tree surround the so-called Elbl meadow. Apart from the columnar cultivar Fastigate Cherry (*Prunus serrulata* 'Amanogawa'), one's attention is drawn to the red-coloured cultivar European Bird Cherry (*Prunus padus* 'Colorata') with its overhanging branches of pink blossoms. Nor does the park lack the popular overhanging sakura cultivar Cheal's Weeping Cherry (*Prunus serrulata* 'Kiku-shidare-sakura').



Oriental Cherry (*Prunus serrulata* 'Umineko') 31

Cherries – the Trees of Love

One unmissable group of wooded plants that light up the arboretum in spring are the decorative cherry-trees. Directly opposite the entrance to the arboretum can be seen three exquisite examples of the Sargent's Cherry (*Prunus sargentii*), which blossom just before foliage. The blossoms of this tree are simple and of a pinkish-red colour. Across the path from them can be seen two contrasting exemplars of the white-blossoming Mt. Fuji Cherry (*Prunus serrulata* 'Shirotae') and the simple, white-blossoming Oriental Cherry (*Prunus serrulata* 'Umineko').



Sargent's Cherry (*Prunus sargentii*) 29

Flowering Jewels – Rhododendrons and Azaleas

A jewel in the collection that has come down to us from previous generations of botanists and gardeners are the rhododendrons. The Nový dvůr rhododendron collection is amongst the largest in the Czech Republic. The *Rhododendron* genus encompasses around 1,000 species, all of whose native regions, from tropical rainforests to subpolar tundras, are in the northern hemisphere (Asia and North America). Although all rhododendrons belong to a single genus, they are, in practise, divided into two basic groups, the evergreens and deciduous. The botanical taxonomy is, however, much more complicated and encompasses a large number of subgenera, sections and subsections.

Rhododendrons thrive best in cool, semi-shaded locations with moist atmosphere and where they are shielded from the wind. The arboretum contains several dozen species, as well as a variety of hybrids. Depending on the weather, the majority of these blossom from mid-April until the end of May.



rhododendron (Rhododendron 'Saturnus') 38



Blossoming rhododendrons



yellow azalea (Rhododendron luteum) 37



rhododendron (Rhododendron 'Fanny') 39



Blossoming rhododendrons



rhododendron (Rhododendron 'Ant. Dvořák') 40



rhododendron (Rhododendron 'Soir de Paris') 41

SUMMER

Summer flowers

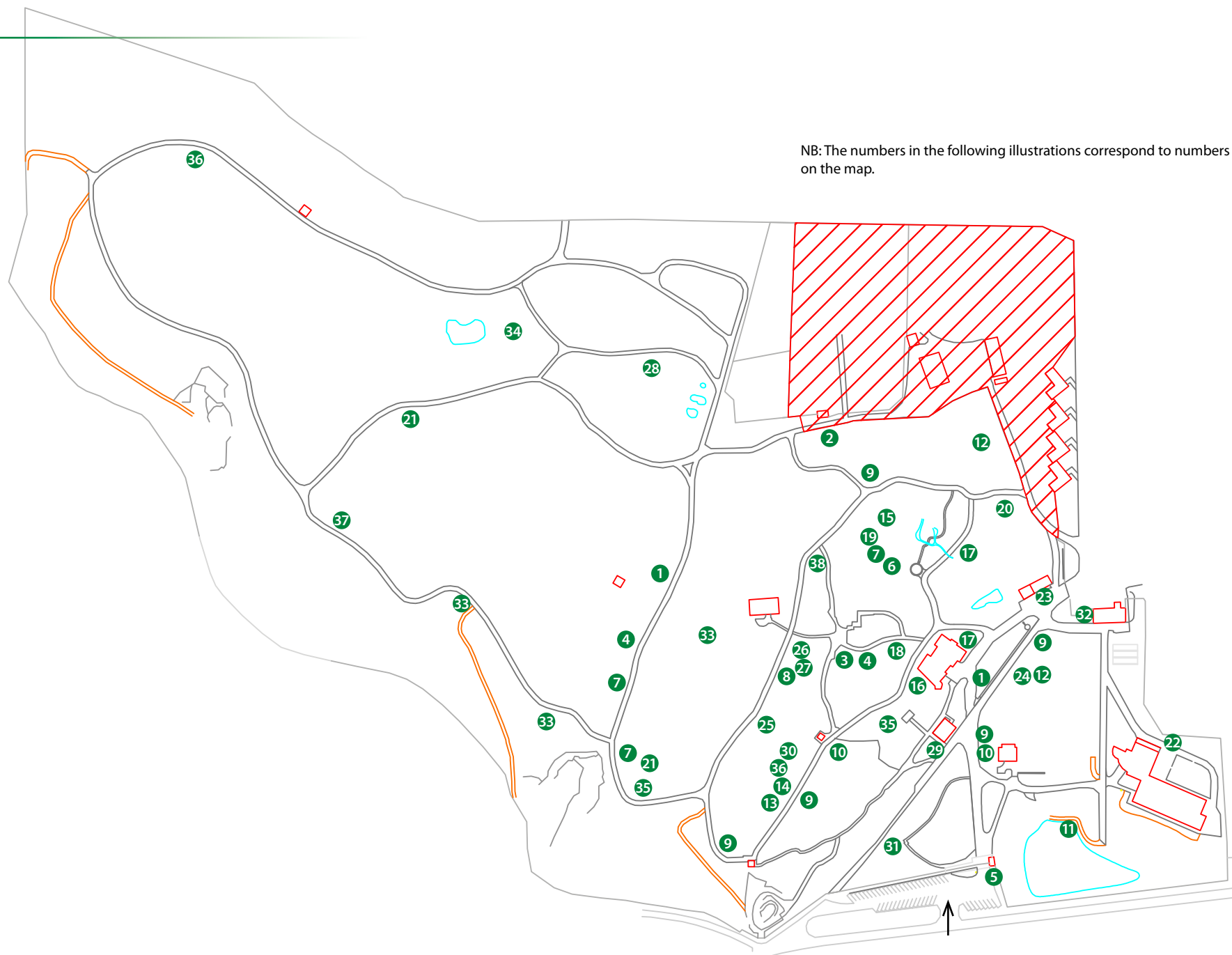
1. *Weigela florida*
2. Beauty Bush (*Kolkwitzia amabilis*)
3. Fuzzy Deutzia (*Deutzia scabra*)
4. Sweet Mock-orange (*Philadelphus coronarius*)
5. Japanese Rose (*Kerria japonica*)
6. Sargent's Hydrangea (*Hydrangea sargentiana*)
7. Bottlebrush Buckeye (*Aesculus parviflora*)
8. American Fringe Tree (*Chionanthus virginicus*)
9. American Tulip Tree (*Liriodendron tulipifera*)
10. Indian Bean Tree (*Catalpa bignonioides*)
11. Amur Maackia (*Maackia amurensis*)
12. Japanese Pagoda Tree (*Sophora japonica*)

Variations in the colour and shape of leaves

13. Common Beech (*Fagus sylvatica* 'Atropurpurea')
14. Common Beech (*Fagus sylvatica* 'Purpurea Tricolor')
15. Common Beech (*Fagus sylvatica* 'Rohanii')
16. English Oak (*Quercus robur* 'Atropurpurea')
17. Japanese Maple (*Acer palmatum* 'Atropurpureum')
18. Red Ash (*Fraxinus pennsylvanica* 'Aucubifolia')
19. Sycamore Maple (*Acer pseudoplatanus* 'Leopoldii')
20. European Cornel (*Cornus mas* 'Variegata')
21. Myrobalan Plum (*Prunus cerasifera* 'Nigra')
22. Honey Locust (*Gleditsia triacanthos* 'Sunburst')

Unusual wild fruits

23. White Mulberry (*Morus alba*)
24. Common Quince (*Cydonia oblonga*)
25. European Cornel (*Cornus mas*)
26. Kousa Dogwood (*Cornus kousa*)
27. Eastern Flowering Dogwood (*Cornus florida*)
28. Juneberry (*Amelanchier lamarckii* 'Ballerina')
29. Hardy Kiwi (*Actinidia arguta*)
30. Black Walnut (*Juglans nigra*)
31. White Walnut (*Juglans cinerea*)
32. Common Hazel (*Corylus avellana*)
33. Turkish Hazel (*Corylus colurna*)
34. Shagbark Hickory (*Carya ovata*)
35. Sweet Chestnut (*Castanea sativa*)
36. Ginkgo (*Ginkgo biloba*)
37. Siberian Pine (*Pinus cembra* subsp. *sibirica*)
38. Swiss Pine (*Pinus cembra*)



NB: The numbers in the following illustrations correspond to numbers on the map.

Summer flowers

The colourful carnival played out in the arboretum from the moment the last snow thaws, is ancient history and the plants now concentrate on creating seeds and fruits. Everything slows down and changes into a calming green. This is when our gardeners say that the garden must keep on flowering, so they plant annuals and roses, combine perennials and select shrubs and trees that only blossom at the height of summer so that the warmest days of the year can also be enjoyed in a garden in full bloom.

At the time when spring is blending into summer, all corners of the arboretum are coming alive in a riot of colourful, blossoming shrubs. Of particular note are the clusters of purplish-red, bell-shaped blossoms on the *Weigela florida*, the light pink flowers of the heavily blossoming Beauty Bush (*Kolkwitzia amabilis*) and the cascades of honey-scented white blossoms of the Fuzzy Deutzia (*Deutzia scabra*). The flowers of the Sweet Mock-orange (*Philadelphus coronarius*), also known as the 'false jasmine', have a particularly strong fragrance. The bright gold flowers of the Japanese Rose (*Kerria japonica*), similar to golden roses, hark back to the outgoing spring.

The exceptionally rich and long-flowering Butterfly Bush (*Buddleia davidii*), commonly known as the 'summer lilac' or 'butterfly bush', are literally a feast for butterflies. This apt name is entirely appropriate, as at blossoming-time the shrub is swamped by various species of butterfly, which flock to the heady-smelling flowers from far and wide. Flowers occur in a variety of shades, from white via pink to dark purple, depending on cultivar.

While not big in size, the Lace Cap Hydrangea (*Hydrangea macrophylla*) dazzles with the incredible changeability of the colour of its blossoms, which, in a quirk of nature, change in relation to the pH-value of the soil. If the soil is more acidic, the blossoms change to a more bluish shade, and if it is more alkaline, the blossoms come out red. Apart from its unusually purple-white blossoms, the larger, later-blooming Sargent's Hydrangea (*Hydrangea sargentiana*) is also striking due to its large, velvety leaves with an unusual purple tinge. In the arboretum, where it grows in the background of dark, evergreen rhododendrons, it comes across as a living sculpture. It flowers from August till October.

Juxtaposed with the larger representatives of the *Aesculus* genus, the shrub Bottlebrush Buckeye (*Aesculus parviflora*) is like a dwarf, and differs from many in its genus in the ornateness of its flowers and its unusually late blossoming. The erect stems of its snow-white flow-

ers, lightly decorated with long stamen, emerge from its foliage during July.

Amongst the blossoming gems of the beginning of summer is the rare, North American shrub, or small tree, the American Fringe Tree (*Chionanthus virginicus*). During flowering, the crown is enveloped in a bright, snow-white cloak of headily fragrant flowers. At the slightest breeze, the delicate, ribbon-like flowers of the fringetree shake like torn lace suspended in the wind.

A further two North American wooded plants engage us with their summer flowering and decorative foliage. At the start of summer, unique flowers, reminiscent of tulips, appear amongst the exquisite, lyre-like leaves of the massive American Tulip Tree (*Liriodendron tulipifera*), which also give it its common name. In mid-summer, the blossoming tulip trees give way to the butterfly-friendly Indian Bean Tree (*Catalpa bignonioides*). The catalpa's large, heart-shaped leaves create a natural background for the beauty of the tree's white, trumpet-shaped flowers. The long fruits, which bear a striking resemblance to bean pods, have given the tree an apt name – the Indian bean tree. The ivory-white flowers of the east Asian Amur Maackia (*Maackia amurensis*) are no less ornate, grow in erect clusters and, in combination with the airy crown of the tree, has a very elegant look.

The close of summer is marked by the late-blooming Japanese Pagoda Tree (*Sophora japonica*). The yellow-white flowers are concentrated into broad, hanging panicles, up to 30 cm long, and flower until early autumn. Falling flowers float to the ground like snowflakes, where they sometimes create a layer several centimetres thick.



Beauty Bush (*Kolkwitzia amabilis*) 2



Sweet Mock-orange (*Philadelphus coronarius*) 4



Butterfly Bush (*Buddleia davidii*)



Sargent's Hydrangea (*Hydrangea sargentiana*) 6



Bottlebrush Buckeye (*Aesculus parviflora*) 7



American Tulip Tree (*Liriodendron tulipifera*) 9



Japanese Pagoda Tree (*Sophora japonica*) 12

Variations in the colour and shape of leaves

The change in colour of the leaves of wooded plants is most frequently associated with the arrival of autumn; however, this is not always the case. Even during the summer we can, when walking through parks and gardens, encounter colourful, diverse, variegated, or even, with regard to the shape of the leaves, 'clipped' forms of trees and shrubs. Variegated leaf colourings gives wooded plants a markedly unusual, bizarre-looking appearance, which is the result of mutation. Such individuals are known as 'chimeras'. If applied sensitively to the creation of gardens, then this fine; however they should never leave the confines of the arboretum or botanical garden into open countryside, where they could run wild.

Every year the crowns of majestic beech trees go through a rich palette of colours, full of fresh green tones from the spring, dark green tones in the summer and rich orange-red tones in the autumn. However, the red-leaved cultivar of the Common Beech (*Fagus sylvatica* 'Atropurpurea'), with its dark, red-purple foliage, differs from the usual summer colouring. Even more effective are the variegated leaves of the *Fagus sylvatica* 'Purpurea Tricolor' cultivar of the Common Beech, whose crown is decorated by marvellous, carmen-red leaves with a cream- and pink-coloured edge. One of the most valuable cultivars is the red- and cut-leaved *Fagus sylvatica* 'Rohanii'. This Czech cultivar is notable for its elegant, dark-red and markedly serrated foliage. Marvellous individuals of this and many other beeches can be admired at our arboretum.

Adjacent to the manor house is an unusually coloured cultivar of the English Oak (*Quercus robur* 'Atropurpurea'), with dark purple foliage. Also contributing to the unique atmosphere of the Bový Dvůr arboretum are our venerable exemplars of the Japanese Maple (*Acer palmatum* 'Atropurpureum'), with their dark, blackish-red foliage. The mottled yellow foliage of the Red Ash (*Fraxinus pennsylvanica* 'Aucubifolia'), vaguely reminiscent of the mottled foliage of the aucuba shrub, can appear rather bizarre. The 'Leopoldii' cultivar of the Sycamore Maple (*Acer pseudoplatanus* 'Leopoldii'), with its unusual, thick white or golden spotted foliage is also rather striking.

The frequently-flowering European Cornel (*Cornus mas* 'Variegata') displays a very elegant combination of white-fringed leaves with strikingly red fruits. On the other hand, the dark purple to reddish-black foliage of the Myrobalan Plum (*Prunus cerasifera* 'Nigra') contrast sharply with other trees in the vicinity. The crown of the Honey Locust (*Gleditsia triacanthos* 'Sunburst'), with its

bright, golden-yellow foliage, presents an unusual sight during when its leaves are sprouting. Amongst the variegated cultivars in the arboretum are many exemplars of the shrub-like cornels (*Cornus*), barberries (*Berberis*), *Spiraea*, mock-orange (*Philadelphus*) and weigelias (*Weigela*). The arboretum also has a rich collection of evergreen boxwoods (*Buxus*) and hollies (*Ilex*).



Common Beech (*Fagus sylvatica* 'Atropurpurea') 13



Common Beech (*Fagus sylvatica* 'Purpurea Tricolor') 14



Sycamore Maple (*Acer pseudoplatanus* 'Leopoldii') 19



European Cornel (*Cornus mas* 'Variegata') 20



Myrobalan Plum (*Prunus cerasifera* 'Nigra') 21



Honey Locust (*Gleditsia triacanthos* 'Sunburst') 22

Unusual wild fruits

While wandering through the Czech countryside, we may encounter a number of wild, fruit-bearing shrubs. These grow along country roads, parks, on verges, on bushy, sunny hillsides or in well-lit forests. They attract one's attention primarily through their striking blossoms or wealth of small fruits. The pretty crown of the Wild Pear (*Pyrus pyraster*) is decorated with tiny, pediculate pears, the Wild Apple (*Malus sylvestris*) is notable for its remarkable, greenish-golden apples and the Wild Cherry (*Prunus avium*), delights every year with its rich yield of small, reddish-black cherries.

Apart from the wild blueberries, cranberries, raspberries and blackberries, the Moravian cultivar of the Rowan (*Sorbus aucuparia* 'Edulis'), which was discovered in the Jeseníky around 1820, also gives tasty fruit. During the Second World War it was known as the 'lemon of the north'. The edible rowanberries have a higher sugar and vitamin C content than the wild form of the fruit. Fruit is gathered in October and are most often made into marmelade together with apples.

One of the oldest fruit-bearing shrubs is the warmth-loving Service Tree (*Sorbus domestica*), whose fruits are in the shape of small apples or pears and are of a golden-green or reddish colour. When fresh, they are not, however, edible, and only gain their sweet-and-sour taste when ripe and soft. The fruits are popular for making marmalades and musts together with apples, pears and quinces. Another fruit-bearing wooded plant that has been cultivated since ancient times is the mulberry, whose fruits are of changeable colour (white, red, black) and whose appearance is reminiscent of elongated raspberries or blackberries. In contrast to the nondescript taste of the fruits of the White Mulberry (*Morus alba*), the fruits of the Black Mulberry (*Morus nigra*) are highly aromatic and tasteful. The arboretum also includes an overhanging cultivar of the White Mulberry – *Morus alba* 'Pendula'. The spread and cultivation of mulberries was closely linked to the production of silk, as the larvae of the silkworm feed exclusively on the mulberry leaf.

Currently enjoying a return to complementary fruits is the Common Medlar (*Mespilus germanica*), which gained its Latin name from its second native country, Germany, where it was frequently cultivated in monastery gardens. Medlar fruits are shaped like small apples and are only edible following frost or a long ripening process, after which they have a pleasant, slightly sour taste. Fruits contain a high level of fibre and vitamin C. Similarly to the medlar, the Common Quince (*Cydonia oblonga*) was, in previous times, overwhelmingly cultivated in monastery gardens and castle parks. In ancient

times it was a symbol of love and fertility, and was referred to as the 'Kydonian apple' after the ancient Greek city-state. Quinces have a delicately aromatic scent, greenish-yellow colour and round, pear-like shape. Our forebears would, in accordance with ancient tradition, place quince fruits amongst clean clothes in order to scent them.

The warmth-loving European Cornel (*Cornus mas*) spread from the sun-kissed hillsides of Bohemia and Moravia to the gardens and parks. The shrub bears edible, tasty, scarlet-red drupes, which have been sought-after since ancient times. Many large-fruited varieties are currently in existence. The fruits of decorative, large-flowered varieties are also edible – these include the Asian Kousa Cornel (*Cornus kousa*) and the North American Eastern Flowering Dogwood (*Cornus florida*), whose fruits are similar to red, fused drupes and resemble strawberries in appearance.

The serviceberries (*Amelanchier*) are a genus of valuable wild fruits, traditionally used by the North American Indians. The taste of the fruit is reminiscent of a combination of the sweet rowanberry and blueberry, and the fruit is juicy, sweetly acidulated and the same size as redcurrants or rowanberries. The tastiest varieties are the cultivars Juneberry (*Amelanchier lamarckii* 'Ballerina') and Saskatoon Serviceberry (*Amelanchier alnifolia* 'Cusickii'). Shadbushes are shrubs or small, multi-trunked trees with pretty crowns.

One shrub that can be seen along pathways, but increasingly in gardens, too, is the Black Chokeberry (*Aronia melanocarpa*), which is frequently grafted onto the stem of the rowan. Chokeberry fruits are up to 1 cm long, a blackish or aubergine colour and rich in vitamins. The strikingly orange fruits of the Common Sea Buckthorn (*Hippophaë rhamnoides*), with a high content of vitamin C, leading to them being called 'the lemon-tree of the north' ripen on male shrubs from September to October.

Although it might be difficult to believe, the exotic kiwi fruit can also be cultivated in Central Europe. The types cultivated are two hardy species of climbing actinidae – the Hardy Kiwi (*Actinidia arguta*) and the Kolomikta Actinidia (*Actinidia kolomikta*), which can withstand temperatures up to -30°C. The fruit is a 'mini-kiwi', a small, green berry with a red tip, which has a pleasantly developed, sweet-and-sour taste. These woody lianas are dioecious, i.e., cultivation requires the joint rearing of male and female individuals or a self-pollinating variety.

Amongst the popular varieties of fruit-bearing wooded plants are also those bearing nutlike fruits, essential varieties of which are the walnuts, hickories,

hazels and chestnut. Apart from the popular Persian Walnut (*Juglans regia*), edible seeds are also borne by the large, North American Black Walnut (*Juglans nigra*) and the White Walnut (*Juglans cinerea*). Both species can be found in our arboretum. Similar-tasting 'hazelnuts' to those provided by the Common Hazel (*Corylus avellana*) can be gathered from the tree-like Turkish Hazel (*Corylus colurna*). The very best pecan nuts are provided by the pecan tree (*Carya illinoensis*). In the Czech Republic, the related Mockernut Hickory (*Carya tomentosa*) or Shagbark Hickory (*Carya ovata*) can be cultivated. The last of these also provides the high-quality hickory wood.

One source of 'edible chestnuts' is the Sweet Chestnut (*Castanea sativa*), whose seeds are hidden in a spiky cupule, generally in groups of three. When roasted, chestnuts have a sweet, aromatic taste. The seeds of many species of coniferous plants are also considered very healthy. Apart from the *Torreya*, *Araucaria* and ginkgo (*Ginkgo*), the pines (*Pinus*) are also popular. The 'cedar nuts' from the Siberian Pine (*Pinus cembra* subsp. *sibirica*) and the Dwarf Siberian Pine (*Pinus pumila*) are popular in Siberia. In Europe, the alpine Swiss Pine (*Pinus cembra*) and the Mediterranean Stone Pine (*Pinus pinea*) both provide pine cones. The main source of these 'nuts' in Asia is the Korean Pine (*Pinus koraiensis*). Pine nuts are generally consumed raw or roasted.



Rowan (*Sorbus aucuparia* 'Edulis')



White Mulberry (*Morus alba*) 23



European Cornel (*Cornus mas*) 25



Common Medlar (*Mespilus germanica*)



Hardy Kiwi (*Actinidia arguta*) 29



Common Quince (*Cydonia oblonga*) 24



Juneberry (*Amelanchier lamarckii* 'Ballerina') **28**



Black Walnut (*Juglans nigra*) **30**



White Walnut (*Juglans cinerea*) **31**



Sweet Chestnut (*Castanea sativa*) **35**



Common Hazel (*Corylus avellana*) **32**



Turkish Hazel (*Corylus colurna*) **33**



Ginkgo (*Ginkgo biloba*) **36**



Kousa Dogwood (*Cornus kousa*) **26**



Black Chokeberry (*Aronia melanocarpa*)



Common Sea Buckthorn (*Hippophaë rhamnoides*)

AUTUMN

The colours of autumn

1. Sargent's Cherry (*Prunus sargentii*)
2. Caucasian Maple (*Acer cappadocicum*)
3. Montpellier Maple (*Acer monspessulanum*)
4. Silver Maple (*Acer saccharinum*)
5. Japanese Maple (*Acer palmatum*)
6. Paperbark Maple (*Acer griseum*)
7. Full Moon Maple (*Acer japonicum*)
8. Red Maple (*Acer rubrum*)
9. Katsura Tree (*Cercidiphyllum japonicum*)
10. *Cercidiphyllum magnificum*
11. Hardy Kiwi (*Actinidia arguta*)
12. Oriental Bittersweet (*Celastrus orbiculatus*)
13. Erman's Birch (*Betula ermanii*)
14. Whitebarked Himalayan Birch (*Betula jacquemontii*)
15. European White Birch (*Betula pendula*)
16. Hybrid Witch-hazel (*Hamamelis x intermedia*)
17. Chinese Witch-Hazel (*Hamamelis mollis*)
18. Virginia Witch-hazel (*Hamamelis virginiana*)
19. Tulip Tree (*Liriodendron tulipifera*)
20. Guelder rose (*Viburnum opulus*)
21. Lace Cup Viburnum (*Viburnum plicatum*)

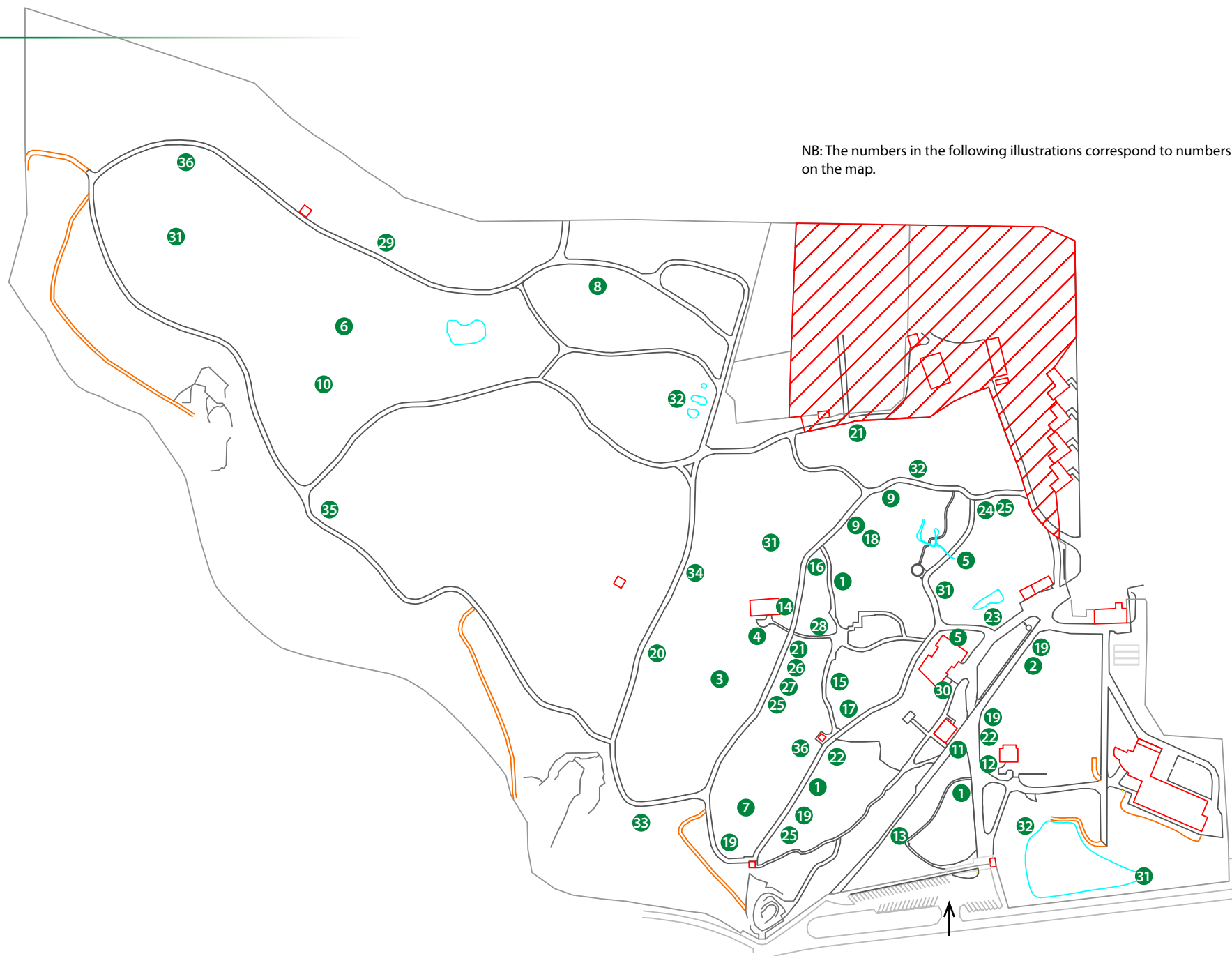
Remarkable fruits and seeds

22. Indian Bean Tree (*Catalpa bignonioides*)
23. Horse Chestnut (*Aesculus hippocastanum*)
24. Oriental Bittersweet (*Celastrus orbiculatus*)
25. European Cornel (*Cornus mas*)
26. Eastern Flowering Dogwood (*Cornus florida*)
27. Kousa Dogwood (*Cornus kousa*)
28. English Hawthorn (*Crataegus monogyna*)
29. Rugosa Rose (*Rosa rugosa*)
30. Trifoliate Orange (*Poncirus trifoliata*)

Deciduous conifers

31. Dawn Redwood (*Metasequoia glyptostroboides*)
32. Bald Cypress (*Taxodium distichum*)
33. European Larch (*Larix decidua*)
34. Japanese Larch (*Larix kaempferii*)
35. Dahurian Larch (*Larix gmelinii*)
36. Ginkgo (*Ginkgo biloba*)

NB: The numbers in the following illustrations correspond to numbers on the map.



The colours of autumn

The warm days of summer are, slowly but surely, slipping away as the baton is passed to the autumn. The days get shorter and in Nature we can see the first signs of preparation for the coming winter. A lot of very interesting changes start to take place. If we take a close look at the trees round about, we find that the rich greens of summer are slowly giving way to a whole palette of colours. As the green colouring in leaves, chlorophyll, starts to break down, Nature replaces it with a varied palette of colours for the leaves of many wooded plants. Thus for a brief moment our eyes can enjoy a fascinating spectacle full of unusual combinations. Let's take a look at what this wonderful time of year looks like in the arboretum.

When walking through the park, you will be thrilled by the play of colours displayed by trees and shrubs from all over the world. The Sargent's Cherry (*Prunus sargentii*), which is native to Japan, Korea and Sakhalin, welcomes you with its glowing orange to purplish-red colours. This tree was only brought to Europe in 1908. The golden leaves of the Caucasian Maple (*Acer cappadocicum*) are a gorgeous reminder of the summer, as are the marvellous, small, glowing golden-yellow leaves of the Montpellier Maple (*Acer monspessulanum*). The low, spreading Vine Maple (*Acer circinatum*), native to North America, attracts us with its golden colouring, with a hint of red. Another interesting maple native to the Czech Republic is the Sycamore Maple (*Acer pseudoplatanus*) and North American Silver Maple (*Acer saccharinum*), whose autumn cloak is of an orange to reddish colour. To extend the palette, let's have a look at some other, highly interesting species of maple. Amongst these is, for example, the Japanese Maple (*Acer palmatum*), known due to its numerous cultivars, which, due to their appearance, are suitable for Japanese-style gardens. More than 400 varieties now exist, with new ones being created every year. The Japanese maple, with its twisted trunk and pleasant autumn colours, is an impressive sight. The very pretty Paperbark Maple (*Acer griseum*), native to China, enchants us not only with its orange to purplish-red foliage, but also its remarkable, peeling bark. The Full Moon Maple (*Acer japonicum*) and North American Red Maple (*Acer rubrum*) are also to be noted for their red foliage.

The beautiful, normally multi-trunked Katsura Tree (*Cercidiphyllum japonicum*), native to Asia, is also worthy of note with its yellow-orange colouring, with reddish, carmine tones. Similar to the katsura is its smaller, generally single-trunked relative, the *Cercidiphyllum magnificum*, which is endemic to the Japanese island of Honshu, whose decomposing foliage smells of sweet bread.

The Hardy Kiwi (*Actinidia arguta*), a climbing plant originally from Asia, is a lovely sight with its golden foliage. This liana reaches a height of up to 10 metres. Another climbing plant, which reaches a slightly greater height and with a similar colour of foliage, is the Oriental Bittersweet (*Celastrus orbiculatus*), a beautiful, left-turning robust liana. Another point of interest at this time of year are the birches, which are cloaked in bright gold from an early stage of the autumn. Amongst the arboretum's collection are, for example, the Erman's Birch (*Betula ermanii*), the Whitebarked Himlayan Birch (*Betula jacquemontii*) and the European White Birch (*Betula pendula*), which is native to Europe.

In the autumn the leaves of witch-hazels turn yellow to orange-red. These are very interesting shrubs, which are amongst the most refined of their type and require extra special care. They are also frequently used in the production of cosmetics, for example skin creams. There are six basic species of witch-hazel that grow in North America and East Asia. Amongst the interesting shrubs to be found in the Arboretum are, for example, the Hybrid Witch-hazel (*Hamamelis × intermedia*), Japanese Witch-hazel (*Hamamelis japonica*) and the Chinese Witch-Hazel (*Hamamelis mollis*).

A very remarkable sight in winter, with its golden-yellow foliage, is the North American American Tulip Tree (*Liriodendron tulipifera*), as are the Guelder rose (*Viburnum opulus*), with its wine-red to purplish-brown autumn foliage, and the Lace Cup Viburnum (*Viburnum plicatum*), which originates in China and Japan.



Sargent's Cherry (*Prunus sargentii*) 1



Japanese Maple (*Acer palmatum*) 5



Katsura Tree (*Cercidiphyllum japonicum*) 9



Oriental Bittersweet (*Celastrus orbiculatus*) 12



Virginia Witch-hazel (*Hamamelis virginiana*) 18



Tulip Tree (*Liriodendron tulipifera*) 19



Red Maple (*Acer rubrum*) 8

Remarkable fruits and seeds

The spring and summer flowers that decorated trees and shrubs in previous months are now gone, never to come back, and in their place the branches and twigs become heavy with fruits and seeds of all shapes, colours and scents. One can see the birds, squirrels and other animals at work, feasting on what's on offer and taking seeds and fruits to their dens so that they have enough food for the winter.

From the amazing amount of different fruits, we can highlight, for example, the (sometimes up to 40 cm) long, pod-like fruits of the North American Indian Bean Tree (*Catalpa bignonioides*). The long pods frequently decorate this tree up until the winter months. Another essential feature of the autumn is the Horse Chestnut (*Aesculus hippocastanum*), whose round pods, covered in soft spines and containing chestnuts, provide fun for many people, children especially. The Asian climbing plant Oriental Bittersweet (*Celastrus orbiculatus*). This left-turning liana is swamped by small, yellow-orange fruits which, when they burst, reveal a dark orange cupule full of poisonous seeds. Another liana, this time right-turning, is the Japanese Wisteria (*Wisteria floribunda*), whose fruits are 10-15 cm in length, velvety pods, which contain poisonous seeds. Wisteria pods often remain on the plant into the winter months.

Also worthy of attention are the spindles, a wooded plant that was much-used in previous times. These shrubs produce of pink, purple and glowing carmine fruits. In the Arboretum you can view, for example, the Common Spindle (*Euonymus europaeus*) and the *Euonymus phellomanus*. The spindle fruit – capsute – opens to reveal red, orange and white berries, inside which are seeds. Spindle capsutes were formerly used in the dyeing industry, and an extract was used as a diuretic in medicine, that is to remove fluids trapped in the body. Use was also made of the spindle's valuable, golden-coloured wood.

Amongst the reddish fruits are also the robust shrubs or small trees of the genus Dogwood (*Cornus*). A small, edible and extremely healthy drupe is produced by the European Cornel (*Cornus mas*) and the Japanese Cornel (*Cornus officinalis*). Fused drupes, resembling strawberries, are produced by the Eastern Flowering Dogwood (*Cornus florida*) and the Kousa Dogwood (*Cornus kousa*).

Staying with red fruits, let's have a look at the English Hawthorn (*Crataegus monogyna*) and the Midland Hawthorn (*Crataegus laevigata*). In the winter, these hawthorns serve as a major source of sustenance for birds. A similarly pretty species, the Cockspur Thorn (*Crataegus crus-galli*), which has thorns up to 6 cm in length.

Greenhouses, a common feature of garden in the Czech Republic, can also display a rich variety of red fruits. In the Arboretum you can see, for example, the Bearberry Cotoneaster (*Cotoneaster dammeri*) and the Herringbone Cotoneaster (*Cotoneaster horizontalis*). Walking amongst the rose bushes, loaded at this time with red berries (pomes), it'll be like in the fairytale about Sleeping Beauty. Amongst the most interesting is, for example, the robust Rugosa Rose (*Rosa rugosa*) has fruits in the shape of flattened spheres, 2-2.5 cm large. A beautiful wild rose, the Englantine (*Rosa rubiginosa*), suitable for freely growing hedges, produces 1.5-2 cm long, scarlet fruits.

When you view the decorative apple-trees in the park, you'll see that the apple-tree need not be loaded only with large, tasty apples in the autumn. For example, the cultivar *Malus* 'Golden Hornet will surprise you with its small, deep gold applets, which remain on the tree for the whole winter. The Trifoliolate Orange (*Poncirus trifoliata*) also produces highly decorative fruits – golden, felt-like berries with a diameter of 3-5 cm. Even though the fruits of this thorny bush look like the tasty fruits of citrus plants, they are inedible due to their significant sourness, bordering on bitterness.



Indian Bean Tree (*Catalpa bignonioides*) 22



Horse Chestnut (*Aesculus hippocastanum*) 23



Eastern Flowering Dogwood (*Cornus florida*) 27



Oriental Bittersweet (*Celastrus orbiculatus*) 24



Trifoliolate Orange (*Poncirus trifoliata*) 30



Common Spindle (*Euonymus europaeus*)



Englantine (*Rosa rubiginosa*)

Deciduous conifers

The deciduous conifers form an interesting group of wooded plants, and has many representatives in the Arboretum. One of the most interesting deciduous conifers is, without doubt, the Dawn Redwood (*Metasequoia glyptostroboides*), a massive, fast-growing tree that can reach a height of 30-35 metres. The dawn redwood is a relict of the Tertiary Period, discovered in China in 1941 and named in 1947, since when it has been cultivated in Europe. Apart from its permanent branches, metasequoias produce extended branches bearing soft, light-green leaves and that have a lifespan of one year. In the autumn the needles turn a rusty-red colour, after which the entire extended branches, with their needles, are shed.

A similar species to the dawn redwood is the Bald Cypress (*Taxodium distichum*), which is native to the swamps in the south-eastern part of North America. Like the dawn redwood, the bald cypress sheds short branches, which are a gold to reddish-brown colour in the autumn, as well as needles. One notable feature of the bald cypress are its 'knees': woody, breathing extensions of the root system that grow upwards and contribute to the exchange of gases in the event that the root system is flooded.

The only true native coniferous tree in the Czech Republic is the European Larch (*Larix decidua*), which occurs only sporadically in the Czech Republic, in the Bruntál, Krnov and Horní Benešov regions in the foothills of the Jeseníky, where it grows in mixed forests. A typical feature of the Jeseník ecotype, the so-called Jeseník larch, is the straight trunk with a frequently concave base and high crown, and which grows to a height of up to 50 m, which an average trunk diameter of over a metre. The tree has a lifespan of over 500 years, and its range extends to the Alps and Carpathians, where it is a specifically alpine species, frequently making up the upper limit of forests. The larch is indisputably one of the most elegant trees in the Arboretum. Its needles turn a golden-brown colour before shedding.

A further representative of this genus is the Japanese Larch (*Larix kaempferi*). This species is very similar to the European larch, although its needles have a greyish hue and the crown is more spread-out. Both turn a similar shade of golden-yellow in the autumn, and their wood is highly prized for its resistance to disease, pests and water.

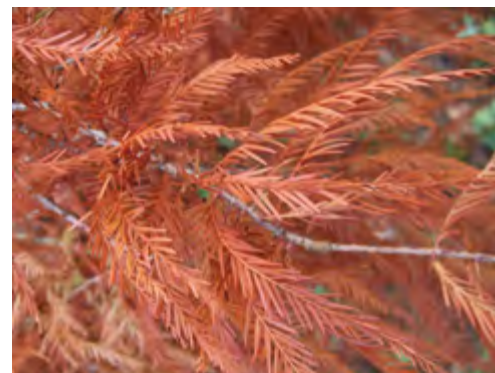
One very interesting species is the Dahurian Larch (*Larix gmelinii*), whose needles remain on the branches up until the winter months. The Dahurian larch is native to Siberia, which in its home habitat exists in several hardy geographical varieties.

A further representative is the damp-loving American Larch (*Larix laricina*), which is native to North America. This is a slow-growing species, whose needles change colour and fall at a very early stage of the season.

The Ginkgo (*Ginkgo biloba*) is a particularly interesting and mysterious tree. The ginkgo family originated almost 270 million years ago. Fossil findings show that it was present on all continents until the beginning of the Tertiary period; it is therefore a truly exceptional plant. The leaves of this deciduous, gymnospermous tree turn golden-yellow in the autumn. Many legends are attached to the ginkgo, one of which, for example, says that the species died out in the wild long ago and for more than a thousand years has been cultivated only in the vicinity of Chinese temples and monasteries. However, a deeper knowledge of plant life in China shows that some native areas of the tree may still exist. The ginkgo was also cultivated in Japan and Korea for many centuries for its edible seeds and its qualities as a decorative tree in parks. The tree is worthy of respect due to its healing qualities.



Dawn Redwood (*Metasequoia glyptostroboides*) 31



Bald Cypress (*Taxodium distichum*) 32



European Larch (*Larix decidua*) 33



Ginkgo (*Ginkgo biloba*) 36



Japanese Larch (*Larix kaempferi*) 34

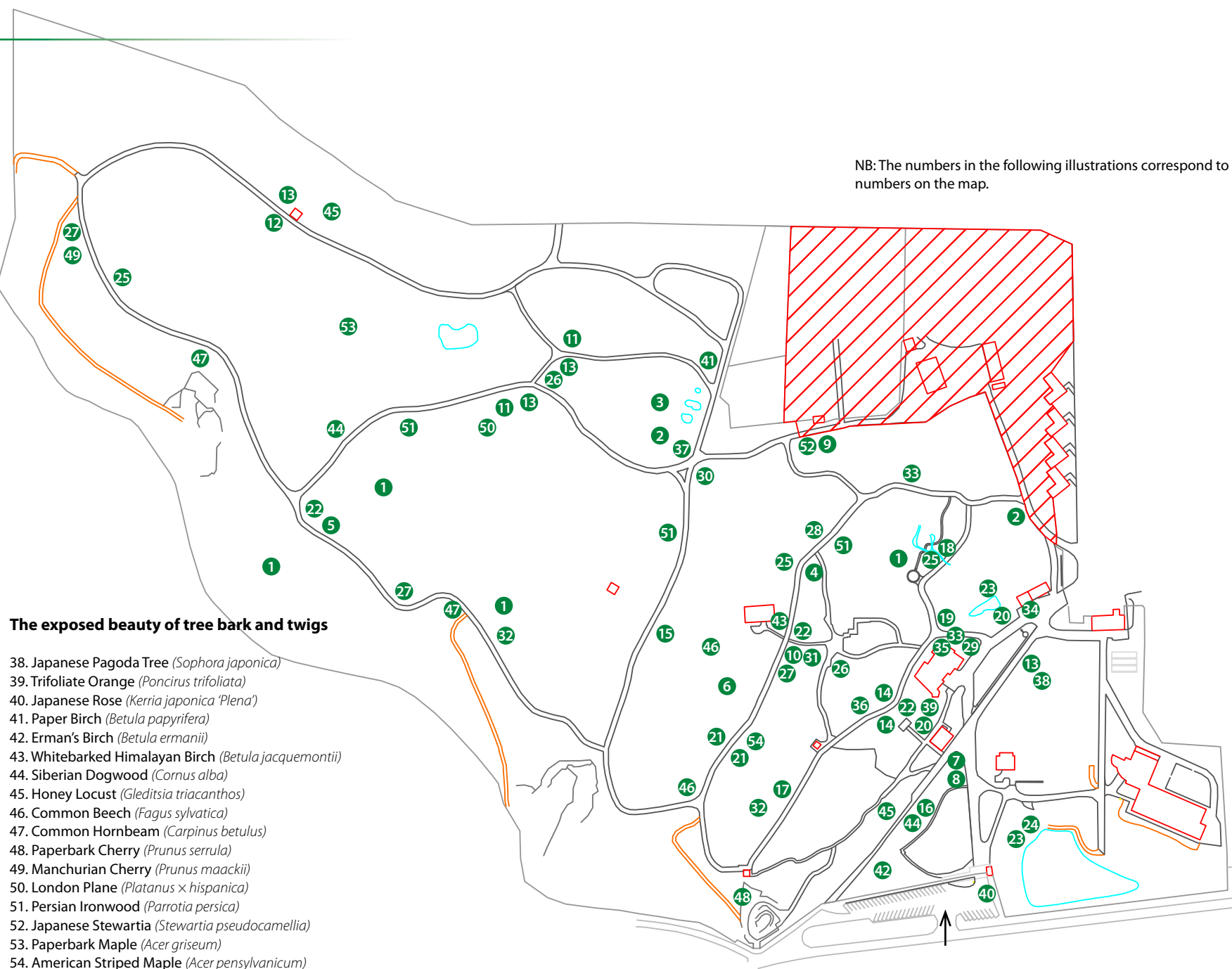
WINTER

Conifers

1. Scots Pine (*Pinus sylvestris*)
2. Mountain Pine (*Pinus mugo*)
3. *Pinus rotundata*
4. Swiss Pine (*Pinus cembra*)
5. Siberian Pine (*Pinus sibirica*)
6. Black Pine (*Pinus nigra*)
7. Bosnian Pine (*Pinus heldreichii*)
8. Northern Pitch Pine (*Pinus rigida*)
9. White Pine (*Pinus strobus*)
10. Bristlecone Pine (*Pinus aristata*)
11. Knobcone Pine (*Pinus attenuata*)
12. Jeffrey's Pine (*Pinus jeffreyi*)
13. Ponderosa Pine (*Pinus ponderosa*)
14. South Japanese White Pine (*Pinus parviflora*)
15. Blue Pine (*Pinus wallichiana*)
16. Schwerin's Pine (*Pinus x schwerinii*)
17. Atlas Cedar (*Cedrus atlantica*)
18. Japanese Umbrella Pine (*Sciadopitys verticillata*)
19. Common Chinafir (*Cunninghamia lanceolata*)
20. Common Yew (*Taxus baccata*)
21. Giant Sequoia (*Sequoiadendron giganteum*)
22. Siberian Cypress (*Microbiota decussata*)
23. Eastern Hemlock (*Tsuga canadensis*)
24. Carolina Hemlock (*Tsuga caroliniana*)
25. Japanese Cedar (*Cryptomeria japonica*)
26. White Fir (*Abies concolor*)
27. Korean Fir (*Abies koreana*)
28. Spanish Fir (*Abies pinsapo*)

Broadleaf evergreens

29. English Holly (*Ilex aquifolium*)
30. Leatherleaf Viburnum (*Viburnum rhytidophyllum*)
31. Sweet Viburnum (*Viburnum carlesii*)
32. European Boxwood (*Buxus sempervirens*)
33. Cherry Laurel (*Prunus laurocerasus*)
34. Common Ivy (*Hedera helix*)
35. Japanese Spurge (*Pachysandra terminalis*)
36. Smaller Periwinkle (*Vinca minor*)
37. Checkerberry (*Gaultheria procumbens*)



The exposed beauty of tree bark and twigs

38. Japanese Pagoda Tree (*Sophora japonica*)
39. Trifoliate Orange (*Poncirus trifoliata*)
40. Japanese Rose (*Kerria japonica 'Plena'*)
41. Paper Birch (*Betula papyrifera*)
42. Erman's Birch (*Betula ermanii*)
43. Whitebarked Himalayan Birch (*Betula jacquemontii*)
44. Siberian Dogwood (*Cornus alba*)
45. Honey Locust (*Gleditsia triacanthos*)
46. Common Beech (*Fagus sylvatica*)
47. Common Hornbeam (*Carpinus betulus*)
48. Paperbark Cherry (*Prunus serrula*)
49. Manchurian Cherry (*Prunus maackii*)
50. London Plane (*Platanus x hispanica*)
51. Persian Ironwood (*Parrotia persica*)
52. Japanese Stewartia (*Stewartia pseudocamellia*)
53. Paperbark Maple (*Acer griseum*)
54. American Striped Maple (*Acer pensylvanicum*)

NB: The numbers in the following illustrations correspond to numbers on the map.



The park in winter

The park is enveloped in a cloak of white and it may appear that there is nothing to attract the visitor. However, once the frost coats the dry flowers of the hardy species and the bushes, with their remaining fruits, are hidden under the white crystals, there is something to admire. In the background of these details are the coniferous and evergreen plants, which form the basic structure of the forest. Dark spots are replaced by white areas, here and there you'll see the colourful bark of a cornel and quinces that haven't yet fallen and holly berries. This is true winter, allowing Nature to rest.

Conifers

Coniferous trees, which do not shed their leaves in winter, are a key element of the park at this time of year. We shall now take a look at this group of plants, which are at their best in the winter, as it is at this time, when other vegetation is resting, that the visitor's attention is not distracted by more attractive and changeable trees and shrubs.

The Scots Pines (*Pinus sylvestris*) give the Arboretum a unique atmosphere. These massive trees, with

their pretty crowns and beautiful, rusty-red bark, contrast with the blue sky and winter sun to create a marvellous image. Some scientific authorities have labelled this pine species a Heraldic ecotype. In contrast to the Scots pine, where the red bark only reaches to just underneath the crown, it reaches a much lesser height in the Heraldic pine, as the dark, deeply scored bark frequently only reaches a height of 4-5 metres above ground level. Almost all individuals over 120 years of age have smooth, fully-wooded trunks of 10-15 m length. The native pines contained in the Arboretum also include the Mountain Pine (*Pinus mugo*), which can be found in the upper limits of forests located on the highest mountains in the Czech Republic, where it does not compete with other wooded plants. The waterlogged locations in the mountain foothills are home to the *Pinus rotundata* subspecies, which occurs sporadically throughout Central Europe, and in the Czech Republic can be found in small forests on the moorlands of the Třeboň Basin and the bogs of the Šumava foothills.

The mountains of Europe are home to the Swiss Stone Pine (*Pinus cembra*). This beautiful tree grows in the High Tatras in Slovakia and in the Alps, where it

makes up the upper limit of forests. Its seeds are edible and in previous times were sold as 'cedar seeds'. Currently, only the seeds of the closely-related Siberian Pine (*Pinus sibirica*), which grows in the Siberian taiga, can be bought. These seeds are also used to make healing oil distributed under the name 'cedar oil'. Siberia and the Far East are also home to the shrub-like Dwarf Siberian Pine (*Pinus pumila*), whose seeds are also edible. This species is very difficult to cultivate in lo-lying regions, as it requires a tough climate for optimal growth.

One tree from southern Europe and the Mediterranean is the Black Pine (*Pinus nigra*), which is forcing the Scots pine out of its native habitats in warmer areas of the country. The hardier Bosnian Pine (*Pinus heldreichii*) originates in the mountainous areas of the Balkan peninsula and thrives in limestone soil.

Of the North American species, we can find in the Arboretum the Northern Pitch Pine (*Pinus rigida*), whose trunk has great sprouting capacity and wood has a high resin content. The related Marsh Pine (*Pinus serotina*) has similar qualities, although not to the same extent. The Eastern part of the USA and Canada is also home to the White Pine (*Pinus strobus*), which is also frequently cultivated in the Czech Republic. While the tree is planted in parks and gardens, the main focus of its cultivation is in commercial forests. It is cultivated primarily for its high-quality, soft, highly durable and easily cleavable wood, which is easy to shape and does not dry out. Nowadays, however, more of a negative presence, as it is vulnerable to the *Cronartium ribicola* rust fungus, and primarily because it behaves like an invasive species, forcing out native species.

The Rocky Mountains area, between heights of 2,800 to 3,600 metres, is home to the Bristlecone Pine (*Pinus aristata*). This pine-tree is amongst the oldest living trees in its localities; the age of some individuals is estimated at up to 4,700 years. It is highly resistant to frost and cold, but requires sunny locations to thrive. The western seaboard of North America is home to the highly interesting Knobcone Pine (*Pinus attenuata*), whose life-cycle is inextricably linked to natural forest fires. It has exceptionally strong cones, resistant to high temperatures, which are unable to open unless exposed to high temperatures, and can stay on branches for their entire lifespan. Seeds germinate only when the land around them is entirely bare and there are favourable moisture conditions for the survival of young plants. Seeds in cones that have never experienced fire can retain their capacity to germinate for up to 30 years. The same region is also home to the Jeffrey's Pine (*Pinus jeffreyi*), the Big Cone Pine (*Pinus coulteri*) and, occasionally, the Ponderosa Pine (*Pinus ponderosa*).

The Big Cone Pine (*Pinus coulteri*) can be recognised through its bundles of three, very thick, erect, dark bluish-green needles, which can grow to lengths of 12-25 cm, and its cones, some of the largest in existence, which are 10-12 cm wide and 20-30 cm long. Amongst the Asian pine species of note is chiefly the Korean Pine (*Pinus koraiensis*), which is notable due to the soft and delicate texture and bluish-green colour of its needles. The mountainous areas of Japan and South Korea are home to the South Japanese White Pine (*Pinus parviflora*), the silhouette of which can be seen in illustrations of Japanese gardens. The most popular forms of this tree are the dwarf and lower varieties, with short needles, which are cultivated as bonsai.

A pleasing hybrid of the Central Asian Blue Pine (*Pinus wallichiana*) and North American White Pine (*Pinus strobus*) is the Schwerin's Pine (*Pinus × schwerinii*). The needles of this hybrid do not overhang to the same extent as the Himalayan white pine, and the tree is substantially more resistant to frost.

The Arboretum also contains exotic and native spruces, firs, fully-grown exemplars of Douglas firs and hemlocks. There are two lovely, old exemplars of the Atlas Cedar (*Cedrus atlantica*), which is remarkable for its stepped, cone-shaped crown. It is well-known for its high-quality, fragrant wood, which has always been highly-prized and which is used to make cedar oil (not to be confused with the 'Cedar Oil' extracted from the seeds of the Siberian pine).

In the older part of the park, close to the wedding location, we can see a fully-grown Japanese Umbrella Pine (*Sciadopitys verticillata*), which enjoys an unusual status amongst conifers. It is still not clear whether its fat, 15 cm long needles are the result of the fusion of two needles or whether they are evolved shoots. The tree is endemic to the south of Japan.

The Common Chinafir (*Cunninghamia lanceolata*) originates in Southeast Asia. Due to its relatively soft, firm and highly aromatic wood, resistant to rot and insects, the tree is utilised in the timber industry in his homeland as well as being cultivated in North America. In Southeast Asia, timber from the tree is used in the construction of temples and domes, as well as for coffins.

The Common Yew (*Taxus baccata*), which forms an integral part of dark undergrowth, has been a symbol of mourning and death since ancient times. All parts of the plant, with the exception of its juicy red berries, are highly poisonous, containing taxane, a poison that affects the heart. Unless an antidote is applied, death occurs within minutes. The yew also contains the alkaloid taxol, which halts the growth of tumours and finds successful

application in the treatment of breast, ovarian and lung cancer. Yew was a favourite means of murder by poison in Antiquity and the Middle Ages. Despite the fact that it causes acute poisoning in humans, cattle, goats and wild animals soon grow accustomed to it and can eat it without and adverse effects.

The Arboretum also contains several examples of the most massive tree in the world, the Giant Sequoia (*Sequoiadendron giganteum*). Its largest relative, known as the 'General Sherman', grows in California, USA, and reaches a height of 93 metres, with a ground-level trunk diameter of 11 metres and circumference of 31 metres. The volume of wood reaches an incredible 1,490 m³. Giant redwoods are amazingly resistant to disease. Unless blown over by wind, they are killed only by their own weight causing them to collapse. A single tree can weigh more than a hectare of normal trees. The individuals in our Arboretum are still very young, being sown at some point in the 1960s. Even now, though, they are of considerable size, and may live to be 3,000 years old.

One large group of wooded plants that you can't miss in the park are the cypresses (*Cupressaceae*), including relatively well-grown red cedars, colourful and grey cypresses and erect, shrub-like and low-lying junipers.

Another interesting exemplar in the park is the Siberian Cypress (*Microbiota decussata*), which also belongs to the cypress family, and is an evergreen, low-growing shrub with thick foliage, which reaches heights of 30-50 cm and widths of up to 1.5 metres. The cones of this shrub are amongst the smallest amongst conifers (6 mm long and 3 mm wide) and form at the end of short twigs, with the single, wingless, shiny, dark brown to black seed lying in the middle of an open cone. The plant was only discovered in a remote part of Siberia in the 1920s. It was first brought to the then Czechoslovakia – to this Arboretum – for the first time in 1963. The microbiota is exceptionally resistant to frost. In the autumn, falling temperatures change its colour from green to brown, although in the spring it turns green again.

The winter atmosphere is completed by the conifers with their rich yield of cones. Let's take a look at them. Small, brown, egg-shaped, cones, about 3 cm long, which mature in the same year of the trees' blossoming, can be seen on the Eastern Hemlock (*Tsuga canadensis*) and its relative, the Carolina Hemlock (*Tsuga caroliniana*), both of which originate in North America and whose wood is used in construction and as a source of fibre for the paper industry.

The Japanese Cedar (*Cryptomeria japonica*) is an important tree in Japan, popular in temple parks and gardens, and produces lovely, rounded cones, 1-3 cm in

size. The tallest cryptomeria in Europe reaches a height of 39.5 m and is located in France. The tallest Czech cryptomerias are 29 metres tall. In their native territory, they can grow to heights of up to 60 metres. Adult trees regularly produce blunt, tubular cones, which stand erect on branches. Initially green, they adorn trees from the start of the autumn onwards.

Some of the prettiest cones are, however, produced by the firs, whose cones do not hang from branches, but grow upwards, falling off as they grow older. In the park you will find several lovely specimens of the White Fir (*Abies concolor*), which originates in North America and has a thick, very regular crown and long, silvery, bluish-green needles. From the start of autumn it is decorated with blunt, broad, tubular cones, which stand erect on branches. The Noble Fir (*Abies procera*), also from the northwest of the USA, is a large tree, reaching a height of 40-80 metres. Typical of this fir is the needles, which have a crook in them, similar to hockey sticks, and cling close to the branch. The cones are very pretty and the largest of all fir cones, reaching a length of 15-25 cm and a breadth of 7-8 cm. Immature cones are green, later turning light brown.

The wonderful Korean Fir (*Abies koreana*) originates in the mountains of South Korea and was first brought to Europe in 1908. It was first planted in the then Czechoslovakia in 1934 in Průhonice near Prague. This tree is valued chiefly for its small size and regular branching. Its needles are white on the underside and stand in a brushlike arrangement on the branch. This fir is notable for its high annual yield of cones, which are created on trees as small as 1 metre in height. Another fir, just as pretty, is the Spanish Fir (*Abies pinsapo*), which is endemic to the south of Spain, occurring only sporadically in the Málaga area. This tree was first planted for the first time on the territory of the present-day Czech Republic in 1845 in Sychrov in the Liberec region. Cones are initially grey-green, changing to dark brown and up to 16 cm in length.



Scots Pine (*Pinus sylvestris*) 1



Blue Pine (*Pinus wallichiana*) 15



Swiss Pine (*Pinus cembra*) 4



Atlas Cedar (*Cedrus atlantica*) 17



Knobcone Pine (*Pinus attenuata*) 11



Japanese Umbrella Pine (*Sciadopitys verticillata*) 18



Common Chinafir (*Cunninghamia lanceolata*) 19



Giant Sequoia (*Sequoiadendron giganteum*) 21



Japanese Cedar (*Cryptomeria japonica*) 25



Korean Fir (*Abies koreana*) 27

Broadleaf evergreens

Together with the conifers, the park is completed by the broadleaf evergreens. These are generally shrubs, with only a small number of species growing to tree size in the Czech Republic. Next to the manor house you will find a relatively large specimen of the English Holly (*Ilex aquifolium*), whose range extends from the Caucasus via the Mediterranean to western Europe. It grows to a height of up to 10 m and can survive at elevations of up to 1,400 metres above sea-level. It is noted for its beautiful red, but highly poisonous, berries, which remain on the tree until winter.

The taller-growing broadleaf evergreens also include the Leatherleaf Viburnum (*Viburnum rhytidophyllum*) and the Prague Viburnum (*Viburnum × pragense*), which grow to a height of 2-4 metres, with a rounded crown and long, leathery leaves. The Prague viburnum, whose leaves are shorter and shinier, is a hybrid of the Leatherleaf Viburnum and Service Viburnum (*Viburnum utile*), and was bred in the 1950s in Průhonice near Prague. Both parents are native to China.

The crossing of the Sweet Viburnum (*V. carlesii*) and the Service Viburnum (*Viburnum utile*) in England in 1924 resulted in the Dawn Viburnum (*Viburnum × burkwoodii*), an evergreen or semi-deciduous shrub growing to up to 2 metres in height, which is cultivated primarily for its highly fragrant blossoms.

One relatively undemanding semi-evergreen, thorny wooded plant is the Scarlet Firethorn (*Pyracantha coccinea*), which originates in southern Europe and western Asia and grows, in its original form, to a height of around three metres. It is decorated primarily with its rich yield of pomes, which are of a glowing golden-orange to red colour. Fruits remain on the tree until winter. Apart from the fruits, another decorative element are the dark green, shiny, serrated (almost saw-like) leaves.

One wooded plant frequently found in the undergrowth in our park is the European Boxwood (*Buxus sempervirens*), a slow-growing shrub that is frequently used in the creation of low trimmed hedges and topiary. The park contains cultivars of various shapes and colours of leaves, habits and sizes. Apart from these, you will also frequently find specimens of the Cherry Laurel (*Prunus laurocerasus*), which are pretty, evergreen shrubs, which, depending on cultivar, grow either close to the ground or upright, and which are of interest due to their long, shiny, dark green leaves and dark-coloured fruits.

Some climbing plants, too, remain green in the winter. A typical example of these, frequently cultivated in the Czech Republic, is the Common Ivy (*Hedera helix*), which can be used to either cover land or to hold struc-

tures together. Although it does not grow particularly quickly, older individuals can create marvellous coverings. One interesting aspect of this plant is that it produces two types of leaf: those close to the surface the plant is attached to are lobed, and those above them, on fertile branches, are unlobed. The fruit are small, dark blue berries, which remain on the plant until spring, and, while poisonous to humans, are edible to birds. The ivy is a symbol of immortality, friendship and fidelity.

A further evergreen liana is the Henry's Honey-suckle (*Lonicera henryi*), which is native to China, grows to a height of up to 6 metres and is one of the twining lianas. In contrast to the ivy it requires a supporting structure within which it can entwine itself. It prefers warm climates, but the winter sun, so it is better to cultivate it in a semi-shaded or shaded location.

The western part of North America is home to the Oregon Grape (*Mahonia aquifolium*), a covering plant which has been cultivated in the parks and gardens, as well as the wild, of Europe since the 19th century. Its blossoms are gold in colour and produce dark blue, matte berries. The shiny, dark green leaves are used in flower-arranging.

The evergreen creeping shrubs also include, for example, the Wintercreeper Euonymus (*Euonymus fortunei*), which, when it has the opportunity, can climb several metres up a wall. Cultivars of the Bearberry Cotoneaster (*Cotoneaster dammerii*) are more or less ground-based creepers, as are a number of cultivars of the Willowleaf Cotoneaster (*Cotoneaster salicifolius*). The original species from which the ground-based cultivars were bred, originates in mountainous regions of Asia, grows to a height of 3-4 metres and has a spread-out crown.

Other attractive creeping shrubs are the Privet Honeysuckle (*Lonicera pileata*) and the Box Honeysuckle (*Lonicera nitida*), both of which are native to China and grow into spread-out shrubs up to one metre in height, with slightly stepped branches.

The Japanese Spurge (*Pachysandra terminalis*), which looks like a perennial plant, is an evergreen, ground-creeping semi-shrub, originally from Japan. It grows to a height of 10-20 cm and forms a lovely ground covering in the semi-shade or shade. It can be combined with, for example, the Smaller Periwinkle (*Vinca minor*) or with shade-loving perennials.

A large group of evergreen plants can be found in the heather (*Ericaceae*), which includes, for example, the medicinal Checkerberry (*Gaultheria procumbens*), a low-lying shrub similar to the cranberry, with shiny, elliptical, deep-green leaves. The fruit of the American winter-green are bright red, edible and remain on the plant un-

til the end of winter. North America is also home to the Mountain Laurel (*Kalmia latifolia*), a shrub, around a metre in height, which prefers more acidic soil and produces marvellous, whitish-pink blossoms towards the end of spring. The Arboretum contains several species in the *Pieris* family, originating in Asia and North America and also suitable for moorland. Nor can we forget the jewel in our Arboretum, the rhododendrons (*Rhododendron*). This group of evergreen shrubs is, however, at its best in the spring, when they bring the park to life with colour. Nonetheless we should mention their winter effect for the sake of completeness of the list of evergreens.



English Holly (*Ilex aquifolium*) 29



Cherry Laurel (*Prunus laurocerasus*) 33



Common Ivy (*Hedera helix*) 34

The exposed beauty of tree bark and twigs

The first aspect to catch your interest at first glance in grey-green forests is colour, of which there is little in winter, and it is therefore important to know which plants will help add a little colour to the dominant greys. While there are some remains of fruit on branches, these do not often last long; a more reliable source of colour are the colourful barks of deciduous and coniferous wooded plants.

The Japanese Pagoda Tree (*Sophora japonica*), for example, boasts a green bark which, although not obvious from a distance, is highly interesting when seen up close. This tree, which grows to a height of up to 20 metres, is native to China and Korea. Similar green branches can also be observed on the Trifoliolate Orange (*Poncirus trifoliata*), the only species from the citrus family that can be cultivated outside and all-year round in Czech climatic conditions. Bright yellow fruits, the size of ping-pong balls, remain on its green, spiky branches until the winter. Green branches are also a feature of the overhanging Winter Jasmine (*Jasminum nudiflorum*), which covers itself in golden flowers from early spring onwards.

To the right of the ticket desk before you enter the Arboretum, you will see a c. 1.5 m tall flowering Japanese Rose (*Kerria japonica* 'Plena'), which produces full, golden flowers between May and June. During the time when vegetation is resting it captivates us with its green shoots.

The birches are a group of wooded plants, which are unmissable due to their white bark. There are however, other species with dark, highly peelable bark, that are interesting not due to their colour, but their structure. The white-barked birches, which maintain the smoothness of their bark down to ground-level, include, for example Paper Birch (*Betula papyrifera*), Erman's Birch (*Betula ermanii*) and the Whitebarked Himalayan Birch (*Betula jacquemontii*).

Without doubt, though, the most colourful bark can be seen on some dogwoods (*Cornus*). The most common of these in the Czech Republic are the cultivars Common Dogwood (*Cornus sanguinea*) and Siberian Dogwood (*Cornus alba*). The Common Dogwood is native to the Czech Republic and grows at all levels, from the lowlands to the highlands. It reaches a height of 3-5 metres and is very undemanding, and is thus often used in the landscaping of motorway embankments and cuttings and for recultivation. The Siberian Dogwood is native to Siberia and in winter its bark is a deep, scarlet-red colour, and is for this reason probably the most frequently-used dogwood in gardening design. Several cultivars exist, with various kinds of leaf, which cannot,

however, be properly appreciated until the spring and summer. However, for example, the bark of the *Cornus alba* 'Kesselringii' cultivar is nearly black in colour. The Red Osier Dogwood (*Cornus stolonifera* 'Flaviramea'), with greenish-yellow branches, is frequently used for contrast with the Siberian dogwood. A big draw in the winter is the North American Honey Locust (*Gleditsia triacanthos*), the trunk of which is dotted with thorns that are a lovely sight in the winter.

Two important wooded plants, native to the Czech Republic, have a silvery grey bark that is more interesting in the spring, when it is in contrast to the light green foliage. These are the Common Beech (*Fagus sylvatica*) and the Common Hornbeam (*Carpinus betulus*), the bark of which has, moreover, an interesting stripe pattern. Staying with wooded plants that are native to the Czech Republic, we should also mention the Scots Pine (*Pinus sylvestris*), which, while already described at the start of the *Winter* chapter, is worthy of an additional mention for its lovely, orange-brown bark.

Another lovely sight is the shiny, mahogany-red bark of the Paperbark Cherry (*Prunus serrula*), a species originating in China that reaches a height of around 7 metres and frequently grows with multiple trunks. Its relative the Manchurian Cherry (*Prunus maackii*) is less striking; while its bark is shiny, it is of a more golden-brown colour.

Colourful bark that peels off in strips is a feature of a number of otherwise totally different wooded plants. Probably the most well-known of these is the bark of the London Plane (*Platanus x hispanica*). This species came into being through the crossing of the Oriental plane and the American plane and is frequently cultivated in the towns and countryside of Southern Europe. One does not even have to go far from the Arboretum to see specimens of this tree, as they are also present in the centre of Opava. The Persian Ironwood (*Parrotia persica*) originates in the Near East and in the autumn is notable for its beautiful, golden-red colouring and, when its leaves fall, it uncovers a smooth, peeling bark similar to that of the plane tree.

The relatively rarely cultivated Japanese Stewartia (*Stewartia pseudocamellia*) is originally from Japan. Its bark peels in a similar fashion to the two aforementioned species, but is more of an orange-brown colour.

One unmissable group of wooded plants, well-represented in our park, are the maples, some of which have unremarkable bark, while other display lovely patterns and colours. One of these is the Chinese *Acer griseum*. Known as the Paperbark Maple in English, its Latin name translates to grey maple, although the Ger-

man *Zimt-Ahorn* ('cinnamon maple') is probably more apt, capturing the colour of its bark, which peels in paper-like sections and has a noticeable cinnamon tinge. Several maples with stripy bark come from China, for example Grosser's Maple (*Acer grosseri*), David's Maple (*Acer davidii*) or the Laxiflorum Maple (*Acer laxiflorum*). Similar to these is the American Striped Maple (*Acer pensylvanicum*), with the most noticeable pattern on younger branches.



Whitebarked Himalayan Birch (*Betula jacquemontii*) 43



Siberian Dogwood (*Cornus alba*) 44



Honey Locust (*Gleditsia triacanthos*) 45



Paperbark Cherry (*Prunus serrula*) 48



Manchurian Cherry (*Prunus maackii*) 49



Persian Ironwood (*Parrotia persica*) 51



American Striped Maple (*Acer pensylvanicum*) 54

Greenhouse exhibition of tropical and subtropical plants



Greenhouse exhibition with cacti and succulents

This small exhibition of tropical and subtropical plants was opened in 2010 and aims to make at least part of the large collections contained in the Nový Dvůr Arboretum's greenhouses accessible to the public until construction of the planned exhibition greenhouse. The exhibition presents nearly 280 species of plant from 70 families. On a modest amount of floor-space, around 220 m², you can view peculiar geographic formations of plants from tropical rainforests, tropical semi-deciduous and deciduous forests from across America, Africa, Australia and Asia.

The varied species and structure of flora in the tropics and subtropics is represented by massive trees, woody lianas, shrubs, palms, tree ferns, bamboos and rich herbal undergrowth. Epiphytic (i.e. that grow on tree trunks) bromeliads, orchid and fern species represent a biologically and morphologically unique group of 'air plants', which grow on a self-supporting epiphytic root. The tough conditions prevalent in subtropical deserts and semi-deserts is the theme for a separate exhibition



Greenhouse exhibition with South American tropical flora

of dry-climate vegetation, with displays of cacti and succulents. Cacti and succulents make up around ¼ of all species represented (70 taxons).



Epiphytic trunk covered with bromeliads, orchids and ferns



Unique bluish-purple flowers of Brazilian Blue Ginger (Dichorisandra thyrsiflora)



Greenhouse exhibition with South American tropical flora



Colourful flower of Brazilian Calliandra (Calliandra tweediei), reminiscent of powdering brush



Bell-shaped flowers of African Bleeding Glory Bower (Clerodendrum thomsoniae)



Flower of South American Crane Flower (*Strelitzia reginae*), reminiscent of the head of an exotic bird



The wollemia, a 'living fossil' (*Wollemia nobilis*)



Fruit of Dwarf Pomegranate (*Punica granatum* 'Nana')



Flower of tropical shrub (*Brunfelsia latifolia*)



View of greenhouse exhibition. Tasmanian Tree Fern (*Dicksonia antarctica*) in foreground



Epiphytic trunk in greenhouse exhibition



The greenhouse exhibition of cacti and succulents is dominated by the massive *Trichocereus pasacana*



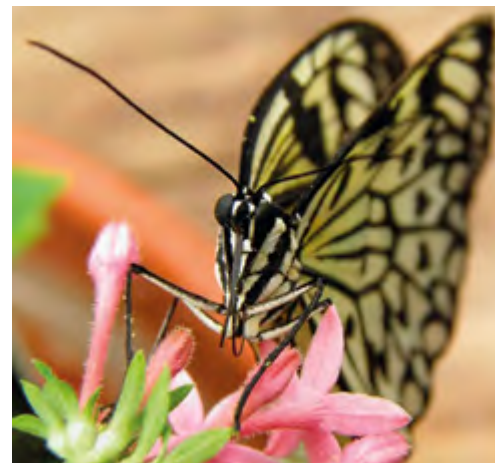
A month-long exhibition of live butterflies is held every year in the greenhouse



Giant Owl Butterfly (*Caligo memnon*)



Paper Kite Butterfly (*Idea leuconoe*)



Colourful Paper Kite Butterfly (*Idea leuconoe*)





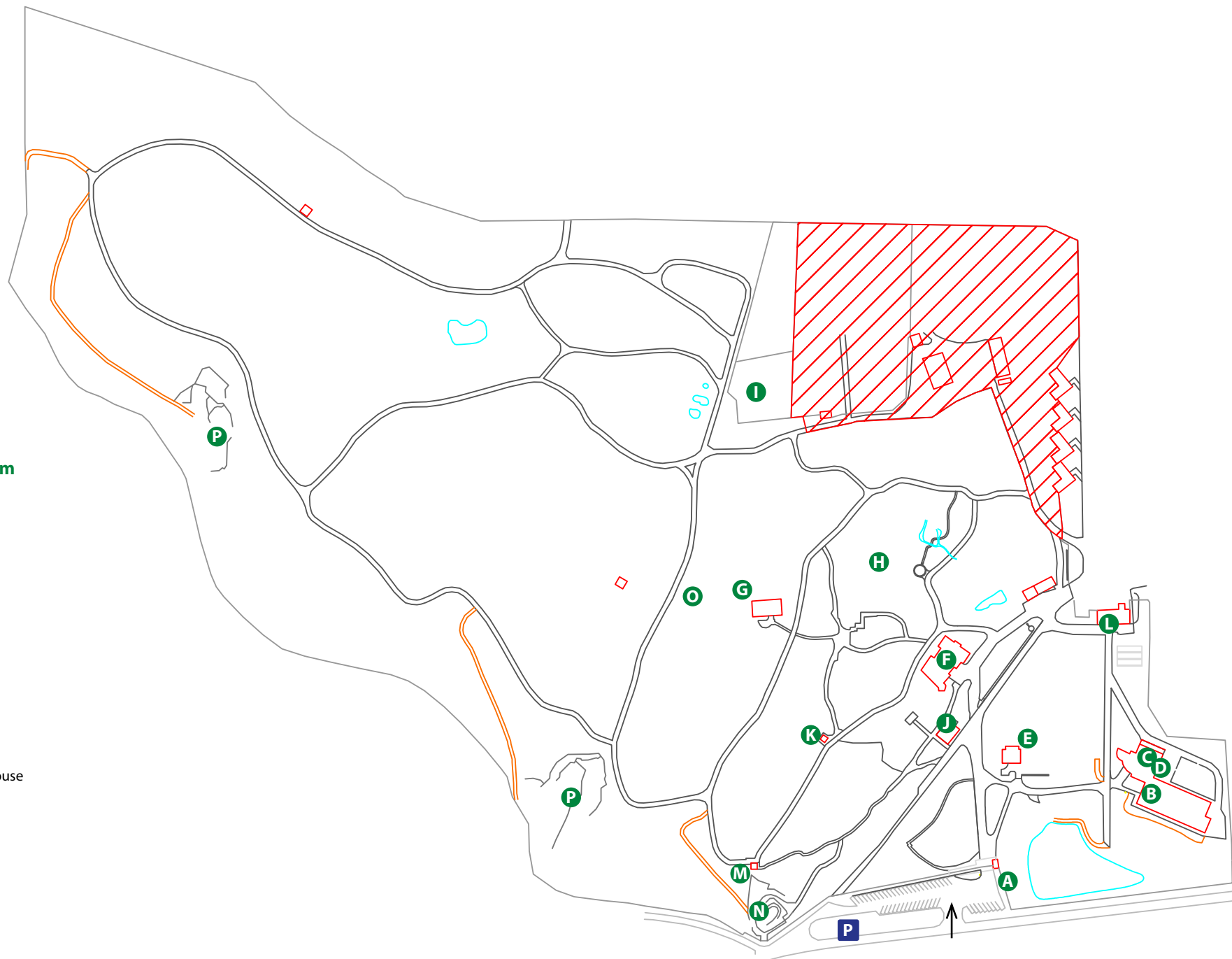
Paper Kite Butterfly (*Idea leuconoe*)



Tropical Atlas Moth (*Attacus atlas*), with largest wing area in the world

Map of the Arboretum

- A** –  cash desk
- B** – greenhouse
- C** – cafe, toilets 
- D** – exhibition spaces
- E** – toilet
- F** – manor house
- G** – display pavilion
- H** – wedding meadow
- I** – zoo corner
- J** – patio by the manor house
- K** – black summer-house
- L** – herbarium
- M** – cliff-top chalet
- N** – Alpine rockery
- O** – larch seating area
- P** – quarry



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Visit other permanent exhibitions and premises of the Silesian Museum



The Petr Bezruč Memorial
Opava



The Old Exhibition Building
Opava



The Second World War Memorial, Hrabyně



The Hlučín-Darkovičky Czechoslovak Fortification Complex



The Petr Bezruč Chalet
Ostravice

The Silesian Museum can be seen as a gate to Silesia, with a scope extending from both animate and inanimate aspects of nature via prehistory and history to art history, primarily on the territory of Czech Silesia, as well as north and northwest Moravia. The Silesian Museum is a contributory organisation of the Ministry of Culture of the Czech Republic. With a history stretching back to 1814, it is the oldest public museum on the territory of the current Czech Republic. The museum's 2,400,000 exhibits mean that it is, at the same time, the third biggest in the country.

The museum currently administers six buildings and premises: apart from the Old Exhibition Building in the centre of Opava, these are the Nový Dvůr Arboretum in Stěbořice, the Second World War Memorial in Hrabyně, the Petr Bezruč Memorial in Ostrožná street in Opava, the Hlučín-Darkovičky Czechoslovak Fortification Complex and the Petr Bezruč Chalet in Ostravice. The museum is

home to specialists from the fields of mineralogy, geology, palaeontology, botany, dendrology, entomology, zoology, museology, archaeology, ethnography, numismatics, history and art history, including the history of photography, music, literature and theatre, as well as military history, and restoration experts, museologists and librarians.

Every year the Silesian Museum organises around 30 exhibitions, with special attention being devoted to the history of and nature in Silesia and the Second World War. The museum is a research organisation involved in basic and applied research. The results of research are published in, amongst others, the peer-reviewed *Časopis Slezského zemského muzea* (Silesian Museum Journal), which is published in two editions – edition A for the natural sciences, and edition B for the historical sciences – and the *Slezský sborník* (Silesian Gazette), likewise peer-reviewed.

Guide

Guide to the Nový Dvůr Arboretum of the Silesian Museum

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Cíl 3/Cel 3
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