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HISTORIA NATURALIS

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HISTORIA NATURALIS

Botanical and zoological works of the 15th–18th centuries from the collections of the National Library of the Czech Republic.

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ABOUT HISTORIA NATURALIS

The *Historia Naturalis* exhibition presents a selection of botanical and zoological works from the 15th – 18th centuries, drawn from the collections of the National Library of the Czech Republic. It concludes in the year 1800, which marks the cutoff point for the holdings of the Manuscripts and Early Printed Books Department. The exhibits, previously belonging to the libraries of scholars, physicians, religious orders, aristocratic collectors or various secular institutions, reflect the evolving scholarly understanding of the natural world - from late medieval herbal and encyclopaedic compendia, through the development of empirical observation and scientific illustration, to the systematic classification of plants and animals in the early modern era.

However, this is by no means a complete list of scholars in each given field, or of every work pertaining to a specific topic, which would not even be possible given the ever-increasing production of printed books since the beginning of the 16th century.

Let us, then, immerse ourselves in a world that forms an integral part of our existence, even if we rarely perceive it. A world governed by its own rules and its own time. Let us pause for a moment to admire the extraordinary shapes of various flowers, the diversity of fungi and animals, and the breathtaking artistry of early block-cutters, engravers, and illustrators, who strove to capture the inimitable creations of nature.

PREVIOUS OWNERS

Scholarly publications formed an integral part of both private and institutional libraries. Their previous owners often included university professors, physicians, or teachers, among others. For example, Mikuláš Franchimont of Frankenfeld (1611–1684), a physician from Prague, marked his books with a simple signature, clearly visible near the top of the title page, as well as a second, less conspicuous ligature often inscribed directly into the title or bookplate so that it would be difficult to remove. We have so far identified 30 volumes from his library in our collections, most of which are focused on medicine.

Some of the works on display belonged to large aristocratic libraries, since wealthy patrons showing interest in each field often supported scientific research, and frequently provided financial backing for the publication of scholarly works or the education of selected students.

Many of the prints on display came from libraries of religious orders: primarily the Jesuits, but the Premonstratensians, Augustinians, and Trinitarians are also represented. The libraries of the Jesuits, who were promoters of education, had a particularly diverse range of content. After their order was dissolved in Bohemia in 1773, the Jesuit collections were transferred to the Klementinum, while books from other ecclesiastical libraries were acquired following the dissolution of their monasteries during the Josephine reforms.

In recent centuries, various institutions also appear among the owners, such as the Prussian medical institute Chirurgische Pépinière in Berlin, whose library was established in 1797. The institute for the training of military physicians was founded on August 2, 1795, by the military physician and surgeon Johann Friedrich Goercke (1750–1822), personal physician to Prussian King Frederick II the Great, and existed - with an interruption between 1919 and 1934 - until 1945.

Signature of Mikuláš Franchimont.
NK ČR, shelfmark 16 K 3, title page.

The supralibros of Ignác Karel, Count of Šternberk (c. 1640–1700).
NK ČR, shelfmark 16 H 68, front cover.

Stamps of the Chirurgische Pépinière medical institute from prints dated 1668 and 1739.
NK ČR, shelfmark 16 L 376 and 16 A 733, title page.

THE FATHERS OF BIOLOGY

Ancient Greece and Rome are traditionally considered the cradles of science. The Greek philosopher Socrates (469 BCE–399 BCE) viewed the entire world - both nature and society - as constantly changing and evolving, a perspective also adopted by his student Plato (427–347 BCE). Both sought to emphasise true knowledge, virtue, justice, and the common good, beneficial to both individual and community.

One of Plato's most famous students was Aristotle (384 BCE–322 BCE), also known as the "father of zoology", who viewed nature as an interconnected whole. He set out to describe individual species and their basic functions: origin, nutrition, growth, movement, reproduction, and death. His seminal text on animals, *Historia animalium (Tōn peri ta zōia historiōn in Greek)*, is the oldest surviving work of zoology.

Aristotle's friend Theophrastus (c. 372 BCE–c. 287 BCE) devoted himself to the study of the plant domain and is considered the "father of botany". He wrote two influential botanical works: *Historia plantarum (Peri phytōn historia)*, which classified plants into trees, shrubs, and herbs, and *De causis plantarum (Peri aitiōn phytikōn)*, which deals with the growth, cultivation and properties of plants.

The Roman philosopher and polymath Pliny the Elder (c. 23–79) is the author of one of the first natural history encyclopaedias, *Naturalis historia*, which is concerned not only with the natural world, but also the economic processes related to it. This frequently cited text, containing many of the earliest descriptions of plants and animals, presents a summary of ancient knowledge of that time, extending, due to Roman expansion, to descriptions of exotic regions.

NATURE IN PICTURES FROM THE 15TH – 18TH CENTURIES

From the earliest days of printing, illustrations were an important aspect of works on the natural sciences. They served not only a decorative purpose, but also depicted the appearance of plants and animals, facilitated their identification, and conveyed scientific knowledge.
The earliest printed herbals and zoological texts were illustrated with woodcuts, which could be printed alongside the text. The wooden blocks were reused, passed from one printer to another, and their motifs were often imitated in subsequent editions. Drawings with distinct lines became a hallmark of natural history book illustration for a long time. However, as the natural sciences advanced, so did the demands for accuracy in depiction. Renaissance herbals marked the peak of botanical woodcut illustration, with drawings based on living plants.

During the 16th century, copperplate engravings gained popularity alongside woodcuts, as they allowed finer line work and the depiction of minute details. Unlike woodcuts, they could not be printed alongside the text. Illustrations were therefore printed separately, either into spaces purposefully left in the typeset text, or as standalone visual supplements. This allowed them to be produced in a larger format with exceptionally fine detail. In addition to copperplate engraving, etching - a related printmaking technique allowing for freer drawing, particularly suited to scientific observations - was also widely used. The two techniques were also often combined.

FUCHS, Leonhart: De historia stirpium commentarii insignes… Basel, Michael Isengrin, 1542.
The illustration, "PICTORES OPERIS", depicts the painters Heinrich Füllmaurer and Albrecht Meyer at work. Their drawings were transferred onto wooden blocks for printing by Veyt.
NK ČR, shelfmark 16 A 8, p. [897].

BESLER, Basilius: Hortus Eystettensis. [location unknown, publisher unknown], 1613.
Copperplate engraving; roses from the gardens of the Willibaldsburg castle in Eichstätt blossoming in spring. From the Hortus Eystettensis album, whose zoological illustrations are some of the finest of the 18th century.
NK ČR, shelfmark 16 AA 1, fol. [110].

BUFFON, Georges-Louis Leclerc, comte de: Histoire naturelle. Paris, Imprimerie Royale, 1750.
Copperplate engraving depicting a donkey by Jacques de Sève and Jean Charles Baquoy, from Histoire naturelle. One of the most significant works of natural science from the 18th century.
NK ČR, shelfmark 65 C 9/T.4, pl. IX.

BOTANY

The natural science pursuing both a practical and theoretical understanding of the plant world is referred to as botany, previously including the study of fungi. The name is rooted in the Greek terms *botané* (= grass, pasture) and *botaniké techné* (= the art of cultivating plants, or knowledge of plants).

Likely the oldest botanist known by name is the Greek healer Asclepius (13th century BCE), later pronounced a god of medicine and healing.
The most notable among his followers are Theophrastus (c. 372 BCE–c. 287 BCE) and the healer Pedanius Dioscorides (1st century CE), the author of a herbal pharmacopoeia that has been in use in various translations for over 1,500 years.

In subsequent centuries, the works of ancient scholars were spread widely via copies. The first herbals - books about plants and their medicinal properties - were compiled in monasteries, and botany gradually became part of medical studies. The first illustrated printed herbarium was published in Rome around 1481/1482, and the first Czech printed herbarium was published in Nuremberg in 1517. The German physicians Otto Brunfels (c. 1488–1534), Hieronymus Bock (1498–1554), and Leonhart Fuchs (1501–1566), are considered the founders of modern botany, which takes into account species distribution in particular environments and specific locations.

The Czech physician and botanist Adam Zalužanský of Zalužany (1555–1613) also played a part in the emergence of "botany as a science"; he divided botany strictly from medicine, declaring them to be independent scientific disciplines.

In the 17th century, exotic plants became of heightened interest to both scholarly and lay communities thanks to overseas voyages. The subsequent Enlightenment era of the 18th century marked a veritable scientific "boom." Learned societies were founded, new discoveries were presented, and new methods were introduced.

Healer and botanist Pedanius Dioscorides (1st century CE).
NK ČR, shelfmark 5 C 37, p. [10].

ZALUŽANSKÝ of Zalužany, Adam: Methodi Herbariae, Libri Tres. Prague, Jiří Jakubův Dačický, 1592.
The earliest known owner of the print was a man named Joannes Georgius Ssyruczek, and in 1667 it was recorded in the inventory of the pharmacy at the Jesuit College of St. Clement.
NK ČR, shelfmark 49 B 25, title page.

ZOOLOGY

The name of this fundamental biological science, which is concerned with the study of living and extinct animals, comes from the Greek word *zōion* (= animal) and *logos* (= number). Insights from the ancient encyclopaedia *Historia animalium* by Aristotle, the "father of zoology," formed the basis for the practical study of animal anatomy by the Greek physician Galen (129–c. 216), and were used and built upon by science until the 16th century.

The Italian natural scientist Ulisse Aldrovandi (1522–c. 1605) was a leading figure in the gradual transition from early classical zoology - rooted in ancient texts and medieval bestiaries - to a modern scientific approach grounded in direct observation and experimental research.

Among the prominent authors of encyclopaedias, who sought to document the entirety of nature known at the time, was the Swiss physician Conrad Gesner (1516–1565), founder of modern zoology, and later the French naturalist Georges-Louis Leclerc, Comte de Buffon (1707–1788).

SCHALLER, Georg: Thierbuch. Frankfurt am Main, Hieronymus Feyerabend, printer Martin Lehrer, 1579.

The second edition of Georg Schaller's work written in verse belonged to the Danish humanist and astrologer Heinrich Rantzau (1526–1598) and his wife Christine von Halle (1533–1603). The book subsequently fell to Albrecht of Valdštejn as part of the spoils of war, and in 1629 at the latest it came into the possession of the Jesuit House of the Professed in the Lesser Town of Prague.

NK ČR, shelfmark 16 H 48, p. [15].

ALDROVANDI, Ulisse: Ornithologiae hoc est de avibus historiae libri XII. Bologna, Francesco de Franceschi, 1599.

Portrait of Ulisse Aldrovandi (1522–c. 1605) from his work on birds, belonging to the Jesuit College of St. Clement.

NK ČR, shelfmark 16 A 25/1, before p. 1.

FUNGI

The study of fungi and their uses is referred to as mycology (from the Greek mykés = mushroom). Up until the mid-20th century, they were classified with plants, only after which an independent kingdom of fungi (*Fungi*) was formed. There are about 10,000 known species in Europe and the Czech Republic.

Pliny the Elder had already classified fungi as either edible or harmful. Medieval accounts of fungi are mostly limited to recipes and sparse mentions in herbals. The German botanist and preacher Hieronymus Bock (1498–1554) held the view, common at the time, that mushrooms were the products of decay and formed during thunderstorms.

The first book devoted exclusively to fungi, *Theatrum fungorum* by the Flemish Dominican friar and botanist Johannes Franciscus van Sterbeeck (1630–1693), was published in 1675. However, the Italian botanist Pier Antonio Micheli (1679–1737) is considered the founder of mycology; in 1729, he discovered that fungi reproduce via spores.

STERBEECK, Johannes Franciscus van: Theatrum fungorum oft het tonneel der campernoelien waer. Antwerp, François Huyssens, 1712.

A mushroom market in the second edition of the first mycological monograph.

NK ČR, shelfmark 16 GG 7, frontispiece.

FUNGI

In his work on fungi found in the Rimini area, the Italian priest and natural scientist Giovanni Antonio Battarra (1714–1789) publicly challenged the hypothesis that fungi arise from rot and decay. Instead, he proposed the theory that they grow from seeds (i.e. spores) like other plants.

BATTARRA, Giovanni Antonio: Fungorum agri Ariminensis historia. Faenza, Ballanti, 1755.

On the title vignette, a lynx is uprooting a mushroom with its front paw, while an owl sits nearby next to some mushrooms that have already been picked. Above them is a motto written in Greek that reflects the attitude of the time: "Mykas theōroumen ou phagomen" = We study mushrooms, but we do not eat them.

The picture shows various species of honey mushrooms (Armillaria) and fungi that parasitize trees. In our country, the most widespread species is the spruce honey mushroom (Armillaria ostoyae), which primarily infects the roots of spruce trees.

This print belonged to the university professor, physician and mycologist Julius Vincenc von Krombholz (1782–1843), the author of the first major atlas of Czech mushrooms Naturgetreue Abbildungen und Beschreibungen der essbaren, schädlichen und verdächtigen Schwämme (Prague, 1831).

NK ČR, shelfmark 16 B 201, title page, tab. XI.

THEOPHRASTUS

De historia plantarum libri decem

Amsterdam, Hendrick Laurens, 1644

One of the earliest mentions of fungi comes from the "father of botany", Theophrastus (c. 372 – c. 287 BC), who regarded them as a kind of incomplete plant lacking certain organs. Among the fungi he describes are truffles, which he calls fruits of the earth, together with species growing on wood and edible mushrooms.

The book passed successively through the hands of three professors from Helmstedt. In 1648, four years after publication, it was signed by Johann Homborg (d. 1656), professor of physics and logic. He was followed, at some point between 1654 and 1674, by the physician Valentin Heinrich Vogler (1622–1674), professor at Helmstedt from 1654; and finally, in 1690, by Anton Werner Cuno (b. 1635), deputy head and later headmaster of the school in Magdeburg. All three names were, however, later struck through.

NK ČR, shelfmark 5 A 29, p. 28

STERBEECK, Johannes Franciscus van

Theatrum fungorum oft het tonneel der campernoelien waer

Antwerp, François Huyssens, 1712

Tufted fungi in the second edition of the first mycological monograph to deal with both edible and poisonous species. The Flemish Dominican and botanist Johannes Franciscus van Sterbeeck (1630–1693) also included the potato here, in the belief that it belonged among the fungi.

The only earlier owner known to us was a certain Mr Rosengard. By 1846 the book was already in the holdings of the Imperial and Royal University Library.

NK ČR, shelfmark 16 GG 7, fig. 25

SCHAEFFER, Jacob Christian

Ab Epistolarum commercio fungorum qui in Bavaria et Palatinatu circa Ratisbonam nascuntur icones nativis coloribus expressae

Regensburg, Heinrich Gottfried Zunkel, 1762

The four-volume encyclopaedia of the fungi growing around Regensburg, by the German Lutheran clergyman Jacob Christian Schaeffer (1718–1790), is an important record of European fungi in the eighteenth century. For some species the Bavarian vernacular name is given: our chanterelle (*Cantharellus cibarius*) appears here as the "fox" or the "roe deer".

The work belonged to František Josef Count Kinský (1739–1805), one of the founders of the Private Learned Society of Bohemia, who presented it in 1777, together with the rest of his personal library, to the Imperial and Royal University Library in the Clementinum.

NK ČR, shelfmark 16 CC 26/1–2, Tab. LXXXII

SOWERBY, James

Coloured figures of English fungi or mushrooms

London, Jonas Davis, 1799

This fundamental three-volume work on English fungi by the naturalist and celebrated illustrator James Sowerby (1757–1822) is valued today for its records of the exact places of collection. In the case of the excellent saffron milk cap (*Lactarius deliciosus*), here under the name *Agaricus deliciosus*, the artist even captured on the gills the stains left by the originally orange-red milk, which on exposure to air slowly turns green and then greyish.

NK ČR, shelfmark 16 CC 39/2, fig. 202

Gemeine Giftige Pflanzen, zum Unterricht des Landvolks, vorzüglich der Schuljugend Mit einem zweckmässigen Anhange

Prague, Jan Nepomuk Ferdinand Schönfeld, 1789

A historic handbook of poisonous plants and fungi intended for country people and above all for schoolchildren, with brief accounts of various cases of poisoning that had occurred in Bohemia. The caption "Wochomůrky" (*amanitas*) is perfectly correct for the death cap (*Amanita phalloides*), Europe's most poisonous fungus, and for the fly agaric (*Amanita muscaria*). But calling the blusher (*Amanita rubescens*) and the scaber stalks of the genus Leccinum "Prassywky" (*russulas*) would certainly not pass muster with Czech mushroom-pickers today.

The book was the property of the T. G. Masaryk Institute in Prague, founded by our first president on 23 July 1932.

NK ČR, shelfmark II 45877, between pp. 20–21

FRUIT

Pomology (from the Latin *pomum* = fruit) is concerned with the study and description of fruit varieties. Although the term was first coined in the year 1758 by the Dutch horticulturalist Johann Hermann Knoop (1700–1769), fruit cultivation had been done since ancient times, and depictions can be found in Medieval herbals.

In the 17th century, overseas voyages brought new species of exotic plants to the forefront of public interest. The Polish Jesuit Michał Piotr Boym (1612–1659) described the local flora and fruit on his missionary journeys through China.

The first pomological work in Austria dates to the late 18th century and is linked to the mandated and state-supported development of fruit cultivation, when it was necessary to pass key information between farmers.

BOYM, Michał: Flora Sinensis. Vienna, Matthäus Rickhes, 1656.

The hand-coloured woodcuts on the left depict the papaya (Carica papaya). Although it grows to a height of up to 10 metres and resembles a tree in appearance, botanically it is a herb, and its fruits are berries. On the right is the lychee (Litchi chinensis), an evergreen tree that grows up to 20 metres tall, reportedly living for over 200 years, and whose fruit is a drupe.

In 1679, the book was the property of the Jesuit House of the Professed in the Lesser Town of Prague.

NK ČR, shelfmark 16 A 41, figs A, D.

FRUIT

The Italian Jesuit and botanist Giovanni Battista Ferrari (1584–1655) wrote the first work devoted exclusively to lemons, limes, oranges and pomegranates. Among other things, he recommended them as a remedy for scurvy. Based on sketches by the Italian painter Vincenzo Leonardi (c. 1590–c. 1646), the Dutch engraver Cornelis Abrahamsz Bloemaert (c. 1603–1692) created 80 of more than 100 highly realistic copperplate engravings.

FERRARI, Giovanni Battista: Hesperides sive De malorum aureorum cultura et usu Libri Quatuor. Rome, Hermann Scheus, printer Vitale Mascardi, 1646.

The illustration depicts a citrus (Citrus), an evergreen, heat-loving plant sometimes mistakenly called a lemon tree.

The first owner of the book was probably Ignác Karel, Count of Šternberk (c. 1640–1700), whose library eventually became, for the most part, part of the Imperial and Royal University Library in Prague at the end of the 18th century.

NK ČR, shelfmark 16 A 34, p. 189, 197.

KNOOP, Johann Hermann

Pomologia, das ist Beschreibungen und Abbildungen der besten Sorten der Aepfel und Birnen, welche in Holland, Deutschland, Franckreich, Engeland und anderwärts in Achtung stehen

Nuremberg, Johann Michael Seligmann, 1760

The German translation of the first book of the triptych that forms the fundamental pomological work of the Dutch gardener of German origin Johann Hermann Knoop (1700–1769).
It contains almost all the European varieties of apple and pear known in the second half of the eighteenth century.

NK ČR, shelfmark 16 AA 22, apples, Tab. X

KRAFT, Johann

Abhandlung von den Obstbäumen

Vienna, Rudolph Graeffer, 1792

The first Austrian pomology, also known as *Pomona Austriaca*, was the work of the botanist Johann Kraft (1738–1808). The hand-coloured engraving shows, above, the *"large white and red heart cherry"*, evidently the firm-fleshed bigarreau variety Büttner's Red, and below it the *"large black glossy heart cherry"*, known as the Great Black Bigarreau, a traditional German variety.

NK ČR, shelfmark 16 BB 36/1, Tab. 3

SHRUBS AND TREES

The study of trees, shrubs and subshrubs, including woody vines such as trumpet vines or wisteria, is termed dendrology (from the Greek *dendron* = tree). Research in this area focuses primarily on the characteristics of individual species, their morphology, taxonomy, distribution and role in the ecosystem.

Though the name of this scientific field dates back to the year 1763, also coined by the Dutch horticulturalist Johann Hermann Knoop, its roots can be traced back to Theophrastus, the "father of botany". Just as with plants, trees had appeared in botanical works since ancient times, and it was not until the second half of the 18th century that the field gradually began to emerge as a specialized discipline. Until the mid-19th century, dendrology was also closely linked to pomology.

ČERNÝ, Jan: Knieha lekarska kteraz slowe herbarz. Nuremberg, Mikuláš Klaudyán, printer Hieronymus Höltzel, 1517.

In the oldest Czech herbarium, the oak tree is aptly described as a "large forest tree". There are about 7 or 8 native species of oak growing in the Czech Republic, from which the sessile oak (Quercus petraea, syn. Q. sessilis) and the European oak (Quercus robur) are best known.

The book, belonging to the Jesuit college in Jindřichův Hradec, was acquired thanks to a financial donation from its founder, Adam II of Hradec (1549–1596).

NK ČR, shelfmark 54 A 62, fol. XXVIIIIr.

PALLAS, Peter Simon

Flora Rossica seu Stirpium Imperii Rossici per Europam et Asiam indigenarum descriptiones et icones

St Petersburg, Johann Jakob Weitbrecht, 1784

The first atlas of the plants of Russia is the work of the German botanist Peter Simon Pallas (1741–1811), who wrote it at the wish of the Empress Catherine II the Great (1729–1796). The minutely worked hand-coloured engravings of the parts of the plants are by the German natural-history painter Karl Friedrich Knappe (1745–1808), later teacher of the painting of vertebrates and birds at the Academy of Arts in St Petersburg.

The high-mountain Swiss stone pine (*Pinus cembra*) lives for 400 and reputedly as much as a thousand years, reaches a height of 18–35 metres and withstands temperatures as low as –60 °C.

The book is a gift of the Russian Empress Catherine II, who never in fact visited Bohemia, so that it was presented on her behalf by the St Petersburg Academy of Sciences. We do not yet know exactly for whom it was intended — the Clementinum library, or some particular individual.

NK ČR, shelfmark 16 AA 36, fig. II

SCHMIDT, Franz

Österreichs Allgemeine Baumzucht

Vienna, Ignaz Alberti, 1792

The Austrian dendrologist and gardener of Bohemian descent Franz Schmidt (1751–1834) was the author of this four-volume work describing the trees and shrubs growing in Austria. Throughout, the text is accompanied by hand-coloured engravings taken from living material in Schmidt's arboretum (dendrological garden) on the grounds of the Theresianum in Vienna.

The horse chestnut (*Aesculus hippocastanum*) owes its Czech and English names to the shape of the scar left by the fallen leaf, which resembles a shod horse's hoof — but beware, it is poisonous to horses, just as its internal use is not recommended for humans.

NK ČR, shelfmark 16 A 202, Tab. 38

PLANTS

The study of the plant world is referred to as botany. The first herbals were created primarily to preserve and pass on information about the medicinal properties of plants; however, interest gradually expanded to include other, less useful species, as well as their aesthetic uses in gardens and parks. A typical representative of this movement was the French botanist Charles de L'Écluse (Carolus Clusius, 1526–1609), founder of the famous Dutch school of tulip cultivation.

L'ÉCLUSE, Charles de: Rariorum aliquot stirpium per Hispanias observatarum Historia. Antwerp, Christophe Plantin, 1576.

An illustration of tulips (Tulipa) in one of the oldest treatises on Spanish flora by the French botanist Charles de L'Écluse (1526–1609). The Catholic priest Samuel Václav Hataš (c. 1629–1685) bequeathed the book to the Archbishop's Seminary in Prague. In the year 1775, after the dissolution of the Jesuit order, the Archbishop's Seminary moved from Králův dvůr (today's Municipal House) to the Klementinum, where it remained until 1929.

NK ČR, shelfmark 16 J 6, p. 511, title page.

PLANTS

The first Czech printed herbarium by Jan Černý (c. 1460–c. 1530), physician and priest of the Unity of Brethren, contains not only descriptions of plants, but also their Czech, Latin, and German names. The translations of the names from Czech and the introduction to the herbarium were provided by the publisher, physician and author of a famous map of the Bohemia, Mikuláš Klaudyán († c. 1521).

ČERNÝ, Jan: Knieha lekarska kteraz slowe herbarz. Nuremberg, Mikuláš Klaudyán, printer Hieronymus Höltzel, 1517.

The images show, from the left: the common hawthorn (Crataegus laevigata), a deciduous tree or shrub with white flowers and a pungent scent; below it "thunder spice", an old Czech name for garden asparagus (Asparagus officinalis); and on the right, raisins—the berries of the grapevine (Vitis vinifera)—and what appears to be the weed silverweed (Potentilla anserina), also known in Czech as "goose foot."

The book belonged to the Jesuit college in Jindřichův Hradec and was purchased thanks to a financial donation from its founder, Adam II of Hradec (1549–1596), the High Burgrave of Prague Castle and High Chancellor to Holy Roman Emperor Rudolf II.

NK ČR, shelfmark 54 A 62, fol. XLIv–XLIIr, title page.

CUBA, Johannes von
Gart der Gesundheit
Mainz, Peter Schöffer, 1485

The first edition of the German herbal *Gart der Gesundheit* (*Garden of Health*), compiled by the Frankfurt town physician Johann Wonnecke von Kaub and accompanied by some 380 illustrations.

On the left, a woodcut coloured in green, yellow and grey depicting common columbine, with the Latin and German caption "Egilops vel egilopa ackeley" (*Aquilegia vulgaris*). The block-cutter has captured with real botanical success both the closed flower and, in two views, the open flower of the columbine, with its characteristic pointed spurs.

NK ČR, shelfmark 44 F 92, fol. [s5v]

CUBA, Johannes von
Gart der Gesundheit
Augsburg, Johann Schönsperger, 1486

On the right, a woodcut depicting chicory, with the German caption "wegwarten" (*Cichorium intybus*). The whole edition was coloured in a uniform manner in the workshop of the Augsburg printer Schönsperger himself, who issued this popular herbal eight times before 1500 alone.

The first owner of this copy was Ulrich Seydemann, a native of Cheb (Eger), who served first as parish priest in Aš (Asch) and spent the greater part of his clerical career in neighbouring Selb (d. after 1515).

NK ČR, shelfmark 41 D 23, fol. h6r

Herbarius Latinus

Passau, [Johann Petri], 1486

This anonymous Latin herbal, first printed at Mainz in 1484 and covering some 150 plants, was issued over the following two years in several editions by the Passau printer Johann Petri. The woodcut, coloured in yellow and green, depicts German chamomile, with the Latin and German caption "Camomilla Camillen" (*Chamomilla recutita*).

This copy of the Passau herbal was bought soon after printing by Adam Chemneter (d. 1506), canon of Olomouc and at the same time provost of Brno. Its last private owners, by contrast, were the celebrated violinist Jan Kubelík (1880–1940) and his Hungarian wife Marianne.

NK ČR, shelfmark 41 G 77, fol. [e5r]

RYFF, Walther Hermann

Lustgarten der Gesundtheit

Frankfurt, Christian Egenolff, [1546]

An exceptional herbal in the literal sense of the word, with numerous pressed plants pasted onto the corresponding printed figures and a great many manuscript notes. On the left, agrimony (*Agrimonia eupatoria*), said to give protection against witches; on the right, the liverleaf (Hepatica nobilis Schreb.), which bears its violet flowers early in the spring.

In 1664 the book was owned by Benedikt Maurus Schnätter, and in 1680 the provost Konrád Fischer (1631–1701) recorded it as the property of the library of the house of Augustinian Canons at Borovany.

NK ČR, shelfmark 17 A 75, fol. CLXXXVIIv–CLXXXVIIIr

MATTIOLI'S HERBARIUM

In 1544, the Italian physician and botanist Pietro Andrea Gregorio Mattioli (1501–1577) translated into Italian an influential work on medicinal substances, written by the Greek healer and botanist Pedianus Dioscorides. This pharmacopoeia, titled *Peri hulēs iatrikēs (De materia medica)*, contained the descriptions and medicinal uses of almost 600 plants, as well as both animal-based and inorganic products. Alongside his translation, Mattioli included descriptions of some new plants and his own commentary reflecting contemporary medical insights. In 1554, he completed the second, Latin edition of his translation of Dioscorides' work *Commentarii, in libros sex Pedacii Dioscoridis Anazarbei De medica materia*, likewise with updates and additional plants. This already bore the name 'herbarium'. In 1562 in Prague, a Czech translation by the physician and mathematician Tadeáš Hájek of Hájek (1525–1600) was published under the title *Herbarium, otherwise known as "Bylinář"*. Hájek edited the text, providing Czech names for all the herbs, and *Herbarium* became one of the earliest works of Czech botanical terminology. The enduring popularity of this timeless work is evidenced, for example, by the most recent Czech reprint in 2024.

MATTIOLI, Pietro Andrea

Commentarii in sex libros Pedacii Dioscoridis Anazarbei de Medica materia

Venice, Vincenzo Valgrisi, 1565

This sixth edition of the Latin commentary on Dioscorides is remarkable for the grey-blue colour of its paper. It is a so-called *bibliochrome*, that is, a publication printed on tinted paper. The iris shown here, a typical member of the iris family, appears under the older name *Iris domestica*.

The copy comes from the library of the Jesuit college at Jindřichův Hradec (Neuhaus), founded in 1594, and was acquired through the generosity of the college's founder, Adam II of Hradec (1549–1596).

NK ČR, shelfmark 48 A 1, p. 16

MILESTONES IN UNDERSTANDING NATURE

Scientific research was profoundly influenced by the use of the microscope, which became widespread in Europe around the year 1620. One of the first botanists to examine the structure of plant tissues under a microscope was the Italian physician Marcello Malpighi (1628–1694), and the Dutch amateur natural scientist Antoni van Leeuwenhoek (1632–1723) was an important pioneer of microscopy. The English scientist Robert Hooke (1635–1703) was among the first to use a compound microscope, and in 1665 he introduced the term "cell."

A second key development was the introduction of Latin binomial nomenclature. Carl Linnaeus (1707–1778), the Swedish naturalist and physician, is famously considered the "father of taxonomy". His work titled *Species plantarum* (Stockholm, 1753) is generally regarded as the origin of botanical nomenclature. The tenth edition of *Systema Naturae* (Stockholm, 1758), which applied the binomial naming system across the animal kingdom, marked the beginning of zoological nomenclature.

Johann Franz Griendel von Ach (1631–1687).
NK ČR, shelfmark H II 4, preceding title page.

LINNAEUS, Carl von: Philosophia botanica in qua explicantur fundamenta botanica. Berlin, Christian Friedrich Himburg, 1780.

Carl Linnaeus (1707–1778) in a textbook on systematic botany. The 1780 second edition, revised and "improved for the benefit of botanists".

NK ČR, shelfmark 16 H 79, frontispiece.

BUONANNI, Filippo

Observationes circa viventia, quae in rebus non viventibus reperiuntur

Rome, Domenico Antonio Ercole, 1691

The Italian scholar Filippo Buonanni (1638–1725) took this depiction of a flea from the *Micrographia* of his predecessor Robert Hooke (1635–1703). The common or human flea (*Pulex irritans*) transmits a variety of diseases and seems to have transferred its attentions to humans during the domestication of the dog. The largest collection of fleas in the world today contains more than 1,600 species; it was founded by the banker Nathaniel Charles Rothschild (1877–1923).

At the end of 1695 the book belonged to Karel Valentin Kirchmaier of Raichwitz, doctor of philosophy and medicine and grandson of the Prague burgomaster Jan Kirchmajer (d. 1622). He bought it on 15 December *"from the Hebrews"* (that is, from Jews) for 1 florin 30 kreutzers.

NK ČR, shelfmark 16 H 23, part 2, fig. 56

BUONANNI, Filippo

Observationes circa viventia, quae in rebus non viventibus reperiuntur

Rome, Domenico Antonio Ercole, 1691

Buonanni's improved microscope, mounted horizontally, with a spring clip for specimens and illumination of the object from below (from behind).

NK ČR, shelfmark 16 H 23, part 2, between pp. 28–29

GRIENDEL von ACH, Johann Franz

Micrographia nova

Nuremberg, Johann Zieger, 1687

The drawing by the Austrian imperial engineer Johann Franz Griendel von Ach (1631–1687) most probably shows the very common black garden ant (*Lasius niger*), said to be magnified one hundred times. Its favourite food is the secretions of aphids, which it "farms" for the purpose.

The copy comes from the Lobkowicz library in Prague.

NK ČR, shelfmark 65 D 180, between pp. 10–11

GRIENDEL von ACH, Johann Franz

Micrographia nova

Nuremberg, Johann Zieger, 1687

Griendel's vertical microscope consisted of three groups of lenses, each pair set with their convex sides facing one another.

NK ČR, shelfmark 65 D 180, between pp. 6–7

LINNAEUS, Carl von

Systema naturae

Vienna, Johann Thomas von Trattner, 1767

The thirteenth edition of this handbook of zoological nomenclature. One of its most intelligible examples – mammals, primates, man (*Homo sapiens*). The Latin motto *"Nosce te ipsum"* exhorts us: Know thyself. On the facing page the representatives of the human race are described according to the continents they inhabit.

NK ČR, shelfmark 16 H 81/1, pp. 28–29

BEES

The most commonly observed species of insect were bees, used for the production of honey and wax. Alongside traditional honey harvesting (in which honey is gathered from wild bee colonies), domestic and agricultural beekeeping also developed. The first methods for keeping hives were formulated by ancient scholars in their works on natural history and agriculture. Medieval methods of caring for bee colonies were summarized in the encyclopaedia by the Italian lawyer Pietro de' Crescenzi (c. 1230–c. 1320). The miraculous properties of bee products were discussed in herbarls and medical treatises.

The economic crisis following the Thirty Years' War caused a severe decline in beekeeping, which was eventually overcome thanks to technical inventions, scientific discoveries and academic literature. Microscopic examinations led to the discovery of female and male reproductive organs and refuted the theory of spontaneous generation of bees from the decaying bodies of animals. A generation of writers and researchers, who were able to take advantage of the favourable conditions created by reforms during the Enlightenment, were instrumental to the practical application of these biological discoveries.

RÉAUMUR, René Antoine Ferchault. Physicalisch-oeconomische Geschichte der Bienen. Frankfurt am Main and Leipzig: the heirs of Adam Jonathan Felssecker, 1759.

The fifth volume of Mémoires pour servir à l'histoire des insectess (Paris, 1740), written by the French physicist and zoologist René Antoine de Réaumur, was translated by the German natural scientist Carl Christoph Oelhafen von Schöllenbach (1709–1785). The diagram accompanying it depicts the development of bee larvae in wax cells, from the egg through the larval and pupal stages to the adult.

The book comes from the Prague Lobkowicz library.

NK ČR, shelfmark 65 D 126, Tab. XVI.

JACOB, Nikolaus

Die Rechte Bienen-Kunst

Leipzig, Henning Grosse, 1614

This richly illustrated posthumous edition of *Gründlicher und nützlicher Unterricht von Wartung der Bienen* (Görlitz, 1568) by Nikolaus Jacob (1505–1576) was prepared by the Lutheran clergyman Caspar Höffler (1568–1639). The capture of natural swarms using nets or linen bags was for centuries the only method of increasing the number of colonies.

NK ČR, shelfmark 17 J 76, p. 185

JANŠA, Anton

Podstatná Včenj, a Zpráwa O Chowánj Wčel

Prague, Jan Josef Gröbel, 1777

This Czech translation of the German-language textbook by the Slovene painter Anton Janša (1734–1773), teacher at the first state school of apiculture in Vienna, was prepared by Jan Trutnovský (1725–1788), prefect of the grammar school in the Lesser Town of Prague. The plates illustrate the construction of a swarm-catching bag, a straw skep and a plank hive.

The book belonged to the economist, director of the Živnostenská Bank and bibliophile Jaroslav Preiss (1870–1946).

NK ČR, shelfmark I 68809, Tab. III

JANIŠ, Josef Antonín

Aučinliwé sprawowánj Wčel pro obecného Kragana w Králowstwj Českém

Prague, František Jeřábek, 1789

The pioneer of so-called rational beekeeping in the Czech lands was the Catholic parish priest Josef Antonín Janiš (1749–1821), who devised an inexpensive system of managing colonies in log hives divided into compartments and described the discovery of parthenogenesis in bees. The title page of his beekeeping manual shows a farmstead with its apiary.

The inscription on the frontispiece, *"Localiae Duschoviensis Nro 84"*, refers to a library as yet unidentified.

NK ČR, shelfmark 54 G 11059, title page

HUBER, François

Neue Beobachtungen über die Bienen

Dresden, Waltherische Hofbuchhandlung, 1793

This translation of the ground-breaking *Nouvelles observations sur les abeilles* (Geneva, 1792) by the Swiss entomologist François Huber (1750–1831), enlarged with illustrations and supplements, was prepared by the German agriculturalist Johann Riem (1730–1807).
The magnified views of the head, thorax, proboscis, tongue and antennae helped to elucidate the mechanisms essential to the survival of the individual bee and of the whole colony.

NK ČR, shelfmark 17 D 76, Tab. I

INSECTS

Entomology derives its name from Aristotle's classification system, where the group *entoma* referred to bloodless, segmented animals.

The beginnings of modern entomology are linked to the Italian physician Ulisse Aldrovandi (1522–c. 1605), the author of the first purely entomological work, *De animalibus insectis* (Bologna, 1602). The ever-present insect became the primary subject of biological research and a source of scientific theories. The combination of scholarly interest, artistic talent, and a passion for collecting culminated in extremely precise entomological illustrations.

The Swedish natural scientist Carl Linnaeus established a new class named *Insecta*, divided into seven orders based on their shape and number of wings. Entomology developed into a systematic and descriptive discipline, focused on naming species, observing external characteristics, specimen preparation, and visual documentation.

ALDROVANDI, Ulisse: De animalibus insectis libri septem. Bologna, Giovanni Battista Bellagamba, 1602.

Slugs (Limax) used to be classified among the broadly defined group of insects, though they belong to the class of gastropods in the phylum Mollusca.

The book belonged to the Jesuit College of St. Clement in Prague.

NK ČR, shelfmark 16 A 24, p. 703.

GOEDAERT, Johannes: De insectis. London, Samuel Smith, 1685.

The Dutch painter Johannes Goedaert (1620–1668) described the developmental phases of insects in his seminal work, Metamorphosis naturalis (Middelburg, 1662–1669); its later Latin edition was edited by the British physician Martin Lister (c. 1639–1712).

NK ČR, shelfmark 16 F 33, between p. 22–23.

INSECTS

In the years 1734–1742, the French entomologist and inventor of an alternative temperature scale René-Antoine Ferchault de Réaumur (1683–1757) published a six-volume treatise on the morphology, ecology and physiology of insects.

RÉAUMUR, René Antoine Ferchault, seigneur de: Mémoires pour servir à l'histoire des insectes. Paris, Imprimerie Royale, 1742.

This study of various species of dragonflies (Odonata) depicts the delicate structure of their wings with their dense network of veins. Dragonflies are among the fastest fliers in the insect world. The study also includes a close-up of the head with its distinctive eyes.

The books bear the ownership stamps of the German natural science society Lotos.

NK ČR, shelfmark 74 B 45/6, Pl. 35.

HOLLAR, Wenceslaus

Muscarum Scarabeorum vermiumque variae Figurae & Formae

Antwerp, Schenk, 1646

This celebrated series of insect etchings by the Bohemian engraver and draughtsman Wenceslaus Hollar (1607–1677), who spent his career abroad, records butterflies, a bush-cricket and a locust from the collections of the English traveller and diplomat Thomas Howard, Earl of Arundel (1585–1646).

The copy comes from the Lobkowicz library in Prague.

NK ČR, shelfmark 65 F 1836, fig. [1]

Blumen und Insecten-Buch

Nuremberg, Christian Siegmund Froberg, [1713]

This anonymous "scientific colouring book" contained sixty-five full-page engravings in the manner of the German painter Maria Sibylla Merian (1647–1717). The meticulous rendering of brilliant yellow daffodils (*Narcissus*) is enlivened by the fascinating transformation of an unidentified butterfly from caterpillar through chrysalis to adult.

NK ČR, shelfmark Sb 350, fig. 5

ALBIN, Eleazar

Insectorum Angliae Naturalis Historia

London, William Innys, 1731

This Latin edition of *A Natural History of English Insects* (London, 1720) by the German-born painter Eleazar Albin (active 1713–1759) captures the dazzling metamorphosis of the large white (*Pieris brassicae*) among the leaves and stems of the garden nasturtium (*Tropaeolum majus*). The plate was dedicated to the Princess of Wales (1683–1737), later Queen Caroline of Ansbach.

NK ČR, shelfmark 16 CC 5, Tab. I

RÖSEL von ROSENHOF, August Johann

Der monatlich-herausgegebenen Insecten-Belustigung

Nuremberg, Johann Joseph Fleischmann, 1749

This four-volume monthly miscellany by the German painter and miniaturist August Johann Rösel von Rosenhof (1705–1759) includes a masterly depiction of the male and female of Europe's largest beetle, the stag beetle (*Lucanus cervus*), from various angles and in natural attitudes, including flight.

NK ČR, shelfmark 16 FF 2/2, Tab. V

BARBUT, James

Les Genres des Insectes de Linné / The genera insectorum of Linnaeus

London, James Dixwell, 1781

This bilingual publication by the British clerk and painter James Barbut (c. 1711–1791) rendered the complex definitions of Linnaeus's originally unillustrated system of classification in a more accessible form. Cockroaches (*Blattodea*), mantises (*Mantodea*), mole crickets (*Gryllotalpidae*), crickets (*Gryllidae*), groundhoppers (*Tetrigidae*) and bush-crickets (*Ensifera*) were all classed among the Hemiptera, from which they were later separated into orders of their own or transferred to the Orthoptera.

NK ČR, shelfmark 16 CC 11, Pl. 8

AMPHIBIANS AND REPTILES

The scientific field investigating reptiles (turtles, crocodiles, lizards, snakes) and amphibians is referred to as herpetology (from the Greek *herpeton* = reptile). In the Czech Republic, there are about 8 species of turtles, 5 reptile species, several lizard species, and 21 species of amphibians (the fire salamander, 7 newt species, and 13 frog species) living in the wild. Every one of these animals is either highly or critically endangered and is subject to some level of protection.

Probably the oldest anatomical description of frogs comes from Aristotle, who, however, classified them among blood-bearing animals, such as vertebrates. Snakes were generally perceived in a negative light during the Middle Ages, due to their role in the biblical Garden of Eden.

The author of what is most likely the earliest printed work of herpetology, from the year 1589, is the Italian physician Baldo Angelo Abati (active in the 16th century). In 1683, the German physician Johann Paul Wurfbain (1655–1711) wrote the first scientific monograph on the biology of the fire salamander.

WURFBAIN, Johann Paul: Salamandrologia, that is, a Historical, Philological, Philosophical and Medical Description of the Salamander. Nuremberg: published by Georg Scheurer, printed by Johann Michael Spörlin, 1683.

Anatomical illustration of the fire salamander (Salamandra salamandra), which is found in damp environments, ideally deciduous or mixed forests, cannot tolerate direct sunlight, and requires clean, slow-flowing streams or springs to reproduce.

The book belonged to the library of Ignác Karel, Count of Šternberk (1640–1700), as part of the medical literature section.

NK ČR, shelfmark 16 H 68, tab. III.

AMPHIBIANS AND REPTILES

Count Bernard-Germain-Étienne de Lacépède (1756–1825) continued working on the monumental encyclopaedia of nature written by the renowned natural scientist, Georges-Louis Leclerc, Comte de Buffon (1707–1788).

LACÉPÈDE, Bernard-Germain-Étienne de: Histoire naturelle des quadrupèdes ovipares et des serpens. Paris, Hôtel de Thou, 1788.

Being pictured in their natural habitat, the reptiles sparked the reader's imagination. At the top is the critically endangered geometric tortoise (Psammobates geometricus), which inhabits exclusively a small region of South Africa. Below it is the European pond turtle (Emys orbicularis), the only turtle native to Central Europe, though also a critically endangered species in the Czech Republic.

The older of the two known former owners of this print was a certain Ernst Pringsheim, although it is impossible, without further information, to determine whether this refers to the German physicist E. Pringsheim (1859–1917), or his son of the same name, the natural scientist E. Pringsheim (1881–1970). The book was subsequently acquired by the Orthodox priest Antonín Hanousek (1906–1968), a journalist, occultist and hermeticist.

NK ČR, shelfmark Se 5135/1, Pl. III.

ABATI, Baldo Angelo

De admirabili viperae natura, et de mirificis eiusdem facultatibus liber

Nuremberg, Sebastianus Heusler, 1603

The third edition of what is probably the first scientific work of herpetology, containing also the first pictorial record of the anatomy of the viper (*Vipera*). Venomous, live-bearing vipers occur only in Europe, Africa and Asia, which is why they are sometimes called snakes of the *"Old World"*. The illustration also shows ecdysis, or sloughing, which occurs when the old skin has lost its elasticity and the snake needs to grow further, or when the skin is damaged. The slough usually comes away in a single piece, turned inside out.

The copy belonged to the Jesuit College of St Clement.

NK ČR, shelfmark 16 H 29, p. 56

ALDROVANDI, Ulisse

Serpentum, et draconu[m] historiae libri duo

Bologna, Marco Antonio Bernia, printed by Clemente Ferroni, 1640

In this work, published after the death of the Italian physician and botanist Ulisse Aldrovandi (1522 – c. 1605) by his pupil Bartolomeo Ambrosini (1588–1657), the snakes of northern Italy are described and depicted with great accuracy alongside dragons and other legendary creatures. The illustration shows the nose-horned viper (*Vipera ammodytes*), one of the most dangerous of European snakes. It grows to a little under a metre, and although it does not usually attack, its venom is more potent than that of our own adder (*Vipera berus*).

The book was acquired in 1702 by the Jesuit College of St Clement in Prague.

NK ČR, shelfmark 16 A 21, p. 169

WURFBAIN, Johann Paul

Salamandrologia, h. e. Descriptio Historico-Philologico-Philosophico-Medica Salamandriae

Nuremberg, Georg Scheurer, printed by Johann Michael Spörlin, 1683

The first scientific monograph on salamanders, by the German physician Johann Paul Wurfbain (1655–1711). The fire salamander (*Salamandra salamandra*) is now a critically endangered species in this country as a result of pollution and increasing human activity. The yellow markings on its black body differ from individual to individual; no two are exactly alike. The study of amphibians is known as batrachology.

The book belonged to Ignác Karel, Count of Šternberk (1640–1700) and after his death passed, together with other legal and medical works, to Charles University. In 1777 the so-called new Carolinum library was moved to the Clementinum, where it became part of the newly founded public Imperial and Royal University Library.

NK ČR, shelfmark 16 H 68, Tab. II

RÖSEL von ROSENHOF, August Johann

Historia naturalis ranarum nostratium. Die natürliche Historie der Frösche hiesigen Landes

Nuremberg, Johann Joseph Fleischmann, 1758

One of the most beautiful works ever devoted to frogs, by the German painter and naturalist August Johann Rösel von Rosenhof (1705–1759). The hand-coloured copperplate engravings record the developmental stages and the anatomy of the various frog species living in the German lands. The precision of the drawing and the fidelity of the frogs' colouring make the work both scientifically valuable and visually captivating.

The book belonged to the holdings of the Imperial and Royal University Library in Prague.

NK ČR, shelfmark 16 AA 11, Tab. III

LIFE UNDERWATER

Fish are cold-blooded aquatic vertebrates that inhabit all types of water. Ichthyology (from the Greek *ichthys* = fish) is devoted to their study. There are currently 65 species found in the Czech Republic, 11 of which are critically endangered.

Other inhabitants of the aquatic world are represented here alongside fish. Cnidaria (previously belonging to the obsolete phylum *Radiata*), studied as part of marine biology, are also featured, including, for example, corals. Malacology focuses on molluscs (*Mollusca*), among which cephalopods are also found. Echinoderms (*Echinodermata*) are represented by starfish, and the animal kingdom's largest phylum, the arthropods (*Arthropoda*), is represented by spiny lobsters from the subphylum *Crustacea*, which are the focus of carcinology.

Pliny the Elder built upon Aristotle's findings in ancient times; his work was the last significant contribution to the field until the 16th century. The modern concept of ichthyology owes a great deal to the French naturalist Pierre Belon (c. 1517–1564), the professor of medicine Guillaume Rondelet (1507–1566), the Italian physician Ippolito Salviani (1514–1572), and the Swiss polymath Conrad Gesner.

LIFE UNDERWATER

One of the first modern scientific works to document part of the tropical marine fauna of the Indonesian Maluku Islands was authored by the German botanist George Eberhard Rumphius (1627–1702). It contains apt descriptions of molluscs (snail and bivalve shells), crustaceans (shrimp, lobsters, crabs), echinoderms (sea urchins, starfish) and minerals from this South Pacific region, accompanied by 60 detailed copperplate engravings.

RUMPHIUS, George Everard: Thesaurus imaginum piscium testaceorum. Hanau, Pieter de Hondt, 1739.

Starfish are invertebrates belonging to the Echinodermata phylum. They inhabit all the oceans, from coasts to areas up to 1,000 metres deep, and feed primarily on carrion. They have varying numbers of arms, most commonly 5.

The print was part of the library of the Prussian surgical institute Pépinière in Berlin, which was formed in 1797.

NK ČR, shelfmark 16 A 733, Tab. N. XV.

In disem Buch ist der Gart der gesuntheit (zu latin Ortus sanitatis) in vier theyl getheylet

[Strasbourg, Johann Prüss, 1509]

This edition, containing the herbal *Gart der Gesuntheit* together with the section on animals from the German translation of the anonymous *Hortus sanitatis*, is the work of the Strasbourg printer Johann Prüss the Elder (1447–1510). The hand-coloured woodcuts are accompanied here and there by Czech names added in manuscript. Shown here is the European sturgeon (*Acipenser sturio*), which formerly occurred naturally in both the Elbe and the Vltava; in the second illustration, under the name *"Felchus foca"*, is the *"sea calf"*, that is, the seal (*Phoca*).

In 1668 the book was owned by the knight Rudolf Ferdinand of Vinoř (d. 1677), lord of Rosnice, Dolní Přím and Popovice. He bequeathed his entire estate to the Jesuit college at Hradec Králové, and with it this book entered the college library in 1677.

NK ČR, shelfmark 16 H 14/adl.1, Cap. XXXVIII

DUBRAVIUS, Jan

De Piscinis Et Piscium

Nuremberg, Paul Kauffmann, 1596

The title page of the third edition of a fundamental treatise on the then flourishing Bohemian carp-pond industry, by Jan Skála of Doubravka, known as Dubravius (c. 1486–1553).
His advice and experience, written in Latin, on the making and maintenance of fishponds and the rearing of fish were highly esteemed. Among the fish then favoured, such as pike, eel, perch and trout, Dubravius considered our "ordinary" carp the finest of all.

In 1733 the treatise was in the library of the Jesuit professed house in the Lesser Town of Prague.

NK ČR, shelfmark 49 F 18, title page

SALVIANI, Ippolito

Aquatilium animalium curendum formis

[Place of publication unknown, publisher unknown, 16–?]

This later pirated edition of the ichthyological work *Aquatilium animalium historiae* by the Italian physician and naturalist Ippolito Salviani (1514–1572), probably from the Venetian press of the Meietti in the early seventeenth century, contains the plates alone. The finely worked engraving depicts an octopus (*Octopoda*), a cephalopod with its characteristic eight arms studded with numerous suckers.

According to the supralibros on the upper board — *"V[on] G[ottes] G[naden] Frantz Heinrich H[erzog] Z[u] S[achsen] E[ngern] V[nd] W[estphalen] Anno 1647"* — the owner of the book in 1647 was Duke Franz Heinrich of Saxe-Lauenburg (1604–1658), brother of the imperial general Julius Heinrich (1586–1665). The copy later became part of the Lobkowicz library in Prague.

NK ČR, shelfmark 65 B 361, fig. 3

GANS, Johann Ludwig

Corallorum historia

Frankfurt am Main, Lucas Jennis, 1630

The German physician Johann Ludwig Gans (active 1630–1634) was the author of one of the first scientific studies of corals. These cnidarians live sessile lives as adults and mostly form colonies; from their dead skeletons coral reefs and even whole islands are built up.
The skeleton of red coral (*Corallium rubrum*) has long been prized for jewellery of every kind.

The book belonged to the Prague physician and university professor Mikuláš Franchimont of Frankenfeld (1611–1684).

NK ČR, shelfmark 16 K 3, before p. 1

PENNANT, Thomas

British Zoology. Vol. IV., Crustacea. Mollusca. Testacea

London, Benjamin White, 1777

The fourth and final volume of the *British Zoology* of the Welsh naturalist Thomas Pennant (1726–1798) describes crustaceans, molluscs and shells. Here the common or European spiny lobster (*Palinurus elephas*) in a finely detailed copperplate engraving.

The only owner to have left any trace in the volume is a person as yet unidentified, with the initials *"BS"*.

NK ČR, shelfmark 16 DD 5/4, Pl. XI

LACÉPÈDE, Bernard-Germain-Étienne de

Naturgeschichte der Fische

Berlin, Joachim Pauli, 1799

The German translation of the first of the five volumes on fishes in Buffon's encyclopaedic series *Histoire naturelle*, written by his continuator, the French naturalist Bernard-Germain-Étienne de Lacépède (1756–1825). The French original had appeared only a year earlier, in 1798. The translation is the work of the German bibliographer and naturalist Philipp Loos (1754–1819).

The frontispiece shows, on the left, sharks being fished from a vessel with human bait. From the disembowelled fish on the shore the local people are drawing out a dead body. The title page shows freshly caught fish being sold on the harbour front.

NK ČR, shelfmark 16 GG 5/1, frontispiece and title page

BIRDS

Birds are warm-blooded, feathered vertebrates, whose forelimbs gradually evolved into wings; the study of birds is referred to as ornithology (from the Greek *ornis* = bird). They are the only dinosaurs that survived the mass extinction 66 million years ago. As of the end of 2024, 403 bird species were recorded in the wild in the Czech Republic.

Birds became part of the hieroglyphic alphabet in Ancient Egypt, and Mesopotamia was the cradle of falconry as early as 700 BCE. One of the first Latin manuals on bird breeding was written by Holy Roman Emperor Frederick II (1194–1250), and dates to the 13th century.

The modern concept of ornithology was anticipated by the third volume of the encyclopaedia *Historia animalium* by the Swiss physician Conrad Gesner (1516–1565), which was published in Zurich in 1555 and focused on birds.

GESNER, Conrad: Vogelbuch Darin[n] die art, natur und eigenschafft aller vöglen, sampt jrer waren Contrafactur, angezeigt wirt. Zurich, Christoph Froschauer, 1557.

One of the first scientific descriptions and illustrations of the turkey (Meleagris) in Europe, found here in the German translation of Gesner's volume on birds. It is labelled as an "Indian chicken", which stems from the misconception of the explorers and colonisers, who believed, upon landing in America, that they had discovered India.

A book purchased by means of a financial donation from the founder of the Jesuit college of Jindřichův Hradec, Adam II of Hradec (1549–1596), the High Burgrave of the Kingdom of Bohemia. It had been part of the college library since 1599.

NK ČR, shelfmark 16 A 29, fol. CIIIr, title page.

FREDERICK II

Reliqua librorum Friderici II. imperatoris, De arte venandi cum avibus

Augsburg, Hans Schultes, 1596

This printed version of a thirteenth-century manual on the keeping of birds and their use in hunting dates from the end of the sixteenth century. The illustration shows the author himself, the Holy Roman Emperor Frederick II of Hohenstaufen (1194–1250), together with falconers and their birds.

The first known owner of the copy was the German Premonstratensian abbey of Weissenau near Ravensburg. A substantial part of the secularised monastic library was acquired by the noble house of Sternberg-Manderscheid. After the death of Count František Josef (1763–1830) his library was bought by August Longin, Prince of Lobkowicz (1797–1842), and with his Prague library the volume entered what was then the Provincial and University Library.

NK ČR, shelfmark 65 E 7581, double-page spread following the preface

ARCUSSIA, Charles d'

Falconaria, Das ist, Eigentliche Bericht und Anleytung wie man mit Falken und andern Weydtvögeln beitzen soll

Frankfurt am Main, Lucas Jennis, printed by Nikolaus Hoffmann the Elder, 1617

This German translation of the still highly regarded falconry manual of Charles d'Arcussia (1554–1628) deals with the temperament of birds, their diseases and remedies, their anatomy and the various kinds of raptor. The term *"Alphanet"* is a historic falconers' designation for birds that differ, however slightly, in colour from the usual type. What is shown here is evidently the pale North African form of the lanner falcon (*Falco biarmicus*), depicted from the front and from behind.

The book was the property of the Jesuit College of St Clement in Prague.

NK ČR, shelfmark 17 J 10, pp. 40–41

BARTHOLIN, Thomas

Dissertatio de Cygni Anatome, ejusque Cantu

[Copenhagen], printed by Daniel Paulli and Georg Clausen Gøde, 1668

An anatomical drawing of the swan (*Cygnus*) by the Danish physician and anatomist Thomas Bartholin (1616–1680), who demonstrated scientifically that the swan cannot sing and produces only the familiar hiss or a faintly barking call.

The treatise belonged to the library of the Royal Prussian surgical school, the Pépinière (Chirurgische Pépinière), founded in 1795 and finally dissolved in 1945.

NK ČR, shelfmark 16 L 376, p. 6

LATHAM, John

A General Synopsis of Birds

London, Benjamin White, 1781

The British naturalist and physician John Latham (1740–1837) specialised in birds of Australian origin, which reached England towards the end of the eighteenth century; he is regarded as a forerunner of Australian ornithology.

This specimen of the horned parakeet (*Eunymphicus cornutus*), a species native to New Caledonia, came from the collection of the English naturalist Joseph Banks (1743–1820) and was taken during Captain James Cook's first great voyage to the South Pacific in 1768–1771, in which Banks himself took part.

NK ČR, shelfmark 16 DD 7, p. 248

MAMMALS

Mammals, including humans, are warm-blooded vertebrates, whose young feed on their mothers' milk. The study of mammals is known as mammalogy (from the Latin *mammalis* = mammal). Nearly 90 species of mammals live in the wild in the Czech Republic, of which about 30 are listed on the Red List as threatened species.

Aristotle had already described well-known mammals in his *Historia Animalium*. In the Middle Ages, animals were depicted in bestiaries and later in important herbals.

The 16th century marked a significant turning point, with a gradual shift away from Medieval mythical creatures toward real-world fauna. Carl Linnaeus and the encyclopaedist Georges-Louis Leclerc, Comte de Buffon contributed to the development of mammalogy in the mid-18th century.

LONITZER, Adam: Kreuterbuch. Frankfurt am Mohan, the heirs of Christian Egenolff, printer Johannes Saur, 1598.

The red squirrel (Sciurus vulgaris) and the European badger (Meles meles) in the work of the German physician Adam Lonitzer (1528–1586). One of its owners was Jan František Löw of Erlsfeld (1648–1725), a physician and rector of Charles University, and the last known owner was Jan František Antonín Ering (1696–1757), a professor of anatomy, surgery, and botany in Prague.

NK ČR, shelfmark 16 B 5, fol. CCCXXVIv, title page.

MAMMALS

The study of horses is called hippology (from the Greek *(h)ippos* = horse). Most aristocratic estates contained stables with thoroughbred horses; books offering practical advice were therefore in high demand.

WINTER, Georg Simon: Tractatio nova et auctior de re equaria. Nuremberg, Wolfgang Moritz Endter, 1687.

The second edition of the handbook on horse breeding, written in four languages, by the German veterinarian and renowned expert Georg Simon Winter von Adlersflügel (1629–1701). Thoroughbred horse breeds (Equus) known and bred in the 17th century; from top to bottom, row by row: Persian, Arabian, the Barb; in the middle the Thoroughbred, the Andalusian, Neapolitan; in the bottom row Italian, the Akhal-Teke and Tatar horse.

The heraldic supralibros indicates that the book originally belonged to the Czernin family of Chudenice. Their library later became part of the book collection of the Lobkowicz family of Hořín and Mělník, which the state purchased in 1928 and donated to the Public and University Library in Prague.

NK ČR, shelfmark 65 C 845, pl. 1, front cover.

Hortus sanitatis

[Strasbourg, Johann Prüss, 1497]

The second edition of the bestselling *Hortus sanitatis*, which besides its principal section on plants also contained sections devoted to the animals of the land, the air and the water. In the left-hand column a woodcut of four small monkeys opens the chapter on apes, headed in Latin "Simia".

According to a note on the opening leaf — *"I bought these books from Alžběta, the carpenter's wife, on the Thursday before St Matthew's day in the year 1543 [20 September 1543] for 30 groschen at the market"* — one of the first users of this copy of the *Garden of Health* was Alžběta, wife of a carpenter from an unnamed Bohemian town.

NK ČR, shelfmark 43 E 47, fol. F3v

GESNER, Conrad

Gesnerus Redivivus auctus & emendatus. Oder: Allgemeines Thier-Buch

Frankfurt am Main, Wilhelm Serlin, 1669

This German edition of the zoological encyclopaedia *Historia animalium* by Conrad Gesner (1516–1565) was translated from the Latin by the Swiss pastor and physician Conrad Forrer (c. 1530–1594); in the following century the German physician and naturalist Georg Horst (d. 1688) enlarged the original text and added new observations. For his first edition Gesner had copied illustrations from other authors, among them the celebrated rhinoceros of the German painter and printmaker Albrecht Dürer (1471–1528), who had created it as early as 1515 from nothing but a sketch and a verbal description.

The copy formed part of the library of the monastery of the Order of the Most Holy Trinity for the Redemption of Captives in the New Town of Prague.

NK ČR, shelfmark 16 A 30/1, p. 305

MOLLUSC SHELLS

Their collection and study is the province of conchology. The phylum Mollusca includes the classes of bivalves (*Bivalvia*) and gastropods (*Gastropoda*). Some possess a calcareous shell — in gastropods a coiled snail shell, in bivalves a pair of valves. In the Czech Republic there are 252 species of mollusc, both terrestrial and aquatic.

The collecting of shells first flourished in the Renaissance, when cabinets of curiosities filled with natural rarities were being assembled all over Europe in particular; science, however, did not turn to them seriously until the end of the seventeenth century. The founder of conchology is considered to be the Italian Jesuit Filippo Buonanni (1638–1725), author of the first work devoted to shells alone, published in Rome in 1681. A succession of other scholars took up his work, and numerous publications followed, most of them illustrated.

REGENFUS, Franz Michael

Sammlung von Muscheln, Schnecken und andern Schaalthieren, welche auf allerhöchsten Befehl Seiner Königlichen Majestät von Dännemarck und Norwegen [et]c. mit möglichster Sorgfalt nach der Natur gezeichneit

Copenhagen, [publisher unknown, 1758]

The German engraver and naturalist Franz Michael Regenfus (1712–1780) was the author of the largest conchological work ever produced, standing 61 cm tall. On the hand-coloured plates, numbers 9 and 10 conceal the glory of the sea cone (*Conus gloriamaris*), a species found off the Solomon Islands. What is shown here was at the time a unique specimen from the collection of the Danish diplomat of German origin Adam Gottlob von Moltke (1710–1792) — at the date of publication a so-called holotype, that is, a specimen not yet formally described. The species was not described scientifically until 1777, by the German naturalist Johann Hieronymus Chemnitz (1730–1800). It was once regarded as the rarest shell in the world, and as late as the mid-twentieth century a single specimen is said to have fetched thousands of American dollars.

The work belonged to the library of František Josef Count Kinský (1739–1805), who in 1777 presented his personal library, together with the family's entailed library, to the newly established Imperial and Royal University Library in the Clementinum.

NK ČR, shelfmark 16 AA 52, Tab. VII

THE FLORA OF BOHEMIA

Josef Emanuel Tobiáš Count Canal de Malabaila (1745–1826) — co-founder of the Royal Bohemian Society of Sciences, freemason, generous patron and populariser of the sciences — opened a garden of some 17 hectares in Prague in 1791, later known as the Kanálka. In 1793 the first vegetation and plant-physiology station was established there. Its scientific superintendent was Franz Willibald Schmidt (1764–1796), extraordinary professor of botany at the University of Prague, physician and outstanding painter. In 1793–1794 he published the unillustrated botanical work *Flora Boëmica inchoata* (*The Flora of Bohemia*), the first printed attempt at a comprehensive treatment of the Bohemian flora, in which he describes 110 species of plant in all. At the same time he produced two unique copies of *Flora Boëmica iconibus illustrata*, which he supplied with coloured illustrations of his own. The first he dedicated to his benefactor, Count Canal; the second, at the count's wish, to the Imperial and Royal University Library in Prague, whose director at the time, Karel Rafael Ungar (1744–1807), was a personal friend of both men and, among other things, a freemason himself. Count Canal's copy has never been traced, but the Clementinum copy is still in the library's collections.

SCHMIDT, Franz Willibald

Flora Boëmica iconibus illustrata

Prague, printing house of Antonín Hladký, 1793

Both the text and the illustrations are the work of the botanist Franz Willibald Schmidt (1764–1796), scientific superintendent of the garden of Josef Emanuel Tobiáš Count Canal de Malabaila (1745–1826). The purple gentian shown here (*Gentiana purpurea*, here as *Pneumonanthe purpurea*) is a perennial mountain herb of the western Alps; where it occurs in the Czech countryside, this is the result of deliberate introduction by man.

This unique copy, 53 cm tall, was a gift directly from Franz Willibald Schmidt to Karel Rafael Ungar (1744–1807), then director of the Imperial and Royal University Library.

NK ČR, shelfmark 16 AA 29/2, Tab. 128

PLINY

The distinguished polymath and Roman philosopher Pliny the Elder (c. 23–79) was the author of the Naturalis historia, one of the earliest encyclopaedias of the natural world, which treats not only living nature but also the economic activities associated with it (agriculture, mining, the processing of natural products). The work represented the sum of the classical learning of its day, extended, thanks to Roman expansion, by descriptions of exotic lands.
It contains many first descriptions of plants and animals and was frequently copied. Although Pliny did not live to give his work its final revision, the encyclopaedia was published after his untimely death by his nephew Pliny the Younger (c. 61 – c. 112).

PLINY the Elder

Historia naturalis, etc.

[Prague, 1460s/1470s]

A painted ornamental initial *M(undus)* at the beginning of Book I of Pliny's *Historia naturalis*.

This monumental copy of Pliny's encyclopaedia of nature was made in Prague at the turn of the 1460s and 1470s, by which time the first printed edition (1469) may already have been on the market in Italy. The parchment codex, 57 cm tall, was soon acquired by the Old Town Council of Prague, which nevertheless placed it at the disposal of the university. Most probably in connection with the handover of the university to the Jesuits after the Battle of White Mountain, the Old Town Council reclaimed it. In 1783 it was presented to what was then the Public and University Library in Prague.

NK ČR, shelfmark XIV A 12, fol. 19r