

Invitation to the press conference: "BRAZIL. 200 years of relations"

The new special exhibition "BRAZIL. 200 years of relations" can be seen from 8 June 2022 to 23 April 2023 (extended until 3 September 2023) in the four cabinets and two special exhibition halls (mezzanine level) at the Natural History Museum Vienna. The exhibition focuses on the fascinating diversity of Brazil from the perspective of the centuries-old ties between Brazil and Austria with their global interactions. This common history can be seen in many areas – politics, through major trade agreements, but also cooperation in science and culture. Last but not least, at an individual level it is reflected in our behavior as consumers.

On **Tuesday, 7 June 2022, at 10.30 a.m.**, the NHM Vienna invites to a press conference on the occasion of the new special exhibition.

Venue: **Natural History Museum Vienna, Maria-Theresien-Platz, 1010 Vienna**
Special exhibition, Cabinet 4

Admission: from 10.00 a.m.
Start: at 10.30 a.m.

Programme:

Welcome and introductory words:

Dr. Katrin Vohland, Director General & Scientific Director of the NHM Vienna and curator of the exhibition

Statements on the exhibition from the curatorial team:

DDr. Martin Krenn, Head of the Archive for the History of Science, NHM Vienna

Prof. Dr. Sabine Eggers, Head of the International Osteological Collection in the Anthropological Department, NHM Vienna

Dr. Christian Bräuchler, Head of the Botanical Department, NHM Vienna

Cooperation partners who have also taken up the theme of Archduchess Leopoldine & 200 Years of Independence of Brazil:

"Naturwunder einer Neuen Welt: Brasilien in Schönbrunn".

Mag. Katrin Völk, Head of Department Austrian Federal Gardens

"LEOPOLDINA. Furchtlos nach Rio"

Dr. Claudia Lehner-Jobst, Scientific Director of the Porcelain Museum in the Augarten and curator of the exhibition

Followed by: Tour of the exhibition with the curators

BRAZIL. 200 years of relations

The close ties between Austria and Brazil can be traced back to the period of the Habsburg Monarchy. The marriage of Archduchess Maria Leopoldina of Austria, the fourth daughter of Emperor Franz I and his second wife Maria Theresia of Naples and Sicily, to the Portuguese heir to the throne, Dom Pedro, had not only political consequences but also a far-reaching impact on the world of science. This exhibition gives an insight into the large-scale expedition launched to celebrate the wedding and supervised by none other than Austrian Chancellor Klemens Wenzel von Metternich himself. A staff of distinguished scientists collected and documented the exotic fauna and flora, as well as minerals and ethnological treasures, for four years in hugely challenging conditions. The taxidermist and naturalist Johann Natterer even stayed on after the expedition had ended, spending a total of 18 years in the rainforests of South America and sending tens of thousands of objects and specimens back to Vienna. A selection of items from his collections, today housed in the NHM Vienna and the Weltmuseum, is shown in the exhibition as well as some of the countless herbarium sheets created by the botanist Johann Pohl.

At the same time, the exhibition also addresses the darker side of relations between Austria and Brazil. Some of these aspects, such as the slave trade and colonialism have massive effects right up to the present. Many others, however, continue today. These include ruthless, often brutal behavior towards the indigenous population as well as the radical exploitation of coveted natural and mineral resources – something we contribute to significantly through our behavior as consumers. These aspects are contrasted with examples of the opportunities and limitations offered by science, as well as the knowledge and experience of indigenous peoples, in the quest to find solutions that will benefit the world.

The majority of the exhibition is dedicated to Brazil's unique natural habitats – the evergreen rainforest of Amazonia, the thousands of kilometers of Atlantic coastline, the dense wilderness of the Atlantic Forest, the pale vegetation of the 'White Forest' in the Caatinga, the tropical swamps of the Pantanal, the highly specialized grasses of the Pampa and the forbidding savannas of the Cerrado. Preserving the enormous biodiversity and at least remnants of the original habitats with their abundance of plants and animals and their way of life, is a tremendous challenge. Scientists from Austria and the NHM Vienna are working in a variety of ways with partners from Brazil on research and renaturation projects. These projects, based on international collaboration, are being intensified and becoming more and more globally oriented – a positive outlook for the future after 200 years of eventful common history.

Please register under: presse@nhm-wien.ac.at

Press material:

<https://www.nhm-wien.ac.at/en/presse/exhibitions2022/brazil>

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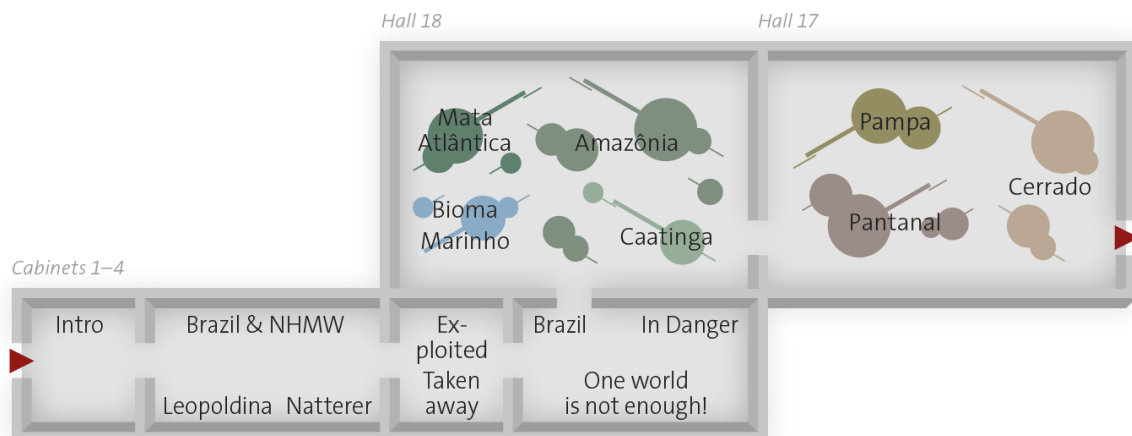
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BRAZIL. 200 years of relations

This exhibition shows the fascinating diversity of Brazil. We want to provide an insight into how closely this country is connected to the natural life cycles of the Earth and how rapidly its fragile habitats are being destroyed – but also what researchers are doing to develop solutions. Moreover, the exhibition also focuses on the centuries-old relationship between Brazil and Austria. This common history covers many areas – politics, major trade agreements, but also cooperation in science and culture. Last but not least, at individual level the ties can be seen in our behavior as consumers.

Exhibition-overview:



Leopoldine

It started with a wedding

The close political ties between Austria and Brazil can be traced back to 1817, when Archduchess Maria Leopoldina of Austria, the fourth daughter of Emperor Franz I, was married to the Portuguese heir to the throne, Dom Pedro. At that time Brazil was a Portuguese colony. The Austrian Chancellor, Klemens Wenzel von Metternich, saw the marriage as a decisive step towards Austria gaining influence overseas as a major power. The marriage had not only political consequences but also a major impact on the sciences.

'Natural scientist' and politician

Archduchess Maria Leopoldina of Austria (1797–1826) was not a typical Habsburg princess. She took a keen interest in natural sciences, especially mineralogy. After her marriage she followed her husband to Brazil – at that time still a Portuguese colony. There she played a central role in Brazil's declaration of independence from Portugal and was crowned the first Empress of Brazil in 1822. In 1825 she gave birth to the heir to the throne. She died on 11, December 1826 having suffered much humiliation and mistreatment at the hands of her husband. She is still celebrated in Brazil today as a politician. Dom Pedro of Portugal (Gianni, before 1830) Archduchess Leopoldina (Joseph Kreutzinger, ca. 1815)

Political backgrounds

The scientific mission of the Brazil expedition was closely linked to political and economic objectives. This is shown in the fact that overall leadership of the expedition was reserved for none other than the Austrian Chancellor himself, Klemens Wenzel von Metternich. Austria, a country with no colonies, was keen to gain influence in Latin America. The aim of the expedition was to open up new markets in Brazil, establishing new trading partners and trading routes. During their time in Brazil the scientists were supported by the Austrian ambassador in Rio de Janeiro. The travel routes the researchers had to take were set out in great detail. The instructions issued before setting out stated explicitly that they should collect information on products of economic interest.

Natterer

An expedition as a wedding gift

To mark the marriage of his daughter, Leopoldina, Emperor Franz I launched an expedition to Brazil in 1817. The original idea was that renowned researchers would spend two years collecting plants, animals, and minerals of interest before bringing them back to Vienna. Detailed travel plans were drawn up according to the wishes of the Austrian Chancellor, Klemens Wenzel von Metternich. The researchers were given precise instructions on how to document their finds and also had to keep a diary on the journey itself. The starting point for their adventures into hitherto unexplored terrain was Rio de Janeiro, where the two Austrian frigates docked after an arduous and eventful sea voyage. Working conditions in Brazil's tropical climate proved exhausting for the members of the expedition. Many soon fell ill with unknown diseases and had to return home early. The expedition was officially ended in 1821. The only member of the team to remain in the rainforests of South America was the taxidermist and naturalist Johann Baptist Natterer (1787– 1843), who ended up staying for 18 years.

Fascinated by Brazil

Natterer was fascinated by Brazil and its natural wonders. When ordered by the Emperor to return to Vienna, he refused and continued the expedition at his own risk and financial cost. During ten trips he explored the areas around São Paulo and Rio de Janeiro as well as venturing into the Amazon region. He was by no means a lone explorer – on his travels he would use local institutions, Brazilian helpers, and also slaves. It was not until 1836 that he finally returned to Vienna and began the work of analyzing the items he had collected. Many of his diaries, manuscripts, and notes were sadly destroyed by a fire at the Imperial Palace in 1848.

40 years later – The Novara

Probably the most ambitious expedition ever launched by Austria was the circumnavigation of the globe by the Novara between 1857 and 1859. The frigate's stops included Brazil, which it reached in 1857. The entire voyage was documented in hundreds of paintings and sketches by the landscape artist Josef Selleny. During their journey the crew of the Novara collected a vast number of minerals, animals, plants, and ethnological objects. The process of analyzing and categorizing these items took decades. Objects brought back by the Novara are still being used by researchers today to gain new insights.

Brazil and the NHM Vienna

A museum just for Brazil

Natterer sent tens of thousands of objects and specimens back to Vienna, including many species unknown in Europe at that time. He also sent live animals for the Imperial Menagerie (what is today Schönbrunn Zoo) and ethnographic objects such as tools, weapons, and jewelry produced by the indigenous peoples. The Natural History Cabinets at the Imperial Palace were soon bursting at the seams, so in 1821 a separate museum – the Brasilianum – was opened on the Johannesgasse in the center of Vienna. There, the Brazilian collections were displayed in 13 rooms: seven for zoology, three for botany, two for mineralogy, and a large room for the ethnographic objects. The museum was open to the public with precise opening hours and admission tickets. Scholars and experts could access the exhibition free of charge at any time. The Brasilianum became a major attraction in Vienna, yet it only existed until 1836. After that the objects were returned to the Natural History Cabinets at the Imperial Palace, where some of them were destroyed by a fire in 1848. Those objects that survived are now in the NHM Vienna and the Weltmuseum, a museum of ethnography in Vienna.

An expert collector

Over the years Johann Natterer sent a huge number of objects and specimens to Vienna, including over 1,000 mammals, more than 12,000 birds, and almost 33,000 insects. He also sent natural objects such as fish, amphibians, crustaceans, shells and snails, worms, eggs, seeds, minerals, etc. Natterer skillfully used his relations with Brazilian helpers and secured the help of Austrian diplomats as well as Brazilian and British merchants. From 1831 he was also supported by his Brazilian wife, Maria do Rego.

From medicine to botany

Johann Emanuel Pohl (1782–1834), who had graduated as Doctor of Medicine, participated in the Austrian expedition to Brazil from 1817 to 1821. From 1818 on, he was responsible for the botanical collections and sent tens of thousands of botanical specimens to Vienna. After his return in 1821 he worked at the Brasilianum until his death. The results of his collecting activities in Brazil were published in the work 'Plantarum Brasiliae hucusque ineditarum icones et descriptiones' and his travel impressions in the book 'Reise im Innern von Brasilien in den Jahren 1827–31'.

Taken away?

Collections with a turbulent history

The Brazil expedition of 1817 sent over 150,000 objects to Vienna. Many of them were put on display at the Brasilianum in the city center. When this museum was finally closed, they were moved to the Imperial Palace. A fire on the roof of the palace library during the 1848 Revolution destroyed large parts of the insect and vertebrate collections as well as many irreplaceable scientific records. More than 30,000 plant specimens – mainly collected by Johann Pohl – as well as substantial sections of Johann Natterer's collection were spared by the flames and transferred in 1889 to the recently opened Naturhistorische Hofmuseum. In the 1920s, the ethnographic objects were moved to what is now the Weltmuseum Wien, which opened in 1928. The collections of the NHM Vienna continued to grow. Animals, plants, minerals, and rocks were added from all over the world. Items proudly collected at that time out of scientific or economic interest are, however, seen today in a more critical light due to the colonial and exploitative contexts in which part of these objects were gathered.

Provenance research

Research into the provenance of museum collections is relevant not only in connection with National Socialism but also with European colonialism. This also applies to objects at the NHM Vienna which entered the collections during the Austrian expedition to Brazil. Clarifying exactly how, when, and where

these objects were collected and who the persons involved were, is a major challenge for the NHM Vienna. Another key task is evaluating the history of such objects, together with the communities of origin and researchers throughout the world.

Perfect use of resources

The first people to settle in the Americas arrived from different regions of the world up to 17,500 years ago, perhaps even as early as 27,000 years before today. Prior to European colonization these peoples lived for thousands of years in relatively small and isolated groups in harmony with their habitat. With creativity and skill, they shaped their environment and improved their living conditions by growing crops and keeping livestock. Today there are around 900,000 indigenous people in Brazil, belonging to 300 different ethnic groups and speaking over 150 different languages. Their use of resources has a history dating back thousands of years. Their traditions are a key factor in preserving natural areas in Brazil.

Exploited?

The conquest of Brazil by the Portuguese in 1500 was followed by several centuries during which the country's rich natural resources were plundered – with no regard for natural cycles or the survival and culture of the indigenous population. The cultivation of sugar cane, cotton, tobacco and coffee, but also gold mining, was based on slavery from the end of the 16th century to the second half of the 19th century. Huge areas of forest on the Atlantic coast were cut down in the 16th century to harvest coveted brazilwood. Portuguese landowners unrestrictedly exploited vast swathes of land expanding their domains from the coast into the countryside. They initially planted sugar cane, in the 18th century increasingly cotton and, in the 19th century, coffee. Gold and precious stones were also mined in the area today known as Minas Gerais. In the Amazon region, the latex of the rubber tree was extracted for rubber- production. Today, energy generation and mining, soy production and the creation of huge pastures for cattle breeding are among the main causes for the destruction of intact natural areas.

The seven biomes

1. Bioma Marinho

Record-breaking

Eight thousand kilometers along the Atlantic – Brazil has one of the longest coastlines in the world. The biodiversity of this ocean is shaped not only by its various adjacent habitats, but also by the climate. In the north, conditions remain tropical all year round with temperatures of up to 30 °C. In the south, temperatures vary between 25 °C in summer and 11 °C in winter. These conditions have allowed a wide variety of habitats to develop.

Underwater forests

The bottom of the ocean, just like the land above water, has a great diversity of life. Mangrove plants, seagrasses and algae, calcareous algae and corals all form the basis for a wide variety of ecosystems. These 'landscapers', which perform a similar role to trees on land, determine the characteristics of the environment and form extensive underwater forests. They are home to specific communities of fish and invertebrates – ultimately a source of food for humans.

Amazing variety of shapes and colors

Mangrove swamps on muddy ground often extend several kilometers into the estuaries of large rivers. Shallow waters contain extensive algae gardens and seagrass meadows. Large sections are colonized by calcareous red algae, which form vast banks. The clear waters of the tropics are home to coral reefs with many colorful species. The Amazon Reef, a calcareous algae and sponge reef system off the coast of northern Brazil, is among the largest reef systems in the world.

Multiple threats

The threats posed to habitats are as wide-ranging and diverse as the habitats themselves. In many places, climate change and human influences are placing enormous pressure on marine animals and plants. Coral reefs are particularly affected by rising seawater temperatures. This results in coral bleaching, which causes large sections of reef to die. Another major problem is urban development of coastline areas, with negative impacts including destroyed vegetation and coastal erosion. Wastewater, which is still often released untreated into the sea, also threatens coastal ecosystems. Moreover, mangrove areas, as well as lagoons and bays, are bulldozed for industries such as shrimp farming and converted into seafood farms. Among the biggest problems is overfishing. Modern methods of mass fishing often leave a trail of destruction.

Good news from the citizen scientists

When science and society join forces, it is possible to achieve promising progress even when it comes to huge challenges such as saving marine ecosystems.

2. Mata Atlântica

Humid and lush

The Atlantic Forest covers large parts of the Brazilian coastline and extends several hundred kilometers inland in some places. This natural geographic region, which is 15 times the size of Austria, is known in Portuguese as 'Mata Atlântica'. The humid air which comes in from the Atlantic results in large amounts of rainfall. As well as to tropical forests, the region is also home to forests of laurel and araucaria. Before the arrival of European colonizers these forests covered almost the entire area. Its different altitudes, climatic and geological conditions helped the Mata Atlântica develop an incredible biodiversity. It is home to 17,500 documented plant species, 9,500 of which are found only in the Atlantic Forest. High humidity

levels mean trees are covered with mosses, lichens, and bromeliads (pineapple plants). This creates the impression of a forbidding, impenetrable wilderness – an image reinforced by its many poisonous and dangerous animals such as spiders, snakes, scorpions, and jaguars.

Just 12 % natural forest remaining

This seemingly impenetrable and threatening wilderness was inhabited by humans as early as 10,000 years ago. Thousands of archeological sites provide proof of human settlement. The forests and coastal areas provided not only wood for building and burning, but also plenty of water and a ready supply of food all year round. The bays and estuaries were natural harbors and strategic ports of call for Europeans seeking to colonize the area. Numerous large settlements developed, including world-famous cities such as Rio de Janeiro and São Paulo. Today, two-thirds of Brazilians live in the Mata Atlântica region – and Brazil's megacities continue to expand. This – combined with the planting of fast-growing non-native trees – threatens the few remaining areas of forest. Today the Mata Atlântica is one of the most endangered and destroyed habitats in Brazil. Just 12 % of the area it once covered is still natural forestland.

Restoring destroyed nature

Only by restoration of destroyed forest areas biodiversity can be safeguarded in the long term. In 2021, André Amado's group from the Federal University of Juiz de Fora initiated the BEF-Atlantic project in collaboration with a private transport company. 163 experimental fields were established on 7 hectares and planted with about 15,000 trees in various combinations – 1 to 24 species per field. Thus, the researchers want to find out how many and which different tree species are necessary to restore biodiverse forests and their functions in the long term.

Good news from the scientific community:

With support from economy, science can provide badly needed help for the Mata Atlântica.

3. Amazônia

A habitat bursting with life

Amazônia is a natural geographic unit that extends beyond the borders of Brazil into Bolivia, Peru, Ecuador, Colombia, Venezuela, and the Guianas. The Amazon river's drainage basin covers 7.9 million square kilometers, of which 3.6 million square kilometers – an area almost 42 times the size of Austria – are in Brazil. Widely covered by evergreen tropical rainforest, Amazônia is dominated by water – annual rainfall of over 3,000 millimeters, high humidity levels as well as numerous streams, rivers, creeks, and runnels characterize this biome still lush and rich in species. The Amazon's ecosystem accounts for one sixth of the world's freshwater. It circulates in a very short closed cycle comprising bodies of water, evaporation, precipitation, and storage in vegetation.

Biodiversity hotspot

The Amazon rainforest is one of the most biodiverse places on Earth. It is home to about 10 % of all the world's plant and animal species. The Brazilian part of the Amazon has 14,000 plant species, while the Amazon region as a whole has 427 mammal species and around 1,300 bird species. Over 2,400 species of freshwater fish live in the Amazon – more than one third of all known freshwater fish.

The giant Rio Amazonas

At 6,788 kilometers, the Rio Amazonas is the longest river on Earth. The flow rate at its mouth averages 35,000 cubic meters per second, swelling to 160,000 cubic meters per second at high water. Its delta, 250 kilometers wide, pushes freshwater up to 40 kilometers out into the Atlantic Ocean. Tidal waves up to five meters high and travelling at up to 70 kilometers per hour roll as far as 700 kilometers inland at full moon and new moon.

Highly coveted – highly endangered

The large areas of the Amazon rainforest still untouched today are highly coveted for many purposes – each promising huge economic gain. In many cases, exploitation is gradual, often illegal, and irreversible. First, roads, pipelines, and dams cut corridors deep into the vegetation. This clears the way for loggers to fell the most valuable trees. The resulting gaps in the tree canopy cause the undergrowth to dry out. This is set on fire as soon as the profitable trees have been removed. The burnt areas then serve as pastures for huge herds of cattle. As well as for grazing, the rainforest is also destroyed for gigantic monocultures of soy, corn, and sugar cane. Furthermore, the soils of the Amazon are rich in mineral resources. Iron ore in particular is mined in large quantities and turned into pig iron using charcoal from jungle trees. Between July 2020 and July 2021, 12,235 square kilometers of Amazon rainforest were cut down – more than in the previous 15 years.

Good news from the scientific community:

Far from the big cities, traditional food (fishing, hunting, gathering, growing crops) still provides unique knowledge about climate, seasonality, and the richness of plant and animal species. The research project Food Choice investigates how quickly this knowledge is lost when food is bought from supermarkets.

4. Caatinga

Arid and pale

Covered by thin vegetation, the Caatinga landscape is ten times the size of Austria. Though it receives roughly the same total amount of rainfall as Austria, precipitation here is concentrated into a short period and sometimes results in heavy flooding. The rest of the year is very dry and sunny. For many months the landscape appears arid and pale, inhospitable and forbidding. This is why the Tupi people, who originally lived here, gave it the name 'Caatinga' meaning 'white forest'. Creatures living here have adapted to the hot and dry conditions. The only plants able to survive the long periods of drought are perennials such as deciduous, waterstoring trees and all kinds of cacti. Some woody plants remain leafless for months on end and instead use their green bark for photosynthesis. Poisons and thorns serve as protection against herbivorous animals. There are over 1,000 species of plants found only in the Caatinga. Small, isolated wetter areas are scattered like islands across the dry landscape. There, new species have been able to evolve independently over long periods of time.

From forest to desert

The Caatinga was inhabited by humans already more than 20,000 years ago. Prehistoric rock paintings and remains of settlements bear witness to humankind's presence here. Today, the inhabitants of this region live mainly from cattle farming. Trees are cut down and the wood is used for building and as firewood, leaving behind sparsely vegetated areas of sand and rock. Goats graze on the thin shrubs and herbs in search of food. Such deforestation destroys the vegetation and creates veritable deserts. Reforestation of destroyed Caatinga forests is very time-consuming and in some places even impossible. One cannot simply plant young trees. Instead they must be left to grow for a while until their roots are long enough to reach the deeper, wetter layers of soil. Native plants include the carnauba palm. Its wax is used in the production of gummy bears and polishes. With fair marketing, this palm could be a sustainable product. Cashew trees are also grown on a larger scale to provide shade for livestock as well as fruits and seeds for sale.

The BrazilDry Experiment

Researchers led by Dr. Gislene Ganade from the Federal University of the State of Rio Grande do Norte in Natal have been working since 2016 to restore dry forest in the Caatinga. A deforested area formerly used for farming has been used by the researchers to plant 16 different tree species in various

combinations, with each combination replicated three times. The experiment aims to find out which combination of trees is the most successful when it comes to combatting the increasing desertification.

Good news from the scientific community:

Tropical dry forest can be restored and regrown. However, this is very resourceintensive, takes at least several decades, and is not always successful. That is why protecting natural areas is the number one priority and needs political support.

5. Pantanal

Water hyacinths and water cabbages

Covering almost 150,000 km², the Pantanal is one of the largest inland wetlands on Earth. Around 80 % of the total area lies within the borders of Brazil. The Pantanal is formed by a depression between the Andes to the west and the highlands of Mato Grosso to the east. Here the Rio Paraguay flows at a very gentle gradient, meaning that two thirds of the area is regularly flooded. Calm stretches of water are often covered by a dense carpet of water hyacinths, water cabbages, and floating ferns. The diversity of fish is enormous. During the dry season many small pools of water remain – home to South America’s largest population of caimans. During the rainy season dunes formed in the Ice Age rise out of the water as tree-covered islands. Many land animals retreat there, making them easy prey. Areas that dry out quickly after rainfall become tree-free savannah landscapes. These diverse elements making up the Pantanal result in a mosaic of very different habitats with a huge variety of animal species.

Tourism hotspot threatened by fire

The Pantanal remains almost entirely unpopulated, though its unique wildlife has made it a popular tourist attraction. However, the illegal poaching of crocodiles, big cats, birds, and rare ornamental fish threatens to disrupt the region’s fragile ecological balance. Even more dramatic is the danger posed by sand, fertilizers, and pesticides washed in from the large nearby farming areas. Absence of rainfall interferes severely with the natural flooding rhythm and the temporary formation of dry islands. Areas that remain dry for too long become highly vulnerable to fires. In 2020 alone, 30 % of the Pantanal was destroyed by fire.

Saving the world’s largest wetland area and its inhabitants

The incredible power of flood and fire makes restoring destroyed areas in the Pantanal a major challenge. A research group led by Professor Dr. Leticia Garcia from the Federal University of Mato Grosso do Sul has been working on potential solutions since January 2021. The participants are trying to revive traditional cultivation methods, especially around source rivers, and to involve indigenous communities in this process. Another goal is to grow the seeds of plants native to the area, which are essential when it comes to restoring large natural areas that have been destroyed.

Good news from the scientific community:

Restoring destroyed nature can help secure the supply of food and water for the indigenous population and increase their income. Science can provide the basic data and techniques for this.

6. Pampa

Field of specialists

The Pampas stretch across the extreme south of Brazil and into Argentina. Their name, which literally means 'plain' or 'field', has found its way into the German language, where it is used colloquially to refer to an area of land with few people and little going on. The landscape of the Pampas is dominated by subtropical grasslands interspersed with rock formations home to plant species adapted to the rugged conditions. Forests can only be found along rivers – wild animals and grazing livestock prevent trees from growing anywhere else. Despite their comparatively small size, the Pampas are home to more than 3,500 plant species – 550 are found only here, of which 120 are unique to the Brazilian part. The diversity of fauna is far smaller. The Pampas deer may take its name from this area, but it can also be found in other places.

Pampas grasses in danger

Before being colonized by the Portuguese, the Pampas were home to fishermen, hunters, and gatherers. Cattle breeding then became the main activity – and remained so until the 20th century. This gave us the familiar image of the gaucho, the South American cowboy. The landscape of the Pampas was originally shaped by large mammals, now extinct, and fire. As such, traditional pasture farming contributed to preserving local biodiversity. However, these traditional plants have increasingly been replaced with new species not usually found in the Pampas in order to grow fodder to boost productivity in livestock farming. These have displaced the highly specialized species native to the Pampas. Only recently have attempts been made to re-introduce these native plants. In the 1960s many grasslands and pastures were turned into arable land. The main crops are wheat and potatoes, but also soy. The genetically modified soy plants grown here are able to withstand herbicides such as glyphosate, which destroy all the native plant species. Use of artificial fertilizers also contributes to the displacement of native flora. Vast plantations of eucalyptus and pine monocultures have a particularly dramatic effect. Even once these have been harvested, the original vegetation is no longer able to grow back.

Making way for natural grassland

In an experiment, Professor Dr. Gerhard Overbeck and colleagues from the Federal University of Rio Grande do Sul in Porto Alegre are testing ways to restore grasslands destroyed by the large-scale planting of North American conifers. The trees are felled, then the needles covering the ground are left in one test plot, removed by hand in another test plot, and removed by fire in a third test plot.

Good news from the scientific community:

Where the needles were removed, grass grew back after two years. Fire has been shown to accelerate the regrowing process. However, restoring destroyed grasslands is an extremely resourceintensive process.

7. Cerrado

Closed landscape

Brazil is home to the largest contiguous savannah landscape in the world, covering 1.9 million square kilometers: the Cerrado. Its vegetation is classified as wet savannah, with a relatively large 1,000 to 2,000 mm of rainfall per year. The dry season is short at 4 to 5 months. The ground here is extremely low in nutrients and has large amounts of free aluminum. Adaptation to the extreme conditions has made the vegetation of the Cerrado predominantly evergreen and hard-leaved. The closely intertwined plants form an almost impenetrable thicket – hence the Portuguese name 'Cerrado' meaning 'closed'. The landscape is dominated by grasses and shrubs up to 1.5 meters in height, interspersed with individual trees or small forests. Regular fires prevent extensive forests from developing. The only dense areas of woodland

(known as gallery forests) can be found along rivers. With almost 13,000 native plant species, the Cerrado is considered one of the world's leading biodiversity hotspots.

Just 1 % under protection

Development of the Cerrado began only in 1960 with the creation of the new national capital Brasilia. The introduction of African savannah grasses to the Cerrado made cattle breeding on large farms a profitable business. From the 1980s phosphate fertilizer also enabled arable farming with monocultures of soy, corn, and eucalyptus. In recent times, sugar cane – used to make bioethanol fuel – has become increasingly important. Today two thirds of the Cerrado is used for agriculture. This has resulted in half of the original natural vegetation being completely destroyed. Preserving the Cerrado would require large areas of land to be protected in their entirety. Currently, however, only about 1 % of vulnerable habitats enjoy protected status.

The Power of Xavante People

The Xavante people, or Auwe as they call themselves, inhabit the savannahs of the Cerrado, a landscape rich in water and birds. They are also known as the 'water people'. Their habitat is being destroyed by soy plantations and corn farms, mining, and hydroelectric power plants. Twenty years ago, they founded the Xavante Wara Association, an NGO which works to preserve the biodiversity of the Cerrado.

The good news:

From just a few villages working together, the NGO founded by the Xavante people has grown to become a strong political force that works on a wide range of projects aimed at enabling the Auwe to shape their own future and to preserve the world's largest wet savannah.

Further information for journalists:

The exhibition is accompanied by a **blog** at www.nhm.at/blog/brasilien with regular contributions on topics related to Brazil's history and natural spaces, as well as on the background to the exhibition.

The **exhibition brochure** "BRAZIL. 200 years of relations" is available in the shop of the NHM Vienna.
Price: 6,90 €

For the **supporting programme** to the exhibition please visit our website:
https://www.nhm-wien.ac.at/en/exhibitions/special_exhibitions/brazil

Information:

Opening hours:

Thursday-Monday: 9 a.m. - 6.30 p.m.

Wednesday: 9 a.m. - 9 p.m.

Tuesday: closed

last entrance half an hour before closing time

Exceptions:

Tue, November 1, 2022: open 9 a.m. - 6.30 p.m.

Tue, December 27, 2022: open 9 a.m. - 6.30 p.m.

Tue, January 3, 2023: open 9 a.m. - 6.30 p.m.

Ticket offers:

| | |
|---|---------|
| Adults | € 14,00 |
| Reduced | € 10,00 |
| Groups (15 or more people) – per person | € 10,00 |
| Students, apprentices, soldiers and civilian servants | € 10,00 |
| Annual pass | € 36,00 |
| Children (until 19 years) and owners of „Kulturpass“ | free |

About the Natural History Museum Vienna

Mission Statement

The Natural History Museum Vienna preserves, expands, researches and presents its extensive collections covering biology, earth sciences, anthropology and archaeology in a building designed as a total work of art. It conveys the diversity of nature, the evolution of Planet Earth and life, and the related cultural development of humankind. Furthermore, it serves as an inspirational meeting place for dialogue and exchange of ideas between the scientific community and the general public.

Vision Statement

The Natural History Museum aims to make a significant contribution to sustainable development in Austria, Europe and the world. We strive to achieve this goal through our excellent disciplinary, interdisciplinary and participatory research, by opening up our collections to a wider audience using digital technology, by employing innovative, inclusive and inspiring approaches to teaching science, and by becoming a fully carbon-neutral museum by 2030.

Museum Concept

Founded over 270 years ago, we are a research museum whose origins date back to the imperial collections of the 18th century. "Dedicated to the kingdom of nature and its exploration", our building, exhibitions and collections form a total work of art with a unique atmosphere in the heart of Vienna.

Collecting, preserving, researching, presenting and communicating have always been central to our museum. Our staff takes pride in preserving, expanding, displaying and studying the museum's collections comprising more than 30 million objects from biology, earth sciences, anthropology and archaeology. We share the results of our independent, excellent research work in a variety of ways, including exhibitions and activities held both at the museum and online.

We strive to make research visible as a dynamic process that constantly raises new questions.

We present an overall picture of our planet and its history, showcasing the diversity of nature as well as the evolution of life and the biological and cultural development of humankind. The main museum building and its branches invite a diverse public to enjoy the wonders of nature. These locations should serve as places of inspiration where visitors can learn to appreciate the natural world. We see it as our task to create an inclusive platform for participation, dialogue and an exchange of views on current issues.

In times of global change, our museum staff cooperates closely with the international research community to address burning issues like climate change, rapid loss of biodiversity and the changing relationship between humans and nature. With our expertise we wish to contribute to creating broad awareness of the causes and the consequences of ongoing developments and are committed to responsible action for the future.



The NHM Vienna is certified with the Austrian Eco-label.

The NHM Vienna is part of the project "17x17 - 17 Museums, 17 SDGs: UN Sustainable Development Goals". An initiative of ICOM Austria in cooperation with the Federal Ministry of Arts, Culture, Public Service and Sport.



We thank Illy - the coffee sponsor of the press conferences of the NHM Vienna.