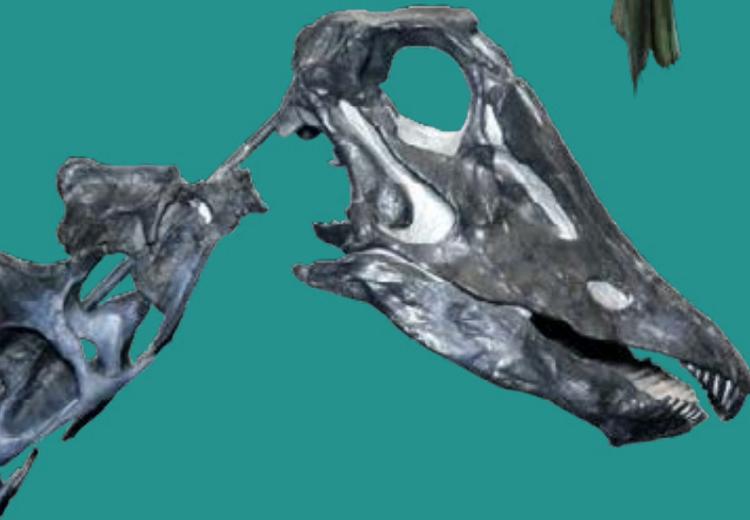




Easy-to-read

ACCESSIBLE GUIDE

Essential Pieces of the MNCN



mncn 25

1771
2021

museo
nacional de
ciencias
naturales

Text and graphic design: Deputy Direction of
Communication and Scientific Culture and Deputy
Direction of Exhibitions of the MNCN

Images: Deputy Direction of Communication and
Scientific Culture, Photography Service and Deputy
Direction of Collections of the MNCN

Legal Deposit: M-30898-2023

Adaptation to Easy-to-read:
Plena Inclusión Madrid



With the collaboration of Fundación Española para la Ciencia
y la Tecnología – Ministerio de Ciencia e Innovación



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Introduction

Welcome to the National Museum of Natural Sciences.

The people who work in the museum have prepared 20 explanations of the most important pieces that we have in our Biology and Geology halls.

Follow the route,
find the pieces on each page,
and discover some curious and incredible things.

Don't miss out!

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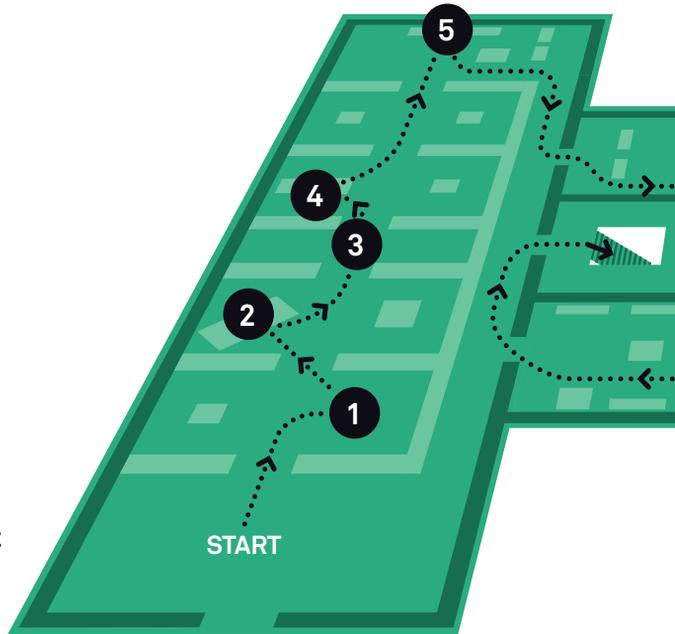
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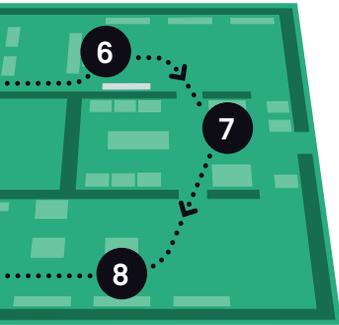
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Bee-eaters

Bee-eaters are birds typically found in our natural environment. They have very striking colours and eat bees.

In this case there are 37 bee-eaters.

What you see here is a mock-up known as a diorama. In a diorama, animals and plants are placed in their natural habitat in order to display a scene. The taxidermist José María Benedito created this one 100 years ago.

A taxidermist is a person who works with the bodies of dead animals and conserves their expressions as if they were alive.

José María Benedito spent a lot of time looking at the Bee-eaters in order to get to know them well.

The uneven ground, where the bee-eaters are came from the El Pardo mountain to the museum so that the model could be more real.

On the other side of the case, you can see how bee-eaters make their nests. These birds make tunnels to lay their eggs.





African Elephant

The African Elephant is the largest land animal in the world.

The Duke of Alba hunted this elephant in Sudan more than 100 years ago.

Sudan is a country in Africa.

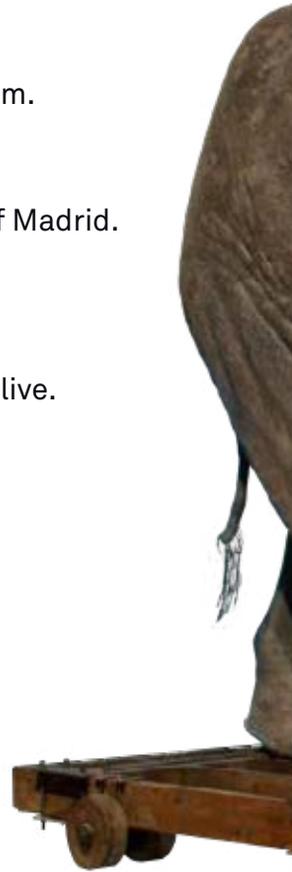
The Duke gifted the elephant's hide to the museum. The museum kept it for 10 years and afterwards the taxidermist Luis Benedito, brought the hide to the Royal Botanical Garden of Madrid.

A taxidermist is a person who works with the bodies of dead animals and conserves their expressions as if they were alive.

The hide of the elephant weighs 600 kilos, which is, more or less, the weight of a small car.

In 1930 the elephant was brought from the Royal Botanical Garden to the National Museum of Natural Sciences mounted on this wooden carriage.

Many people in the street looked at this elephant with astonishment.





Fin Whale or Finback Whale

The Fin Whale or Finback Whale is the second largest animal in the world.

The biggest animal in the world is the Blue Whale.

The Fin Whale is one of the fastest whales and it produces sounds that can be heard more than 100 kilometres away, through water.

The skeleton that hangs from the ceiling is from an adult female that died on a beach in Marbella in 2008.

It measures a little more than 20 metres and weighs 2,500 kilos, which is, more or less, the weight of a small truck.

The government of Marbella organised a contest between the children of various schools to give a name to this whale. The winning name was Vega.



Giant Tortoise

Giant tortoises can live for up to 100 years. They can survive for up to a year without eating or drinking.

But nowadays, hunting and other threats are wiping out many species of tortoises.

Giant tortoises are very important animals for science.

For example, the English scientist Charles Darwin studied tortoise shells more than 150 years ago.



These studies allowed him to develop his famous theory of evolution.

The theory of evolution explains how living beings have changed over the course of years, in order to adapt to life.

By the way,

have you read the book or seen the film of 'The Neverending Story'?

The character of Vestusta Morla is a giant tortoise.



Thylacine

The thylacine was a carnivorous animal that looked similar to a wolf. Its fur had some stripes like those of the tigers. and a pouched named a marsupium, like that of a kangaroo.

This animal disappeared in 1936.
The last thylacines lived on an Australian Island called Tasmania.



People considered them dangerous and hunted them. The reasons for their disappearance were hunting, new illnesses, and other animals that people brought to Tasmania.

The museum bought this thylacine in London nearly 100 years ago. It is one of the best preserved thylacines in the world.

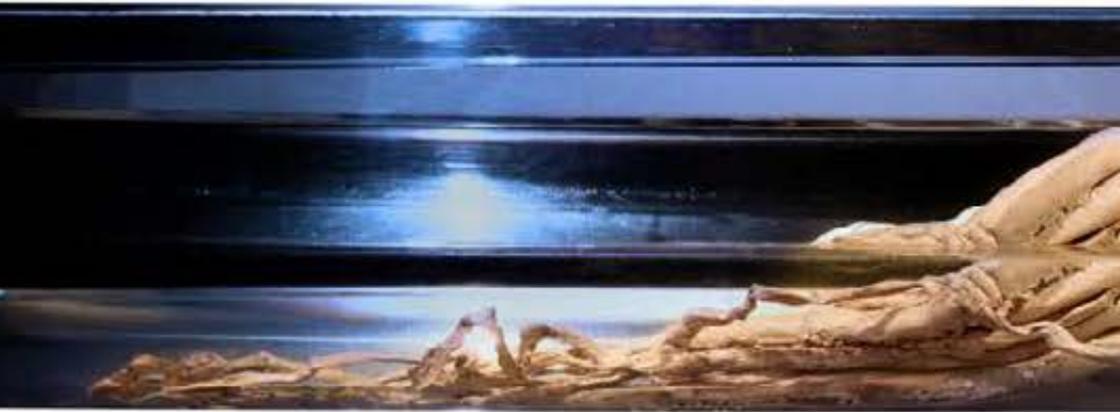


Giant Squid

The giant squid is the biggest mollusc in the world. A mollusc is an invertebrate animal, which means, it does not have bones.

Scientists wish to know more about the giant squids. But it is very difficult because they live in the depths of the sea.

The squid we have in the museum is a female that appeared in Malaga in 2001. It weighed 65 kilos and measured 7.5 metres in length, a little more than a 2 storey building.



The body is conserved in a mix
of water and alcohol so that it does not rot.

Many years ago,
some sailor stories told of
how giant squids would attack boats.
The sailors named the giant squids as kraken
and they believed they were sea monsters.

Look for the giant squid in the museum
and you will get an idea
of what it would be to find one in the sea!



Chamois

Chamois are animals that live on mountains and eat plants

they look similar to goats.

Their horns are thin and curve at the tip.

The females and males look the same.

They are very active animals that rest at midday.

Chamois live in large herds

which in winter, can have more than 100 animals.

What you see here is a mock-up known as a diorama.

In a diorama, animals and plants are placed

in their natural habitat in order to display a scene.

This was the first diorama by the Benedito brothers who were taxidermists.

A taxidermist is a person who works

with the bodies of dead animals

and conserves their expressions as if they were alive.

These chamois are 2 males and a female that lived in the Picos.

The Picos are mountains in the north of Spain.

Specifically, Asturias, León, and Cantabria.

The chamois were a gift from King Alfonso the 13th to the museum.



Spanish Moon Moth (Mariposa Isabelina)

The Spanish Moon Moth is one of the largest and most beautiful in Europe.

It measures between 8 and 9 centimetres and it only flies at night.

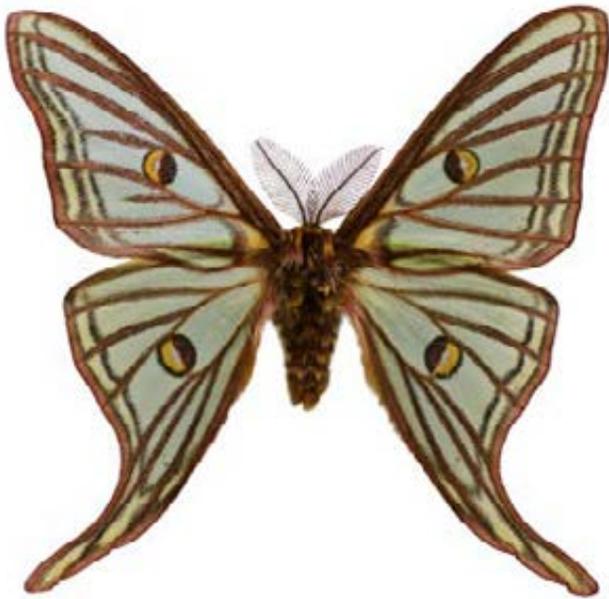
The males and females are different the males have a small tale and feathered antennae which help them locate the females.

The scientist Mariano de la Paz Graells, discovered this butterfly species more than 170 years ago with the help of his dog in the hills of Peguerinos, in Avilal.

Mariano de la Paz named the butterfly in honour of Isabel the 2nd who was the Queen of Spain at that time.

Mariano de la Paz Graells was the director of the National Museum of Natural Sciences.

Male



Female



Asian Elephant

The Asian Elephant is different to the African Elephant because it is a lot smaller and it has small, round ears.

King Carlos the 3rd had 4 of these elephants.

One of these can be seen here.

He liked them a lot because they are very intelligent.

This elephant arrived from the Philippines 250 years ago. It only survived 4 years in Aranjuez.



The king sent an expert to naturalise and conserve it. To naturalise is to prepare the body of a dead animal to conserve it as if it were alive.

This naturalised elephant has great historical value.

In the hall of the museum dedicated to the Royal Cabinet of Natural History you can see the preserved skeleton and hide of this elephant.

The Royal Cabinet of Natural History was the first natural sciences museum in Spain.



Giant Japanese Crab

The Giant Japanese Crab can reach up to 4 metres in length, weigh 20 kilograms and live 100 years.

In Japanese legend they tend to be evil creatures, but in reality they are not.

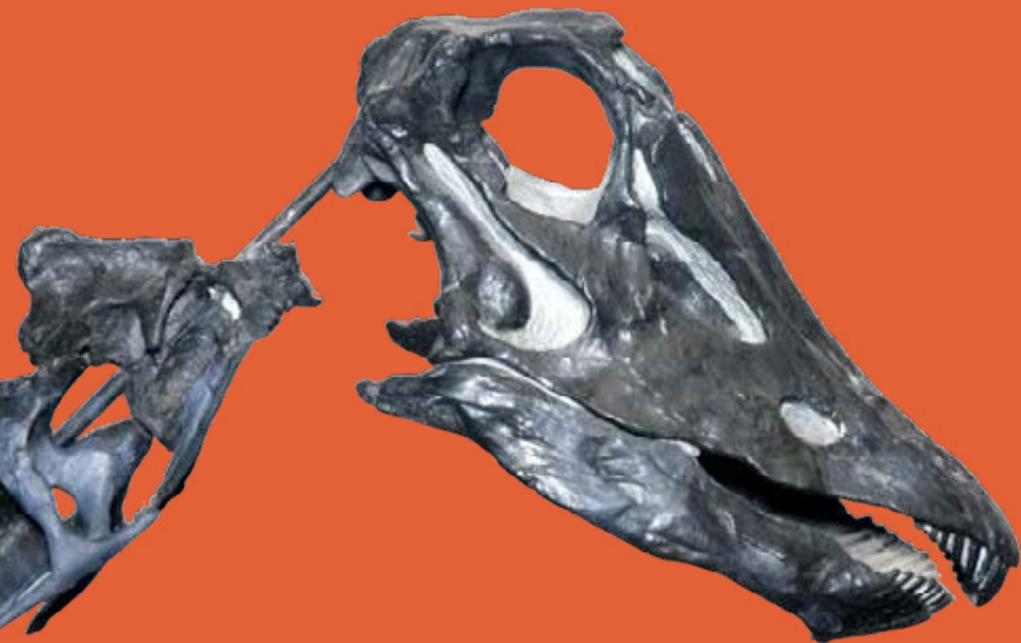


They are weak animals
which eat the remains of other dead animals
and decorate their shells in algae
in order to hide themselves on the sea floor.

We do not know when this piece arrived at the museum,
but we think it was in the 19th century.
It is one of the oldest animals that we have in the museum.



Geology

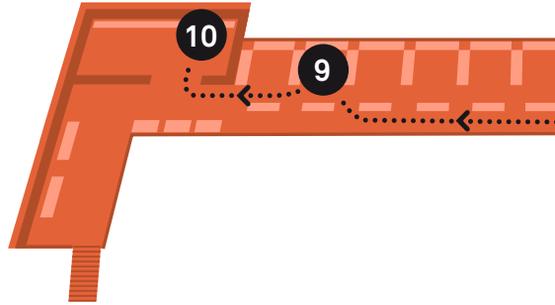




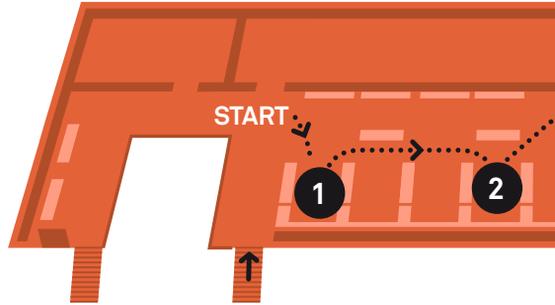
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2 Ichthyosaur



3 "Iberomesornis romerali"

Trilobite

Have you ever heard anyone talking about the Trilobites?

The name sounds a bit like a rock band,
but, in reality,
they are a group of invertebrate animals
that lived in the earth millions of years ago.
Invertebrate animals are those that do not have bones.

Their body was flat and had 3 sections.
They could be of different sizes,
very small like an ant
or much bigger like a cat.

In the museum we have a collection of trilobite fossils
and of their footprints.
Fossils are the remains of animals and plants
that turned to stone years ago.

These fossils that we have here
come from a dig site in Zaragoza and another from Russia.
A dig site is a place where there a lot of fossils.



Ichthyosaur

Ichthyosaurs are reptiles that lived in earth's seas in the time of the dinosaurs.

Reptiles are animals with bones and scales, for example, snakes or tortoises.

In one of the museum's cases we have the fossil of a female ichthyosaur fossils are the remains of animals and plants that turned to stone years ago.

Juan de Vilanova y Piera was a famous palaeontologist who studied fossils and obtained the ichthyosaur in Germany in the 19th century.



Look closely at this fossil and you will see that this female is pregnant. There is a fetus in the body of the female. This is so because they were viviparous animals. Viviparous animals are animals that were born from their mother's body. They do not come from eggs.

This discovery created doubts between the scientists of this period because they believed these animals came from eggs.

The scientists looked for other explanations. Some of which were quite strange, for example, they said that the female had eaten a child.



“Iberomesornis romerali”

Palaeontologists found the fossil of this bird in the dig site in Las Hoyas, in Cuenca.

Palaeontologists are the experts that look for, and study animal fossils.

Fossils are the remains of animals and plants that turned to stone many years ago.

The discovery of this fossil was very important for science.

It was the first fossil of a bird skeleton that was able to fly by moving its wings.

Scientists believe that it is an animal that evolved from the dinosaurs.

It has a mix of characteristics from the dinosaurs and from modern-day birds.

This animal lived on earth 120 million years ago and had a similar size to a sparrow.

What we have in the museum is a copy of the fossil.



“Diplodocus carnegii”

In the exhibition hall for minerals
fossils, and human evolution,
there is a skeleton of a very big animal
which leaves visitors surprised

¿Can you guess what animal it is?
It is Dippy, a diplodocus.

The diplodocuses were very large dinosaurs
that walked on their 4 legs.
They had a long neck
and a large and flexible tail like a whip.

They could be as tall as a tree
and as long as 5 cars

They were herbivorous animals,
which means, they ate grass and plants.

They lived on the earth 150 million years ago.

The exhibit we have in the museum
is a copy of an original one, which is in the United States.

This is a gift
by the American millionaire
and businessman Andrew Carnegie
to the King Alfonso the 13th more than 100 years ago.

It was the first dinosaur displayed in Spain
And it made many people curious.



Cave Bear

¿Can you imagine if a time machine existed?

We would be able to travel to an ancient time in which there were enormous mammals for example, mammoths, giant deer and sabre-tooth tigers. Mammals are the animals which are born from the womb of their mother and feed from her milk when they are small.

The cave bear is one of the biggest carnivorous animals that has lived on earth but it is not an ancestor of the bears that live nowadays

In the museum you can see the skeletons of an adult male and a baby from Russia.

Cub
skeleton





Homo neanderthalensis
neanderthalensis

Il Neanderthal è un'antica specie di Homo, che visse in Europa e nel Medio Oriente tra il 400.000 e il 40.000 anni fa. È considerato un cugino estinto dell'uomo moderno (Homo sapiens).
Le sue caratteristiche principali sono:
- Cranio più grande e robusto rispetto all'uomo moderno.
- Spina dorsale curva, adatta a una camminata a quattro zampe.
- Mani e piedi più robusti e adatti a camminare su terreni irregolari.
- Presenza di denti canini più sviluppati.
- Capacità di sopravvivere in ambienti freddi, grazie a un corpo ricoperto di peli e a un metabolismo più lento.

Neanderthal

mnc

Storia

La storia del Neanderthal è affascinante e piena di misteri. Per secoli si è pensato che fosse un essere primitivo e incapace di parlare. Oggi, invece, sappiamo che era un essere intelligente e capace di usare strumenti e di vivere in gruppi sociali.

Le prime scoperte di resti di Neanderthal risalgono al 1856, in una grotta tedesca. Da allora, si sono trovati molti altri esemplari in tutta Europa e nel Medio Oriente.

La datazione dei resti ha permesso di stabilire che il Neanderthal visse in Europa per circa 400.000 anni, fino a circa 40.000 anni fa, quando scomparve. La causa della sua estinzione è ancora sconosciuta, ma si ritiene che potrebbe essere stata dovuta a cambiamenti climatici o alla competizione con l'uomo moderno.

“Palaeoloxodon antiquus”

¿Can you imagine if you found the remains of an elephant that lived millions of years ago under the ground you tread on every day to catch the train?

Palaeontologists discovered some elephant fossils in an old train station in the Villaverde Bajo neighbourhood of Madrid in 1958.

Palaeontologists are the experts who look for and study animal fossils

These elephants were very tall and their tusks were very long.

The palaeontologist Emiliano Aguirre was given the task of studying and assembling this elephant skeleton.

He needed the remains of 2 elephants to make the skeleton you see here.

Thanks to progress in science scientists have recently discovered that this elephant species is similar to the African elephant.



Megatherium

This is the skeleton of a Megatherium.
A megatherium was like a giant sloth
it had a very strong tail
that helped it stand upright
and reach with the highest twigs in the trees
with its claws.

This is the first fossil skeleton of a mammal
to be reconstructed and displayed.
Mammals are the animals which are born
from the womb of their mother
and feed from her milk when they are small.

The zoologist Juan Bautista Bru
was given the task of organising
the display of this skeleton.
A zoologist is a person who studies animals.

The museum has kept the original display
for its historic value
although the position of the skeleton is not correct
because it should be upright.

The palaeontologist Georges Cuvier was the person
who studied this animal.
Palaeontologists are the experts
who look for and study animal fossils.





“Australopithecus afarensis”

In the human evolution room of the museum you can find the ‘Australopithecus afarensis’.

This is the scientific name of one of our closest ancestors.

It was different to us in a variety of ways:

- It’s skull was smaller than ours.
- Its chest was bell-shaped because the top part was thinner than the bottom part.
- There were many differences between the bodies of males and females.

Elizabeth Daynès, a French artist and palaeontologist, made this reconstruction with remains of bones found in 1974, in Ethiopia.

Ethiopia is a country in Africa.

Palaeontologists are the experts who look for and study animal fossils.

The scientists decided to name the skeleton Lucy in honour of the Beatles song that they were listening to when they discovered the bones.



Conil Sulphur

Sulphur crystals attract the attention of all of the visitors in the mineral, fossils, and human evolution hall. Sulphur crystals are displayed in this hall because sulphur is a mineral.



These sulphur crystals come from Conil de la Frontera, in Cadiz, and are more than 200 years old. They were very valuable and were even worth more than silver.

The museum has more than 60 examples of this mineral without a doubt, what you see here is one of the most beautiful in the world.



Meteorite from Molina de Segura

In the early hours of the 24th of December 1858 the residents of Molina de Segura, in Murcia, were preparing to celebrate Christmas Eve. When suddenly, a meteorite hit the area and caused a loud noise and a tremor that seemed like an earthquake. Meteorites are materials that are in space and fall to the earth. Meteorites look like rocks.

This was the largest meteorite to hit Spain. It weighed 144 kilos.

The scientists studied it carefully they cut it into pieces and sent them to the different natural history museums of the world. Such as, Chicago, Washington, and Paris.

The piece we have in the museum is the largest it weighs 112 kilos.





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