ALTO MINHO

LANDSCAPES

SPECIES

STORIES

cim alto minho
comunidade intermunicipal do alto minho

NORTE2020 PORTUGAL 2020 UNIÃO EUROPEIA
Fundo Europeu de Desenvolvimento Regional

The air we breathe, the food we eat, the water we drink, the mild planet we live in...

Human dependence on biodiversity is total and immemorial. But it is not only a biological dependence, it is also cultural: beliefs, values, behaviours and objects created over generations allow us to understand and interact with nature.

In this itinerant space, open to curious of all ages, we reveal the beauty of biodiversity and the cultural richness of Alto Minho.

We offer an ecological and social perspective, showing some of the species that inhabit this region, exploring a wide variety of landscapes and unraveling how Alto Minhotos (the people living in Alto Minho) relate to this territory and its biodiversity.

Essentially, we aim to inspire everyone to contemplate nature and to realize that we are just one more species on the planet.

This is a PDF version of an interactive digital book (in iBook format) which compiles elements from the exhibition “Alto Minho: landscapes, species, stories” that travelled through the ten municipalities of Alto Minho in 2019 and 2020

You can obtain the iBook version here.

A PROJECT BY

cim alto minho
comunidade intermunicipal do alto minho

CREATED BY

folk & wild
serviços criativos para património!

INTERACTIVE BOOK?

A PDF is not able to host interactive elements like an iBook does. So, although we couldn't include the other types of interaction, we've created web links to the videos present in the original format - most of them are under a minute.

You can obtain the iBook version here.

Video

DOCUMENTARY

"A teus pés" (at your feet) is a documentary about the landscapes and species of Alto Minho, as well as their interaction with humans. It's a contemplative documentary, which aims to present the moments and details that often pass unnoticed on our daily lives: beauty, wonder, prodigies… all at our feet.

LANDSCAPES

SPECIES

STORIES

Landscape /ˈlænd.skeɪp/ noun

Geographic space characterised by
physical, biological and human elements.

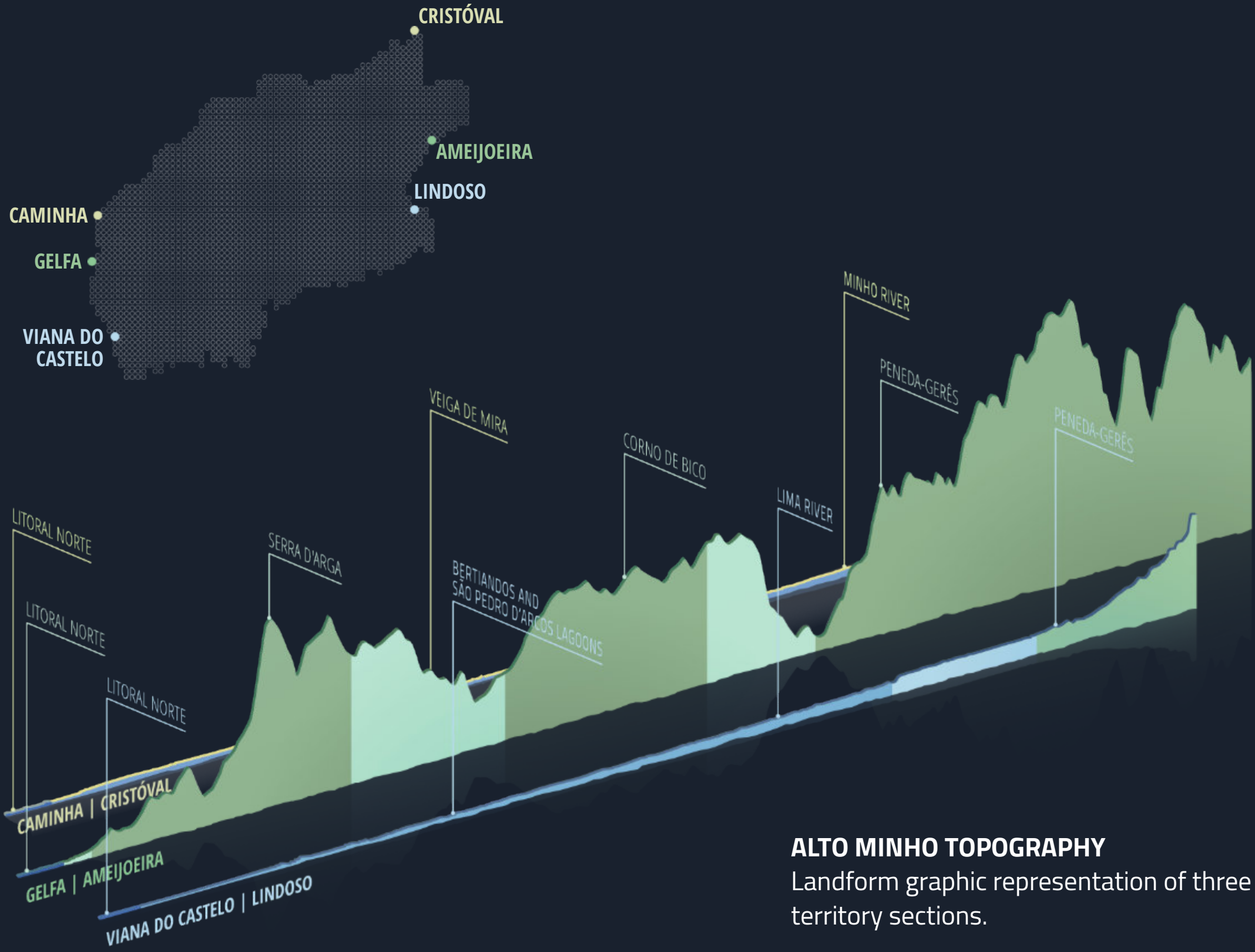
The Alto Minho region is a complex and time-wrinkled landscape.

Captive of the Atlantic Ocean, the Leon Mountains and the rivers Minho and Lima, the landscape of Alto Minho has been constantly changing since the formation of the Mediterranean Sea (250 million years) and the opening of the Atlantic Ocean (150 million years), passing through the climatic fluctuations over the last 2 million years.

The presence of perpetual snow at 1000 m altitude during glacial periods, followed by thawing during the milder (interglacial) periods, helped to sculpt towering mountains and deep valleys.

The result is a peculiar landscape where a short West to East transect of 70 km rises from a sandy beach with mild climate to high-altitude oak forests where the influence of the continental climate is notorious. This heterogeneity shapes the biodiversity and influences the culture of human populations that, since prehistory, inhabit the Alto Minho region.

Alto Minho total area: **2255 km²**
Total area of protected landscape: **445 km²**



ALTO MINHO TOPOGRAPHY
Landform graphic representation of three territory sections.

CORNO DE BICO

Bruschia vogesiana **moss has only been described for four places in Portugal, one of them Corno de Bico.**

The oak forest of Corno de Bico was planted in the 1940's.

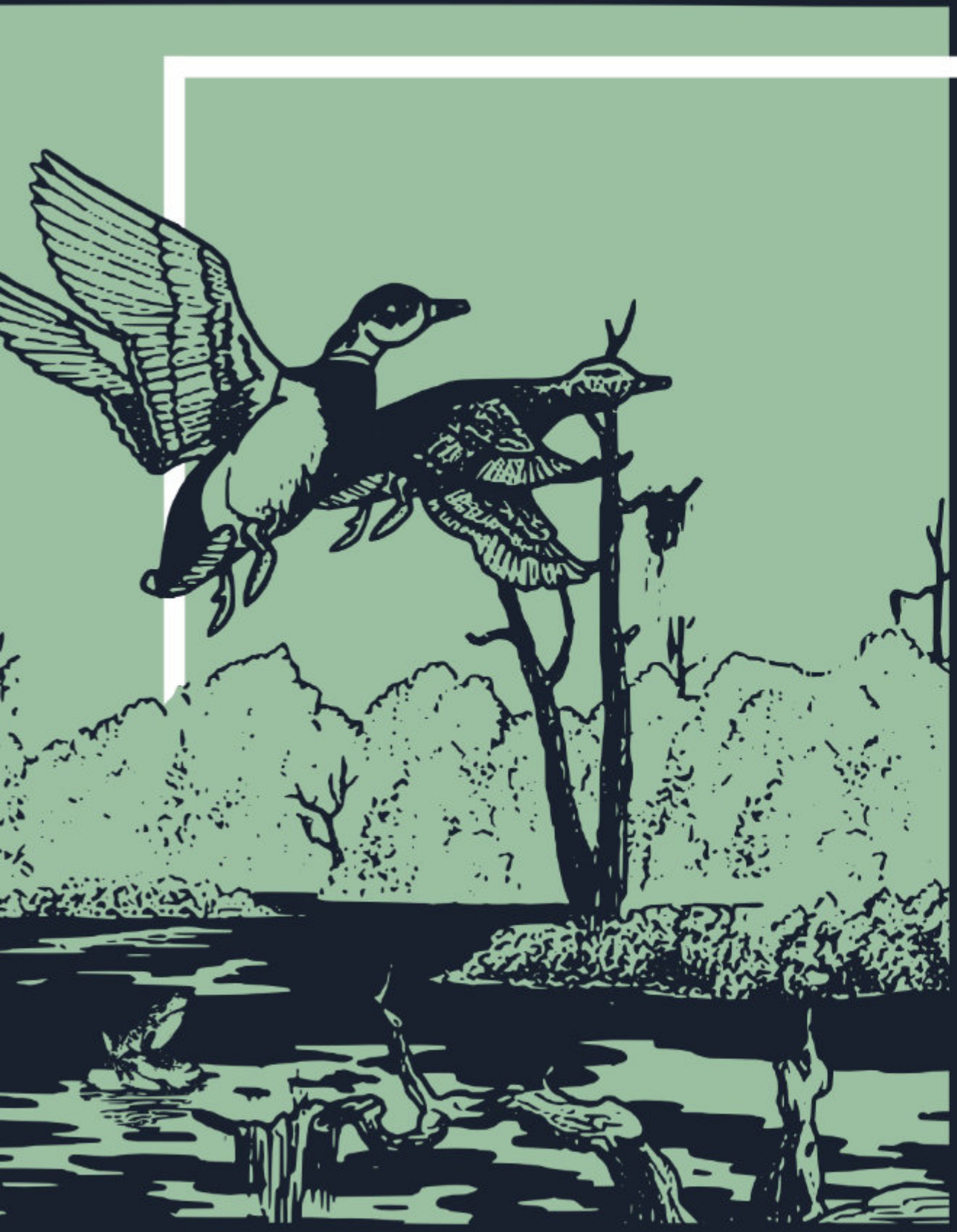
The protected landscape of Corno de Bico was established in 1999 and comprises 5139 ha of five parishes, in the municipality of Paredes de Coura. This area is mostly mountainous, reaching 883 m of altitude at its highest point, and is made up of a mosaic of habitats: oak forests, riparian galleries, marshes, bogs and meadows. In this landscape springs the river Coura, that flows to the Atlantic and meets the river Minho's estuary in Caminha.

In Corno, several species with high priority conservation status occur, such as the Iberian wolf (*Canis lupus signatus*), the Montagu's harrier (*Circus pygargus*), the Golden-striped salamander (*Chioglossa lusitanica*) and the Pyrenean desman (*Galemys pyrenaicus*).

CONSERVATION STATUS

SCI

Protected Landscape



BERTIANDOS AND S. PEDRO D'ARCOS LAGOONS

1/4 of the Estorãos River length flows within this protected landscape (3.5 km out of 14 km).

BERTIANDOS AND S. PEDRO D'ARCOS LAGOONS

ALTO MINHO

Bertiandos and S. Pedro d'Arcos Lagoons are a RAMSAR site since 2001.

Riparian forest

The protected landscape of Bertiandos and S. Pedro d'Arcos Lagoons is located in the municipality of Ponte de Lima and was created in the year 2000. Despite small (346 ha), this landscape is characterised by a high diversity of wetland habitats: lagoons, meadows and riparian forests.

Here, one can find:

- riparian plants (e.g.: marsh violet, *Viola palustris* and willow, *Salix sp*);
- freshwater fishes (e.g.: boga, *Chondrostoma polylepis*) and migratory fishes (e.g.: European eel, *Anguilla anguilla*);
- amphibians (e.g.: mediterranean tree frog, *Hyla meridionalis*);
- reptiles (e.g.: Iberian emerald lizard, *Lacerta schreiberi*);
- waterfowl (e.g.: Eurasian coot, *Fulica atra*);
- and mammals associated with water courses (e.g.: Eurasian otter, *Lutra lutra*).

Given its relevance for the conservation of biodiversity, this landscape is of international importance, being the only wetland in the northern region of Portugal designated as a RAMSAR site.

CONSERVATION STATUS

RAMSAR List

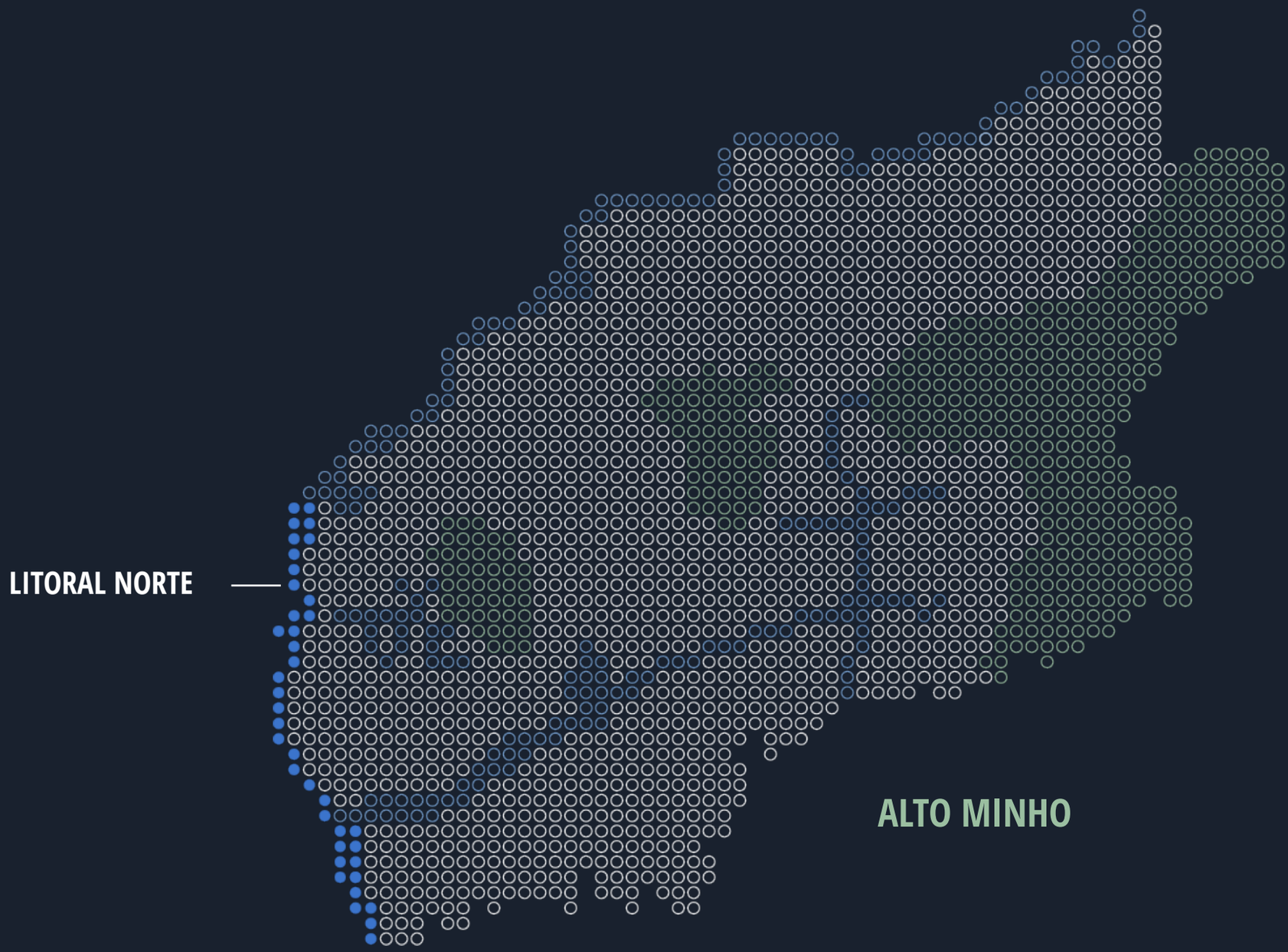
SCI

Protected Landscape

LITORAL NORTE

Man's relationship with the sea, on this northern coast, dates at least back to the Iron Age, as the salt sinks (pias salineiras in Portuguese) indicate.

(These are rock carved structures in the high tide zone, which served to produce salt.)



Sargaço (mixture of algae) was once a valuable resource for families in the region that used it as agricultural fertiliser. Nowadays, the harvest of these algae is residual.

Camarido pine forest

The landscape known as Litoral Norte encompasses the Atlantic coast from Caminha to the mouth of the Neiva river, in Viana do Castelo. This landscape consists of several habitats:

i) sand banks and submerged rocks where algae abound (e.g.: bladder wrack), fish (e.g.: Rajidae rays), mollusks (e.g.: scallop) and cephalopods (e.g.: octopus);

ii) sandy and rocky intertidal areas where sandpipers (Aves) and sea slugs (Mollusks) are found, respectively;

iii) dunes where flora adapted to the extreme conditions of salinity and sun exposure live (e.g.: cottonweed and European marram grass);

iv) patches of pine forest (*Pinus pinaster atlantica*) such as Camarido Forest, where the Portuguese crowberry (*Erica album*) occurs. In the dune-to-woods transition zone there are invasive species such as the Hottentot fig (*Carpobrotus edulis*) and golden wattle (*Acacia longifolia*) which were once introduced to stabilize the dune cord. Efforts are currently being made to remove these plants as they hinder the development of native flora and thus impoverish local biodiversity.

CONSERVATION STATUS

SCI

Natural Park

PARQUE NACIONAL DA PENEDA-GERÊS

PENEDA-GERÊS NATIONAL PARK

240 km² area of the Peneda-Gerês National Park in the Alto Minho
vs
2255 km² total area of the Alto Minho

Human density vs wolf density:
9.9 *Homo sapiens*/ **km²vs 0.02** *Canis lupus*/ **km²**

River winding its way through the valley

Established in 1971, the Peneda-Gerês National Park (PNPG) is located in the northwest of Portugal.
Its area (70000 ha) covers the municipalities of Alto Minho (Melgaço, Arcos de Valdevez, Ponte da Barca), Baixo Minho (Terras de Bouro) and Trás-os-Montes (Montalegre).

The Park encompasses the Gerês, Peneda and Amarela Mountains, with altitudes exceeding 1500 m. These mountains have been humanized since prehistory as shown by the megalithic monuments found in Castro Laboreiro and Mezio. The PNPG landscape was shaped by the elevation of the Central Iberian massif (300 million years ago) and more recently by the great climate fluctuations (1.8 million years - 10000 years, Quaternary).

The habitats of this region include oak forests, scrublands, riparian forests and marshes.

- Oak trees (*Quercus robur*), Butcher's broom (*Ruscus aculeatus*) and holly (*Ilex aquifolium*) abound in oak forests.
- The scrublands are dominate by gorse (*Ulex minor* and *Ulex europaeus*), heather (e.g.: *Erica umbellata*, *Erica arborea* and *Calluna vulgaris*) and "carqueja" (Portuguese broom, *Genista tridentata*).
- Next to the watercourses one can find European chain ferns (*Woodwardia radicans*), willows (*Salix repens*) and birch (*Betula pubescens*) among others.
- Of the invertebrates stands out the stag beetle (*Lucanus cervus*) because it depends on mature oak forests and the Kerry spotted slug (*Geomalacus maculosus*) for being endemic to the Iberian Peninsula and Ireland.
- Regarding vertebrates, of the 235 species inventoried in the park, 71 are considered endangered species in the Red Book of Vertebrates of Portugal. For instance, the gold-striped salamander (*Chioglossa lusitanica*), the Iberian frog (*Rana iberica*), the Seoane viper (*Vipera seoanei*), the golden eagle (*Aquila chrysaetus*), the eagle-owl (*Bubo bubo*), the Iberian wolf (*Canis lupus signatus*), the Eurasian otter (*Lutra lutra*) and the lesser horseshoe bat (*Rhinolophus hipposideros*).

CONSERVATION STATUS

Biosphere Reserve

SPA

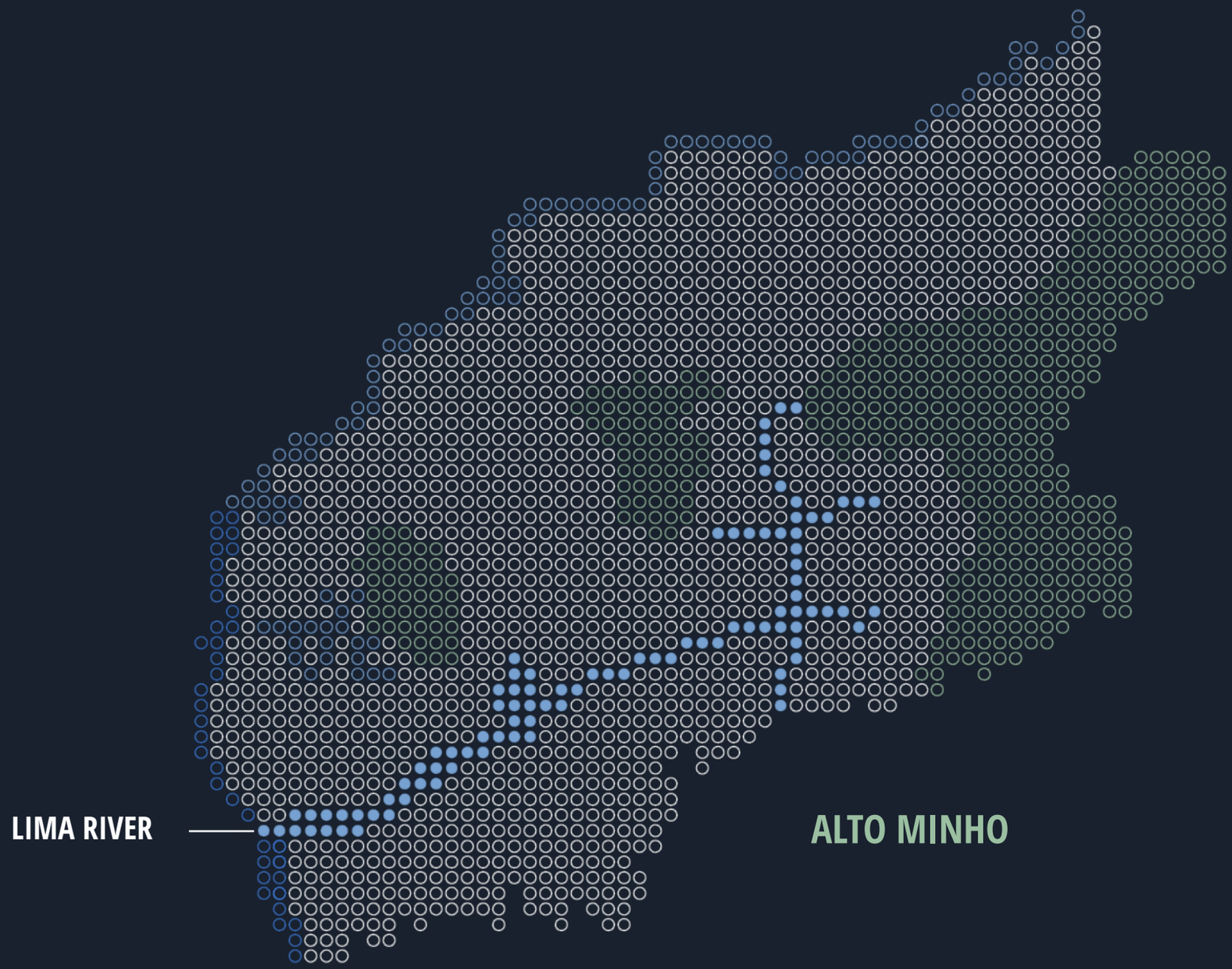
SCI

National Park

LIMA RIVER

Lima river legend: The Romans believed that the Lima river was the Lethe river, the oblivion river in mythology.

(During the conquest of the Iberian Peninsula, the Romans were resistant to crossing the Lima / Lethe river. But the boldness of General Decimus Junious overthrew the legend: he crossed the river and from the other shore called his soldiers, one by one, by their name.)



The average annual rainfall in the Lima river basin ranges from 1300 to 4200 mm.

Rio Lima running through the valley

The Lima River travels 135 km in Alto Minho's territory, from Ponte da Barca to Viana do Castelo, where it flows into the Atlantic. The river and its banks constitute a corridor that connects the coastal zone with the Peneda-Gerês National Park.

This landscape is dominated by agricultural spaces, interspersed with riparian forests. In the estuary there is a mosaic of meadows, reeds and marshland known as Veiga de São Simão which has great importance, not only for resident birds (e.g.: Eurasian coot, *Fulica atra*) but also for migratory ones (e.g.: sedge warbler, *Acrocephalus schoenobaenus*).

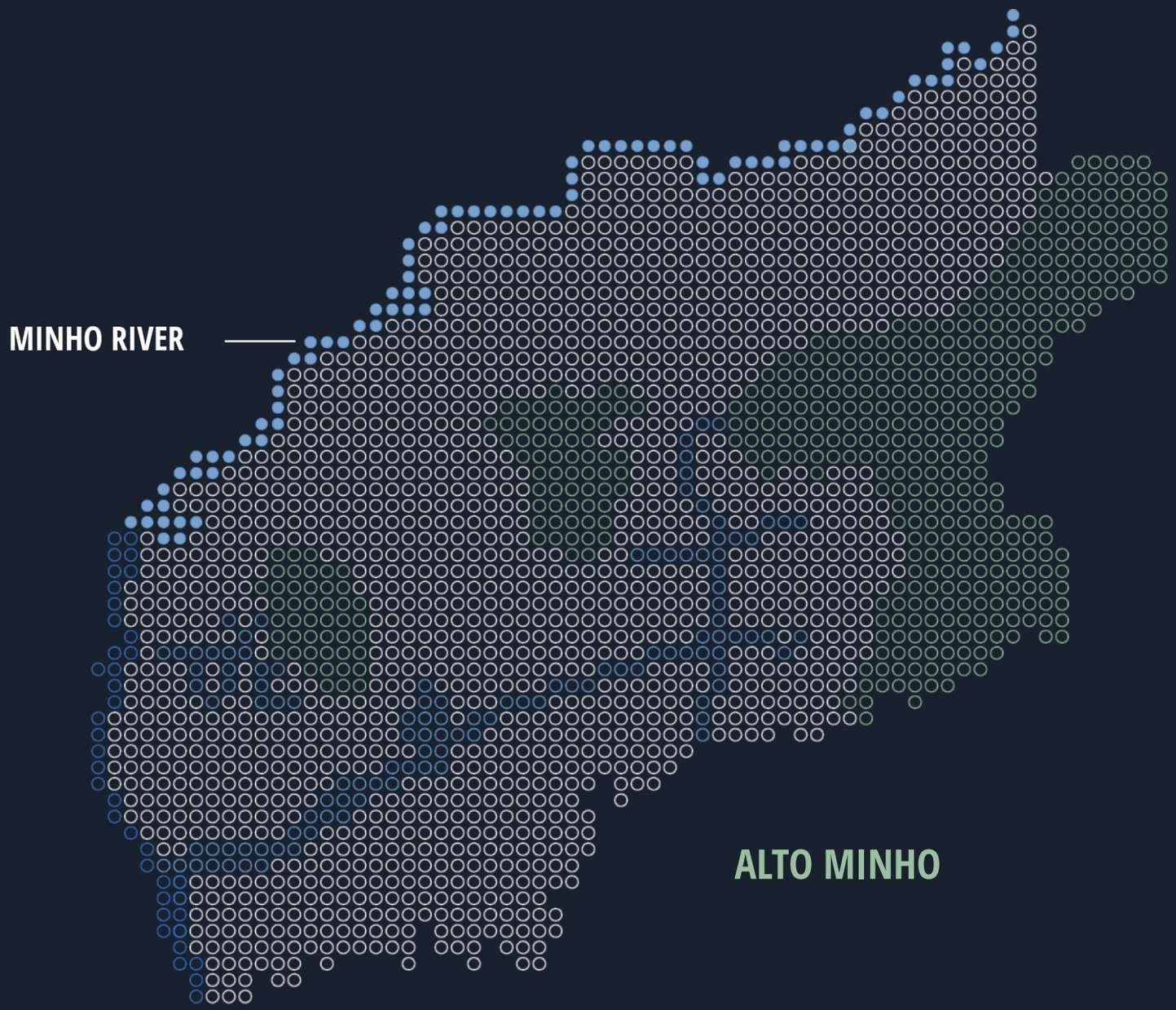
The Lima river is still important for the ichthyofauna (fishes), particularly for migratory species such as: Atlantic salmon (*Salmo salar*), sea lamprey (*Petromyzon marinus*) and Allis shad (*Alosa alosa*). This watershed is also relevant for mammals such as the European otter (*Lutra lutra*) and the Iberian wolf (*Canis lupus signatus*).

CONSERVATION STATUS

SCI

MINHO RIVER

35 km is the average limit of saltwater penetration in the Minho river.



There are 34 hydroelectric dams in the Spanish portion of the Minho river basin.

Rio Minho running through a rocky bed

The Minho river runs 75 km in Alto Minho, from Melgaço to Caminha. In its path to the ocean there are several habitats with relevance for conservation, such as riparian forests, plains, reeds, salt marshes and sandbanks.

The cold and clean waters provide conditions for sustaining fish populations such as the Atlantic salmon (*Salmo salar*), sea trout (*Salmo trutta*), Allis shad (*Alosa alosa*), Twaite shad (*Alosa fallax*), sea lamprey (*Petromyzon marinus*) and European eel (*Anguilla anguilla*). Together with the Coura river mouth, the Minho estuary (with 3,4 km²) is also a critical area for migratory birds that use this region, each year, as a resting and feeding spot. From here they fly to their breeding (northern Europe) or wintering (northern Africa) areas. During the spring/ autumn migrations, among others, one can see whimbrels (*Numenius phaeopus*) and oystercatchers (*Haematopus ostralegus*) feeding on the estuary.

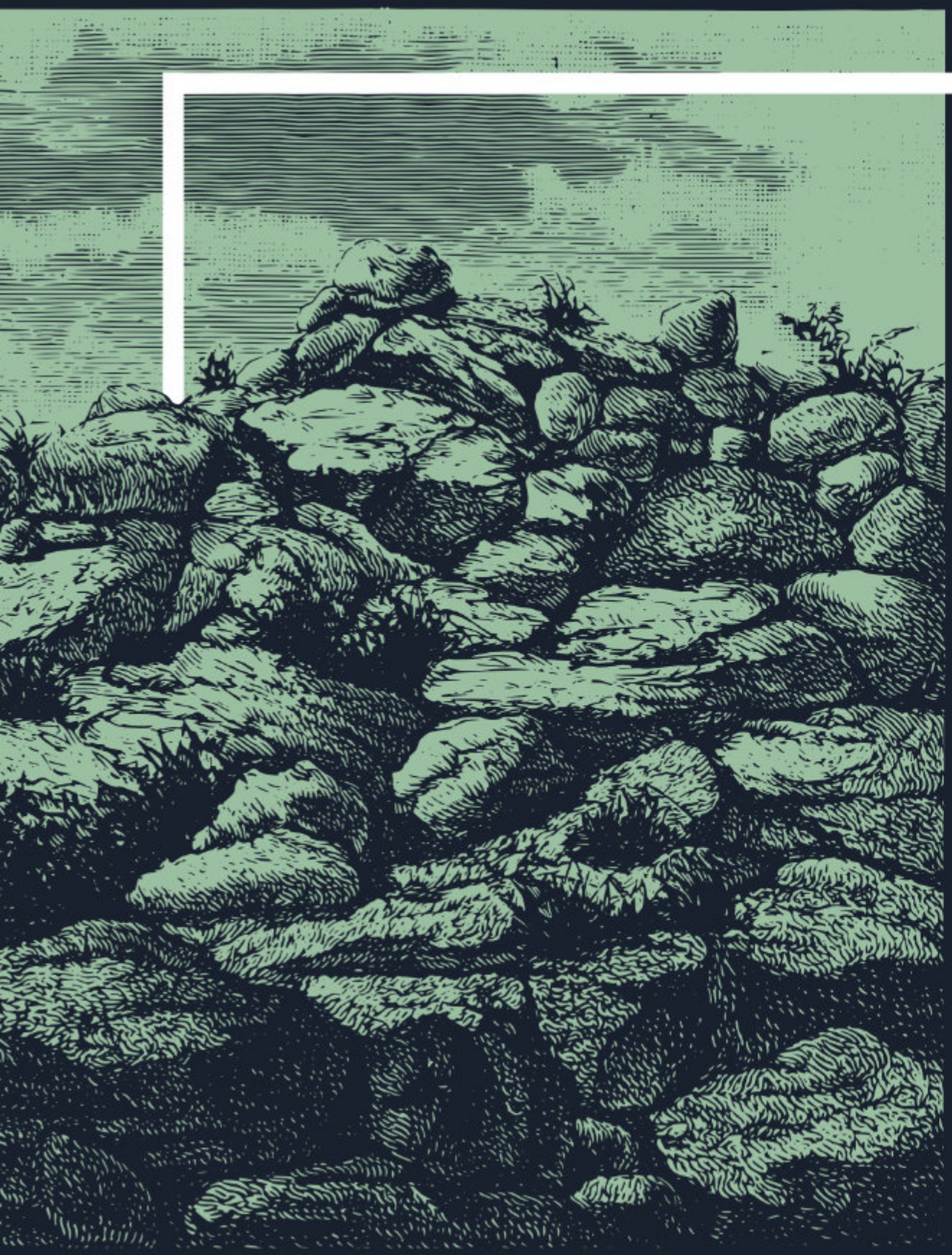
The riparian galleries along the river banks are not only important for birds but also provide habitat for the Iberian emerald lizard (*Lacerta schereiberi*) and the Bosca's newt (*Triturus boscai*).

CONSERVATION STATUS

SPA

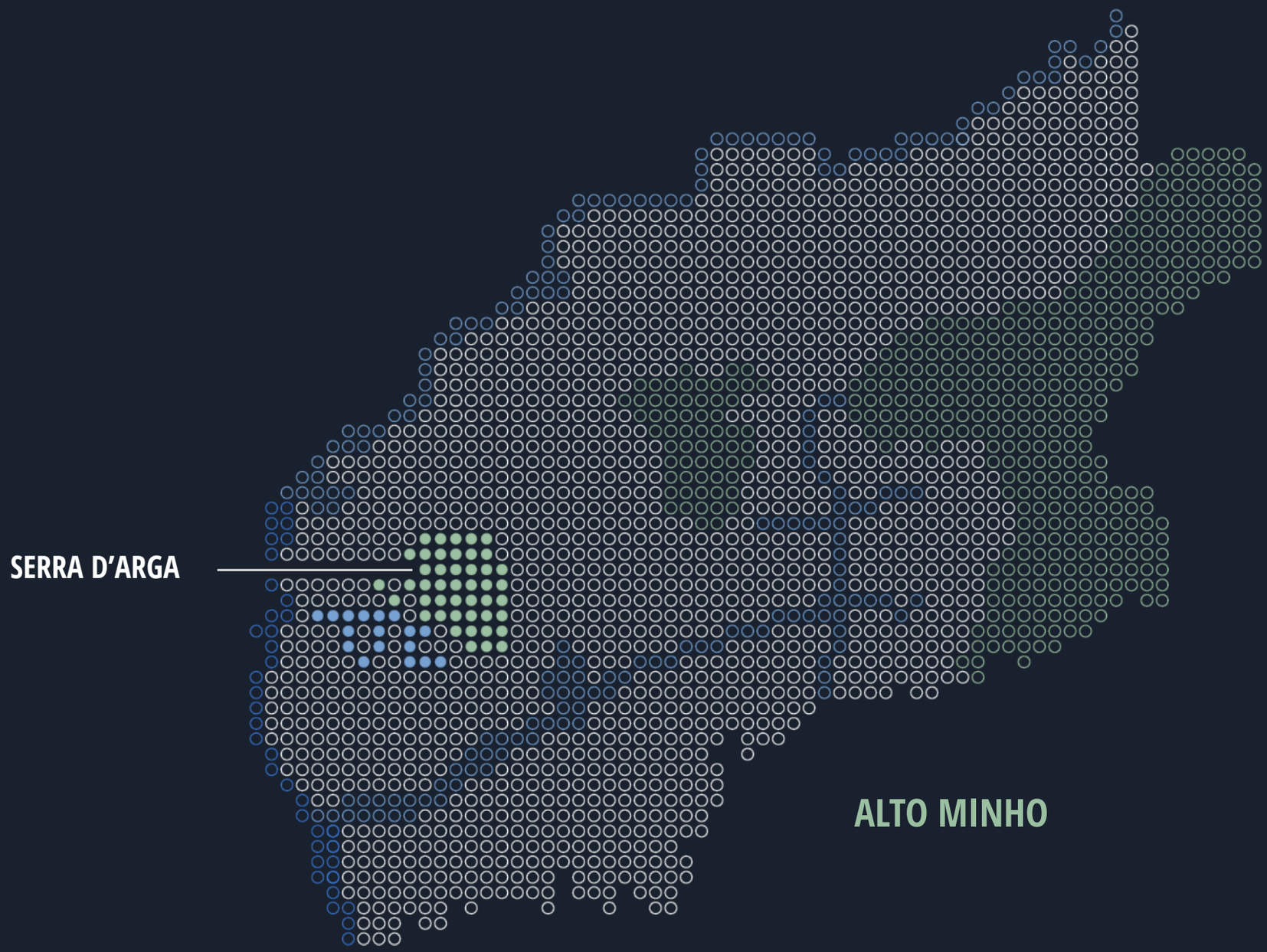
SCI

IBA



SERRA D’ARGA

The expansion of exotic trees, such as acacias and the tree of heaven, has altered the ecology of the Âncora river slopes, namely affecting the availability of food (insects) for the already vulnerable Pyrenean desman.



In its acrobatic descent through the Serra D'Arga granite massif, the Âncora river created the beautiful Pincho waterfalls.

Arga mountain's view from S. Pedro d'Arcos

Serra d'Arga has been classified as a protected landscape since 2004. Located in the municipalities of Caminha, Paredes de Coura and Viana do Castelo, this mountain range has an area of 4493 ha, rises to 823 m in Alto do Espinheiro and separates Minho and Lima rivers' watersheds.

Part of the watercourses in Serra d'Arga drain directly into the Atlantic, through the Âncora river. Although the landscape is dominated by heather, gorse and broom thickets, one can also find riparian galleries, oak forests and bogs. This area is of high interest for the conservation of the Atlantic salmon (*Salmo salar*), midwife toad (*Alystes obstetricans*), Pyrenean desman (*Galemys pyrenaicus*), lesser horseshoe bat (*Rhinolophus hipposideros*) and the Iberian wolf (*Canis lupus signatus*).

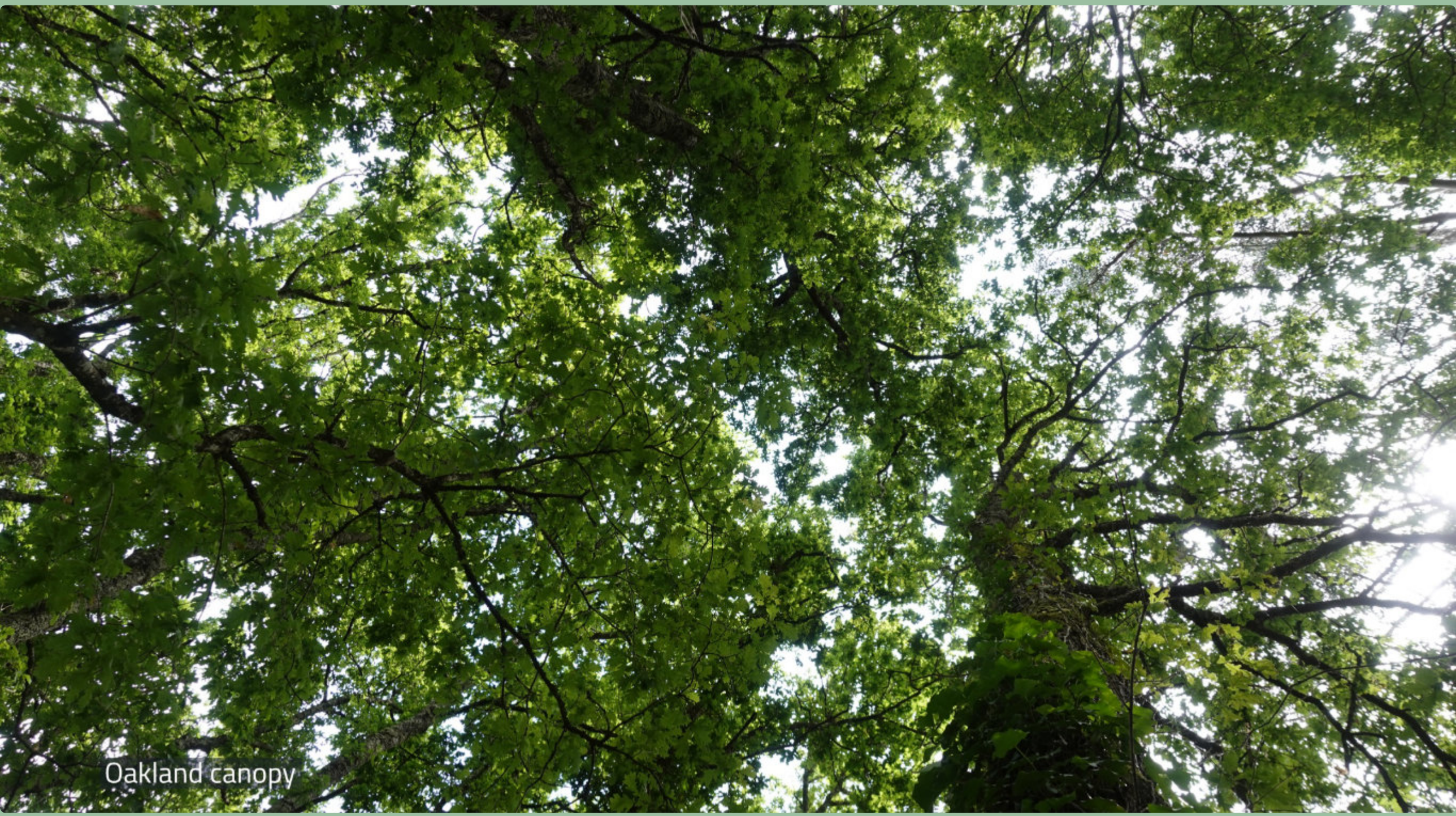
CONSERVATION STATUS

SCI

VEIGA DA MIRA

The old Roman road connecting Bracara Augusta (Braga) to Asturica Augusta (Astorga, Spain) via Tuy (Tui, Spain) crossed Veiga da Mira. The bridge of Roman origin bears witness to this.

Despite small, this area harbours 11 habitat types.



Oakland canopy

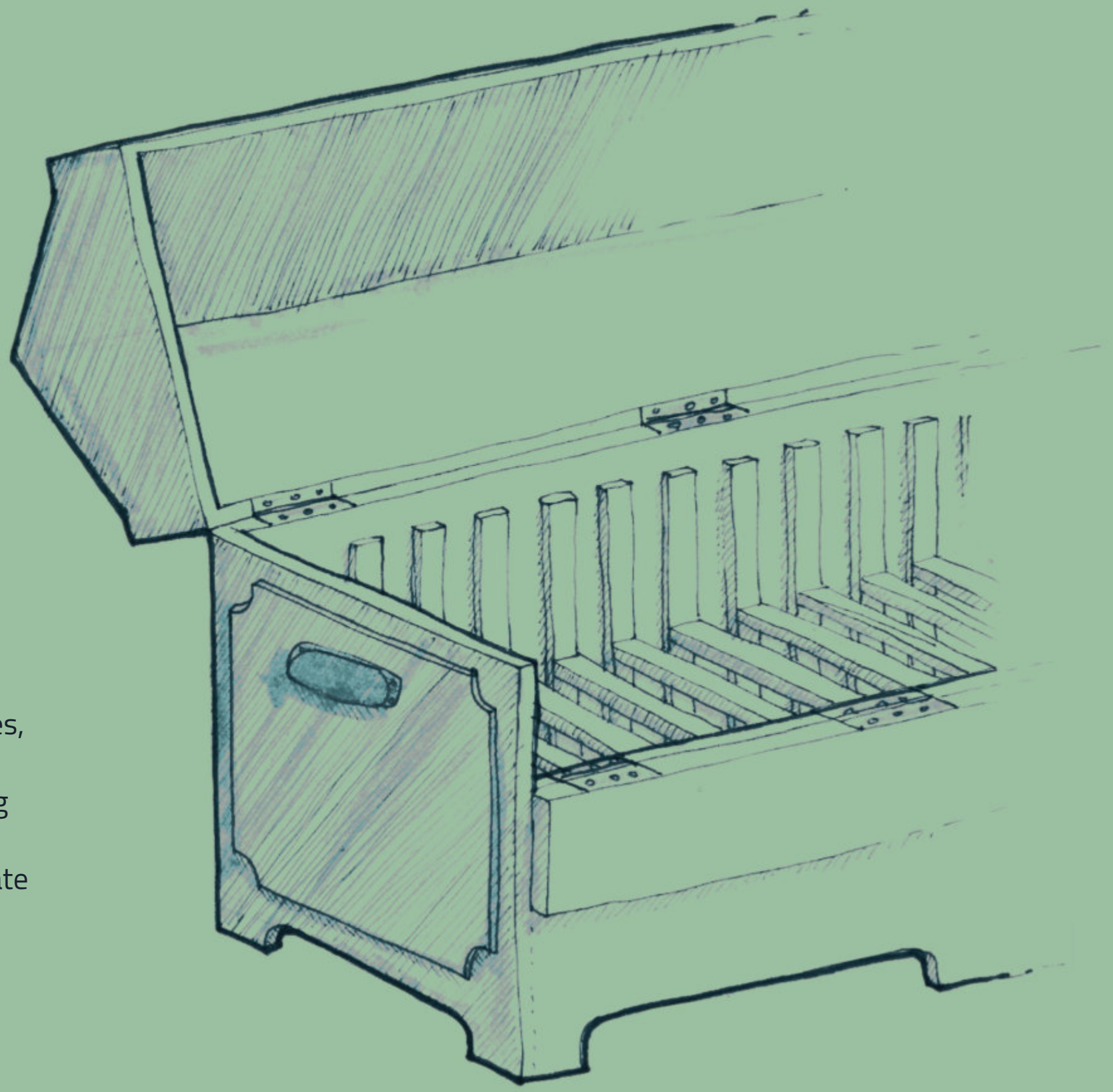
Veiga da Mira landscape is located in the municipality of Valença and is part of the Minho river basin.
In this floodplain of 300 ha predominates the riparian vegetation, where alders (*Alnus glutinosa*) and willows (*Salix sp*) abound. In the creek that runs across this landscape, Mira's creek (hence the name Veiga da Mira) one can find species with high conservation priority, such as the European eel (*Anguilla anguilla*) and the Atlantic salmon (*Salmo salar*).

CONSERVATION STATUS

SCI

ARK OF KNOWLEDGE

The exhibition “Alto Minho: landscapes, species, stories” contains an “Ark of Knowledge” where visitors, by solving enigmas, gain access to interactive contents. The following pages illustrate some examples of such contents.



WASTE


LIXOCRAFT
482
Kg of waste that, on average,
a Portuguese produces annually

WILDFIRES

SOIL DEGRADATION

Loss of infiltration capacity, due to soil crusting and consequent water erosion (rainfall runoff).

WILDLIFE

Direct (charred) or indirect death (fatal injuries resulting from escaping collisions and burn wound infections).

WATER DEGRADATION

Water runoff with ashes and other contaminants (such as flame retardants used to reduce combustion) pollute rivers and other water reservoirs.

LANDSCAPES

SPECIES

STORIES

Species /'spi:.ʃi:z/ noun

Basic unit of classification of living organisms.

All organisms of all species living in a given region or time are known as biodiversity.

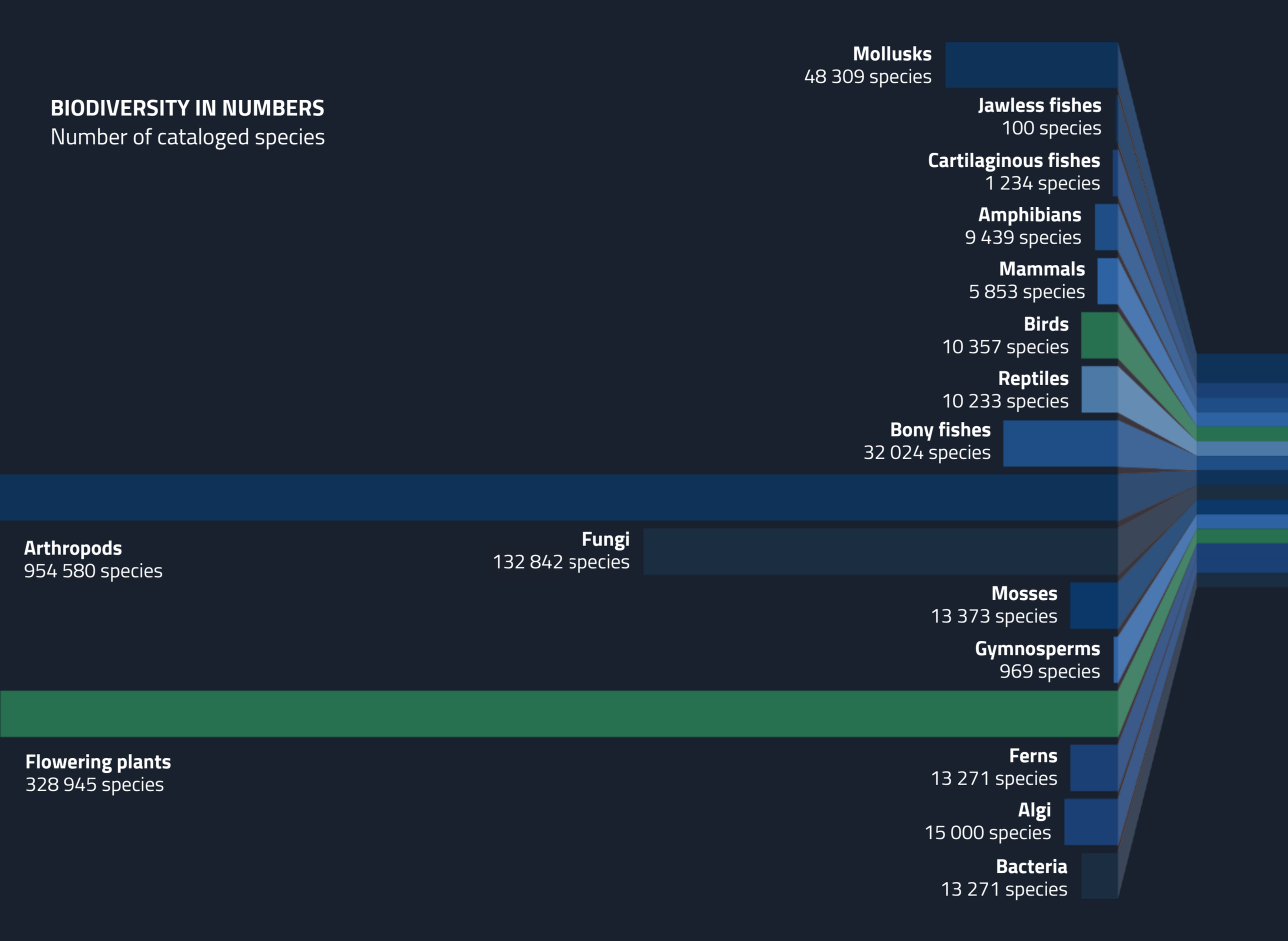
The diversity of species that exist on planet Earth is surprising and yet not fully known. There are currently 1.7 million species described, but we are still far from having a complete inventory of all living beings. The predictive models of 2017 pointed to 2 billion species.

In Alto Minho there is a small fraction of the world's biodiversity - however, it is equally fascinating. It is admirable to think that the set of species that occur today in this region results from millions of years of evolution constrained by environmental (geological and climatic) and biological (competition) factors. But it is also scary to imagine the near future, if one species (*Homo sapiens*) continues to neglect its impact on all others.

Some of the species that occur in the Alto Minho are already considered of high conservation interest, both at national level (e.g.: common holly and European eel) and at European level (e.g.: Iberian wolf and gold--striped salamander).

BIODIVERSITY IN NUMBERS

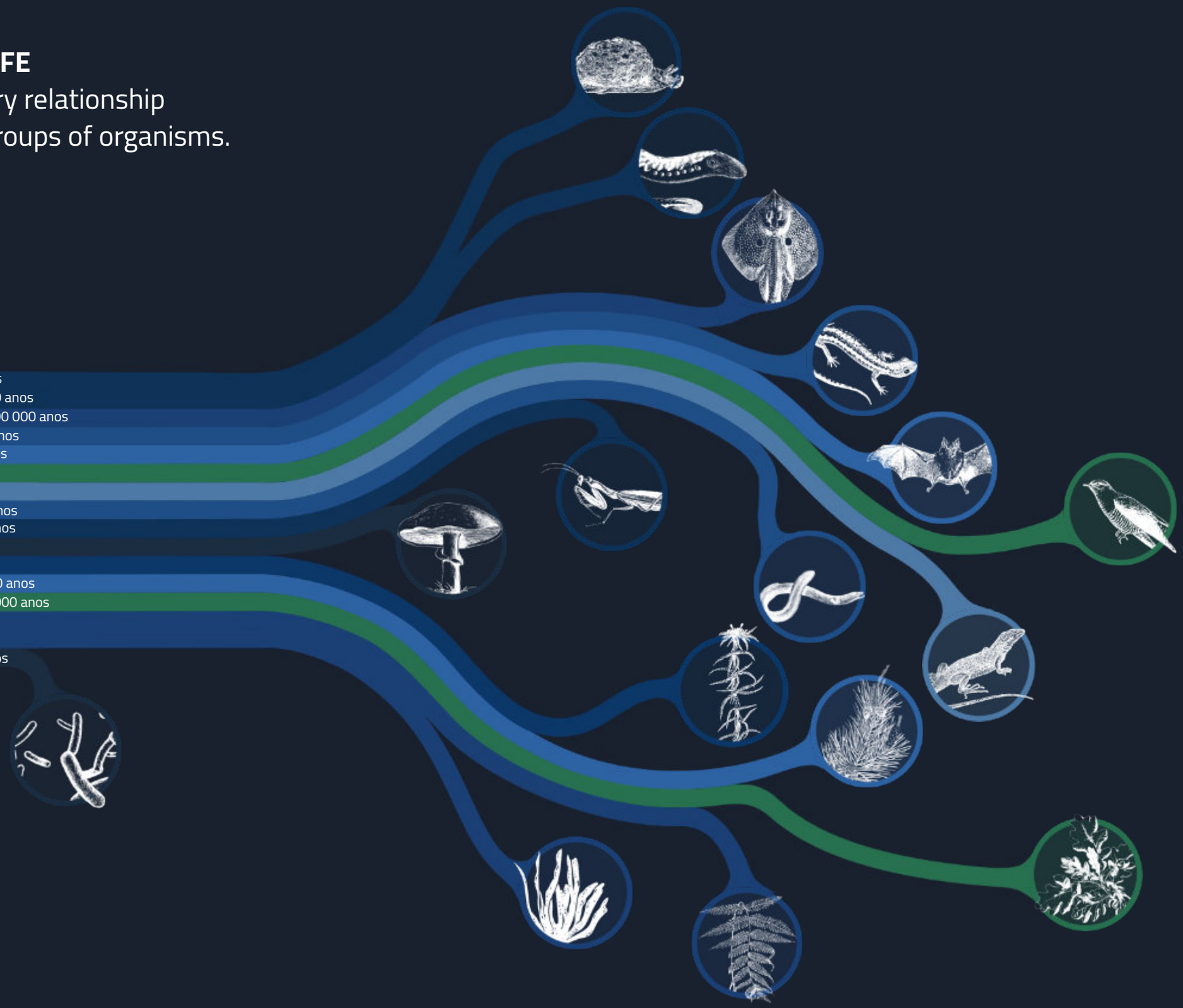
Number of cataloged species



TREE OF LIFE

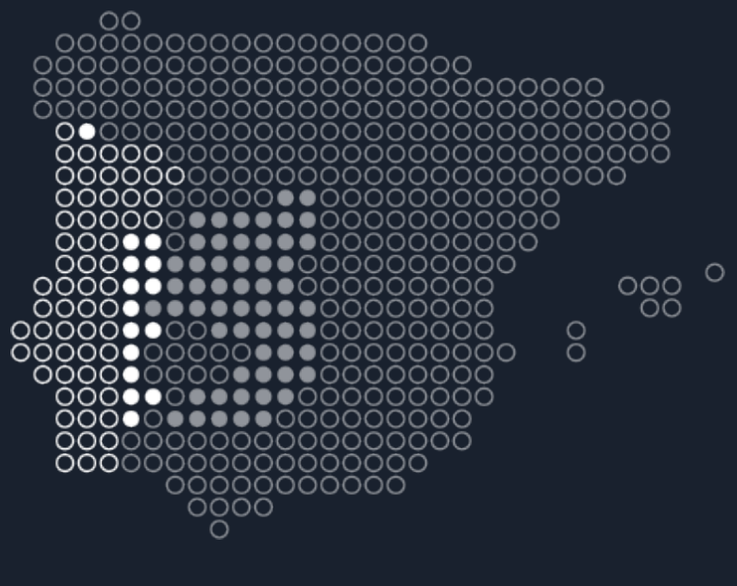
Evolutionary relationship
between groups of organisms.

Mollusks 530 000 000 anos
Jawless fishes 500 000 000 anos
Cartilaginous fishes 420 000 000 anos
Amphibians 365 000 000 anos
Mammals 300 000 000 anos
Birds 150 000 000 anos
Reptiles 250 000 000 anos
Bony fishes 400 000 000 anos
Arthropods 530 000 000 anos
Fungi 700 000 000 anos
Mosses 475 000 000 anos
Gymnosperms 360 000 000 anos
Flowering plants 180 000 000 anos
Ferns 420 000 000 anos
Algi 600 000 000 anos
Bacteria 3 600 000 000 anos

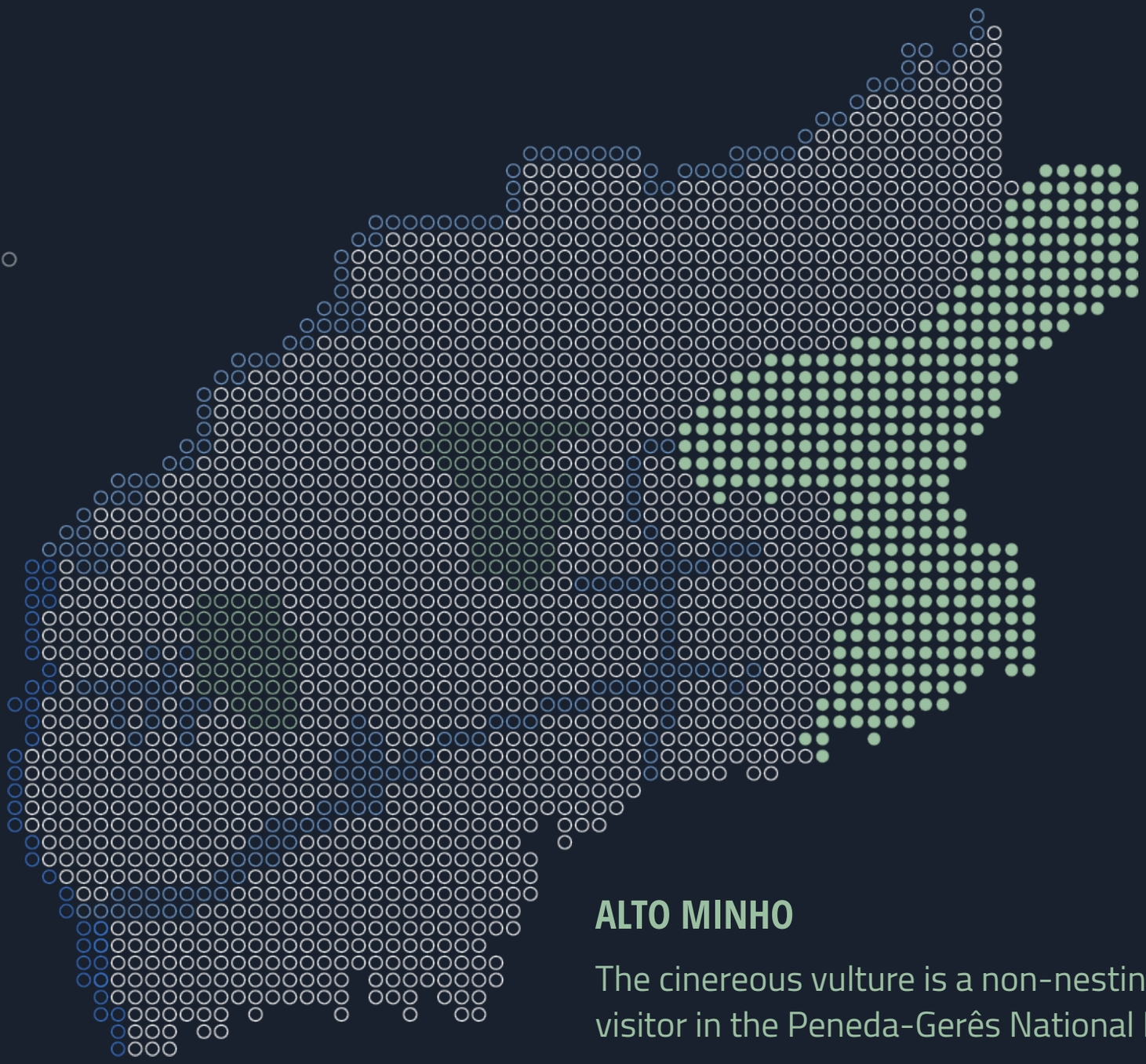


CINEREOUS VULTURE

Aegypius monachus (Linnaeus, 1766)
Kingdom Animalia, Phylum Chordata, Class Aves,
Order Falconiformes, Family Accipitridae



IBERIAN PENINSULA



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The cinereous vulture is a non-nesting visitor in the Peneda-Gerês National Park.

Its wingspan (2.4 - 2.9 m) is similar to the length of a "Smart" car.

Cinereous vulture

The cinereous vulture (*Aegypius monachus*) occurs in the European region of the Mediterranean basin and extends across the Indian subcontinent to northern China. Its current distribution in Portugal is restricted to the eastern, central and southern areas, mostly along the border with Spain.

It is a sporadic and non-nesting visitor in the Peneda-Gerês National Park region. However, at the beginning of the 20th century it nested throughout the country, given adequate habitat. The cinereous vulture became extinct in Portugal in the early 1970's, but in recent years it started to nest again in the Tejo International Natural Park (2014) and the Douro International Natural Park (2016).

This species nest in forest habitats of remote and mountainous areas, building their nests in trees. The nests are about 1.5 m in diameter, while the clutch size almost always consists of an egg that is incubated for 52 - 55 days by both parents. The cinereous vulture reaches maturity between 3 and 6 years old.

The cinereous vulture is a scavenger and therefore feeds on carcasses of medium and large mammals such as cattle, deer and rabbits. Every day cinereous vultures fly dozens of kilometers in search of food. They use their powerful beak to tear the carcass's skin, muscle and tendons. Their highly specialized intestinal flora allows dealing with the toxins in rotting carcasses.

The Accipitridae family, to which cinereous vultures belong, originated in the early Neogene, 20 million years ago.

THREATS

- Poisoning by ingestion of poisoned baits used to eliminate predators of livestock or game species (e.g.: fox and wolf) or by ingesting poisoned carcasses.
- Collision against wind turbines and power transmission airlines, particularly juveniles still learning to fly.
- Degradation of nesting habitat, due to native forest destruction (and consequent replacement by exotic species), wildfires and establishment of wind farms.

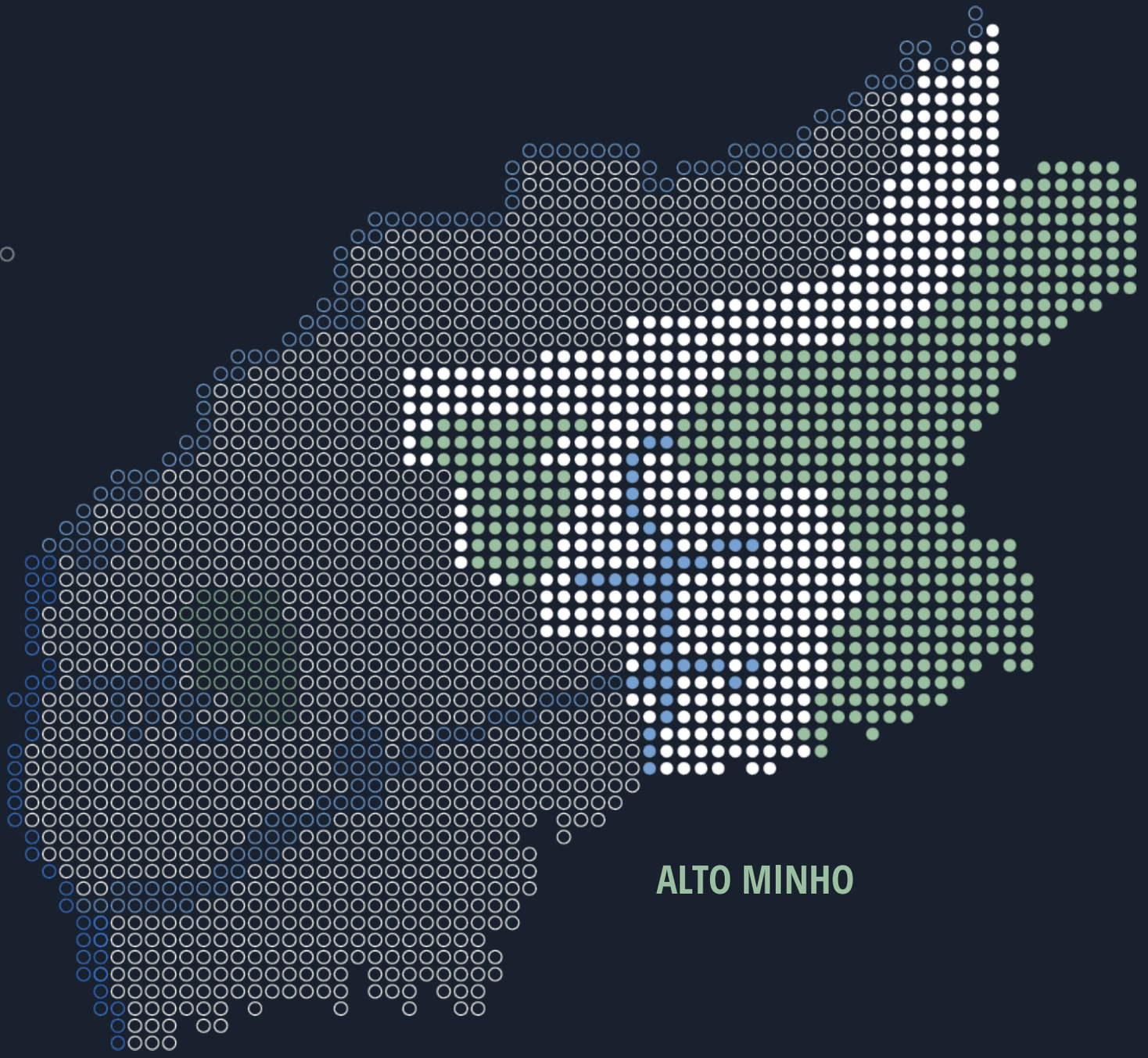
CONSERVATION STATUS

Critically endangered

COMMON HOLLY

Ilex aquifolium (Linnaeus, 1753)
Kingdom Plantae, Phylum Tracheophyta,
Class Magnoliopsida, Order Aquifoliales,
Family Aquifoliaceae

IBERIAN PENINSULA



ALTO MINHO

The production of prickly leaves is a response to herbivory, hence facultative even within the same tree.

Holly: flowers and fruit

The common holly (*Ilex aquifolium*) is a persistent evergreen shrub that occurs in southern and western Europe, North Africa and Asia. In the Iberian Peninsula is abundant in the central and northern mountainous areas. It is associated with deciduous oak forests and thickets, often in the shadowy slopes.

In Portugal, it is prohibited to grub up, cut in whole or in part, transport or sell spontaneous holly.
It is a species protected by law since 1989.

This dioecious shrub (separate sexes; male and female individuals) can reach 15 m in height and live over 100 years. The flowers are small, less than 1 cm in diameter, white and appear in small clusters. They bloom from late April until June and produce a red berry, inside which there is a seed protected by a hard shell.
This shell confers protection against the acids and enzymes of the digestive tract of birds that consume these berries, thus, seeds can still germinate.

The genus *Ilex* originated in the Neogene (15 million years ago).

THREATS

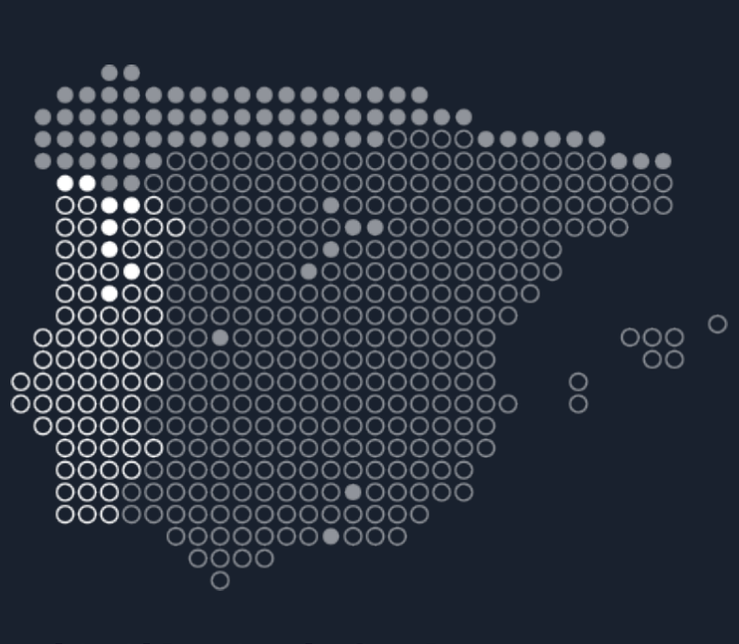
- Wildfires.
- Excessive harvesting of fruit branches for ornamental purposes.

CONSERVATION STATUS

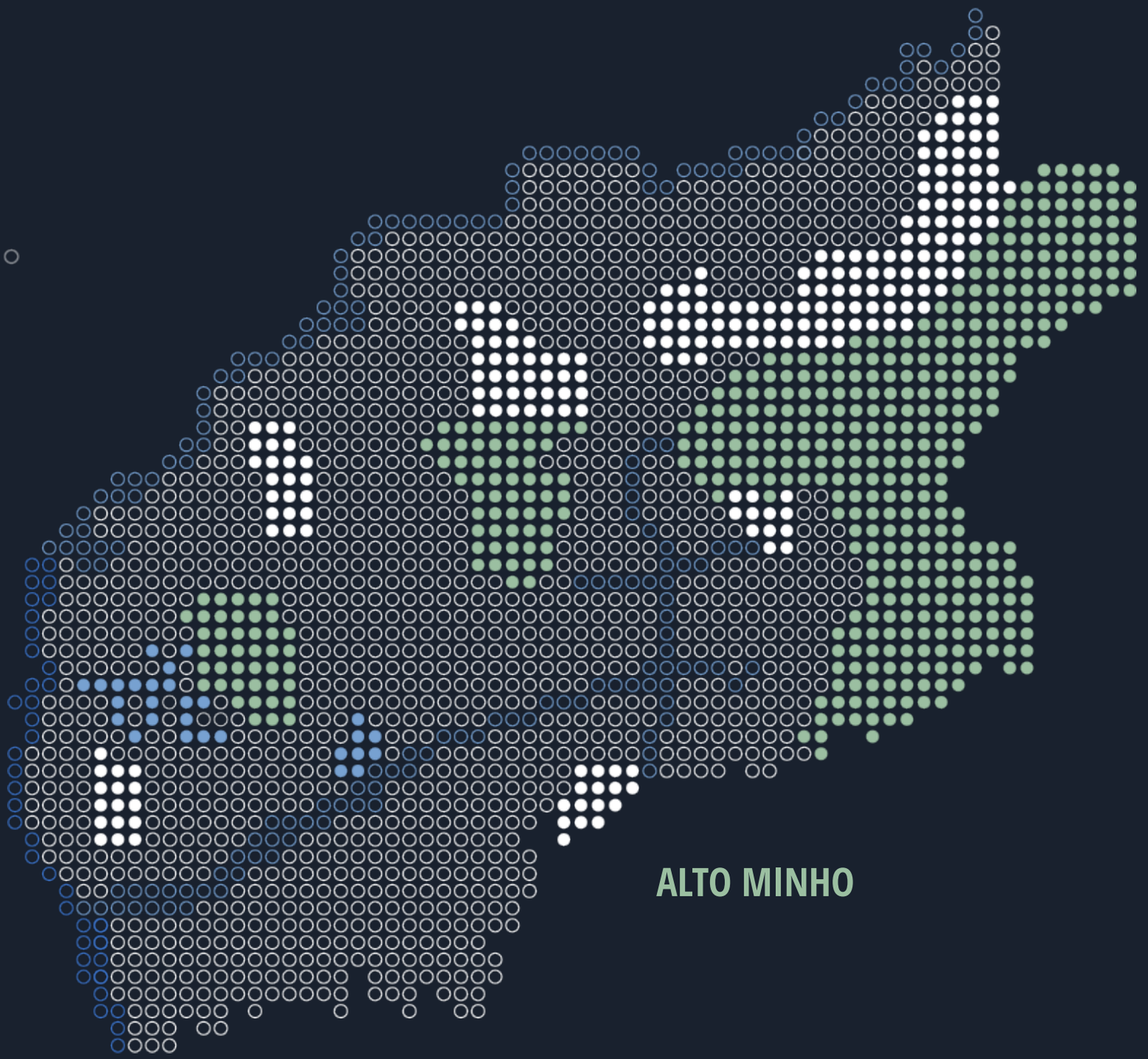
Not evaluated

BIRCH

Betula pubescens (Linnaeus, 1753)
Kingdom Plantae, Phylum Tracheophyta,
Class Magnoliopsida, Order Fagales, Family Fagaceae



IBERIAN PENINSULA



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The seeds are small (2 - 3 mm; diameter of a sewing needle) and winged, and hence can be wind-borne up to 1.5 km.

Birch flowers

Birch (*Betula pubescens*) is a deciduous tree that occurs throughout Europe and extends to central Asia. In Portugal, it is restricted to high-altitude areas in north. This tree prefers moist, acidic and peaty soils.

It is a monoicous species (male and female flowers on the same plant but with independent inflorescences) that blooms between April and May. The seeds are winged and very small (2-3 mm) and therefore easily carried by the wind.

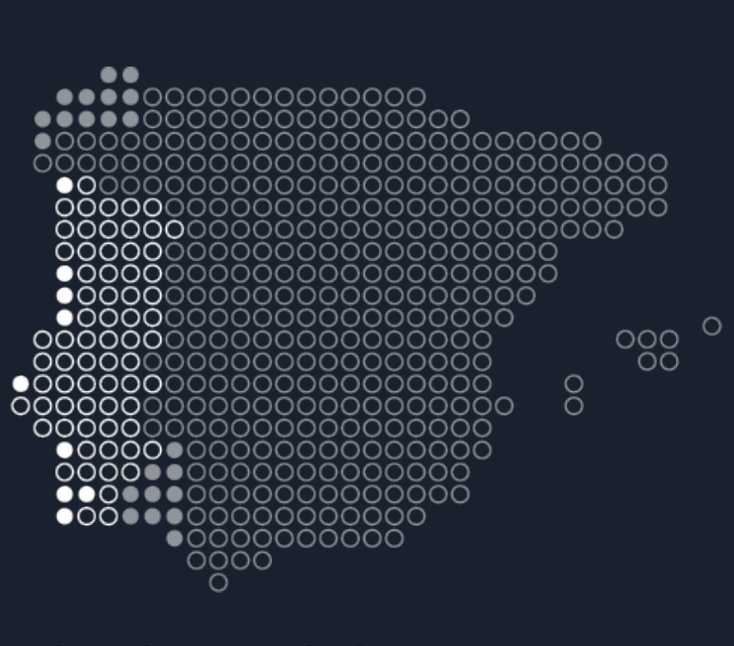
The diversification of the Family Betulaceae occurred 65 million years ago.

CONSERVATION STATUS

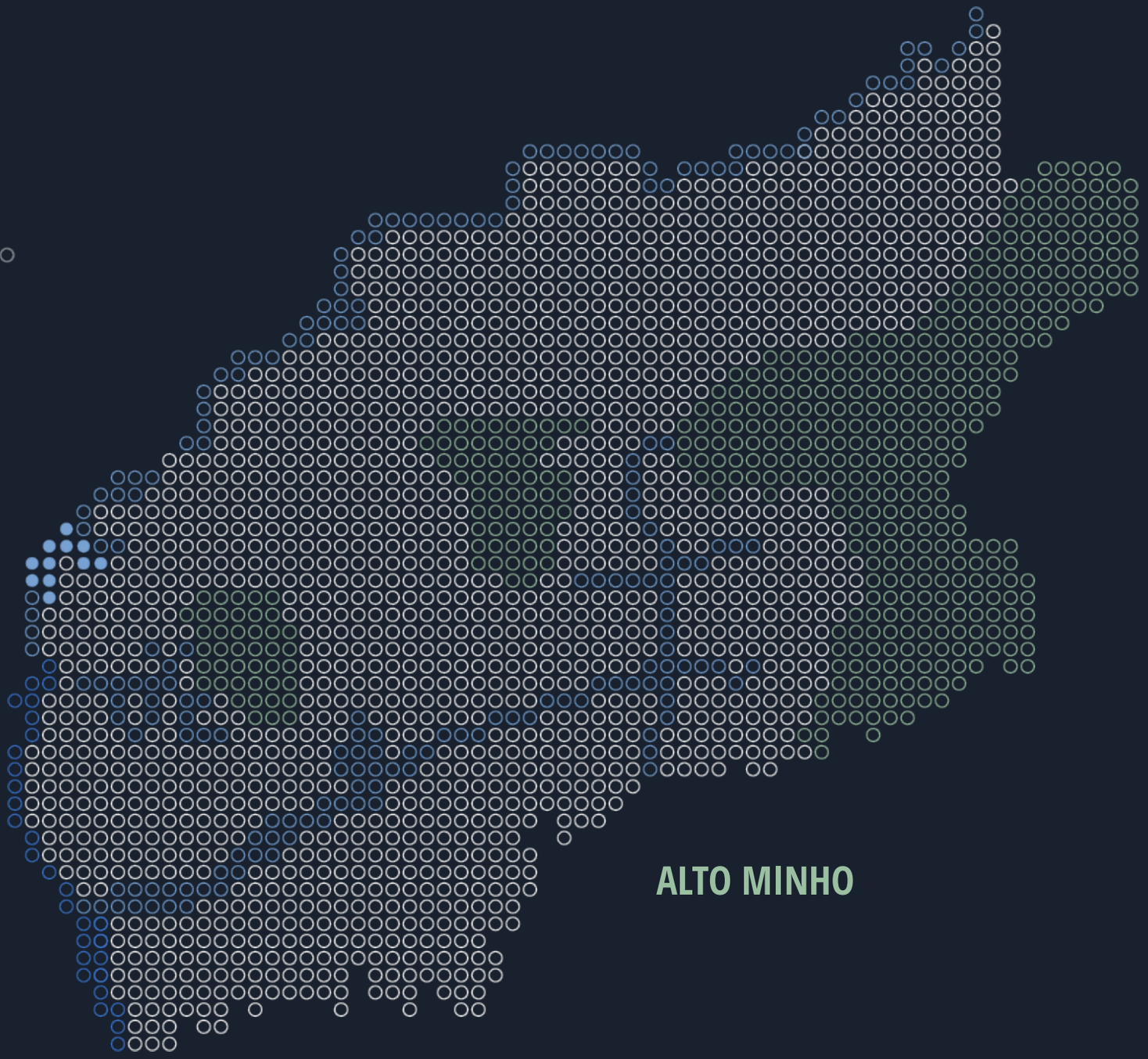
Not evaluated

PORTUGUESE CROWBERRY

Corema album (Linnaeus, 1753)
Kingdom Plantae, Phylum Tracheophyta,
Class Magnoliopsida, Order Ericales, Family Ericaceae



IBERIAN PENINSULA



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The Camarido pine forest, in Caminha, likely owes its name to this bush (Camarinha in Portuguese) that used to be frequente there.

Portuguese crowberry

The Portuguese crowberry (*Corema album*) is an endemic shrub plant from the Atlantic secondary dunes of the Iberian Peninsula. It occurs from Galicia in Spain, to the Algarve in Portugal. This dioecious plant (sexes in separate individuals) blooms between January - March and produces a white edible fruit smaller than 1 cm. Its restricted geographical distribution and anthropogenic pressure on coastal habitats make it a unique species, with relevance for conservation.

THREATS

- Habitat loss: urbanistic pressure in the coastal zone and competition with invasive alien species.

CONSERVATION STATUS

Not evaluated

EUROPEAN OAK

Quercus robur (Linnaeus, 1753)
Kingdom Plantae, Phylum Tracheophyta,
Class Magnoliopsida, Order Fagales, Family Fagaceae

IBERIAN PENINSULA

ALTO MINHO

It can live more than 800 years.

Fruit (acorn) of European oak

The oak tree (*Quercus robur*) is a large tree that occurs throughout Europe and that expands eastwards to Iran. In the Iberian Peninsula, it can be found in the Galaico-Portuguese oak forests, which are protected by the European Union Habitat Directive.

This is a deciduous, monoecious tree (male and female flowers on the same tree) that blooms between March and May and never occupies areas beyond 1300 m in altitude. It prefers deep and siliceous soils in temperate climates where rainfall exceeds 600 mm annually. The acorns, the fruit of the oak tree, are first produced when the tree reaches 25 to 30 years old and serve as food for various birds and mammals. For example, during autumn, the Eurasian jay (*Garulus glandarius*) buries acorns that will serve as food in the scarce winter days.

The origin of the genus *Quercus* occurred about 50 - 55 million years ago, during the Paleogene.

THREATS

- Wildfires.
- Forest clearance for further afforestation with fast-growing tree species, and therefore economically more attractive such as gum trees (*Eucalyptus*).

CONSERVATION STATUS

Not evaluated

EUROPEAN CUCKOO

Cuculus canorus (Linnaeus, 1758)
Kingdom Animalia, Phylum Chordata,
Class Aves, Order Cuculiformes, Family

IBERIAN PENINSULA

ALTO MINHO

The female cuckoos lays their eggs in the nest of another species (host). As to avoid being noticed by the female host, she throws away one egg already in the nest. More than 100 bird species have already been recognised as cuckoo hosts.

Male (gray plumage) and female (brown above, white below)

The European cuckoo (*Cuculus canorus*) is a widely distributed migratory bird, occurring in Eurasia and North Africa. Although the population size is extremely large (global estimate of 40 - 72 million adults), in the last 30 years the density of the European population seems to have decreased.

Three subspecies are currently recognized according to plumage characteristics and range. The subspecies *Cucculus canorus bangsi* breeds in the Iberian Peninsula and winters south of the equator in central and west Africa, hence in Portugal it can only be seen in spring and summer. It is a frequent visitor to Alto Minho, occupying coniferous or deciduous forests, marshes, reeds and swamps where they feed on insects.
In western Europe, including Portugal, it breeds between May and June.

The European cuckoo is a nest parasite, meaning the female lays eggs in the nests of other birds (hosts), but only one egg per nest, and the cuckoo egg resembles the egg of the hosts. These hosts are mostly small insectivorous birds such as flycatchers, warblers and wagtails. Over 100 species of birds have been recognized as cuckoo hosts! The young cuckoo grows without ever seeing other cuckoos and yet knows when to migrate to the wintering territories that are more than 1000 km away from its birthplace.

The genus *Cuculus* originated in the early Neogene, about 23 million years ago.

THREATS

- Insect shortage due to pesticide use.
- Reduction of host's density due to habitat destruction.
- Temporal lag in cuckoo and host breeding season due to climate change; cuckoo hosts, which are short-distance migrants, are arriving to breeding sites earlier than cuckoos.

CONSERVATION STATUS

Least Concern

EUROPEAN EEL

Anguilla anguilla (Linnaeus, 1758)
Kingdom Animalia, Phylum Chordata, Class Actinopterygii,
Order Anguilliformes, Family Anguillidae

IBERIAN PENINSULA

ALTO MINHO

The European eel reproduces only once in its lifespan (semelparity).

European eel

The European eel (*Anguilla anguila*) occurs in the rivers of the European Atlantic coast, northern Africa and the Mediterranean Basin.

It is a catadromous migratory species, i.e., individuals live in rivers and migrate to the sea to reproduce. Adult eels migrate to the Sargasso Sea (northwest Atlantic) to reproduce. After three years drifting in the ocean currents and subsequent migration towards European rivers, juveniles enter the rivers in the developmental stage known as "glass eel" (named after the transparent appearance). In Portugal, glass eels are also known as "meixões". The adult eel spends the day in hiding places and only gets out in the dark to search for food. It feeds on invertebrates and other fish that live at the bottom of rivers. It ceases to feed when reproductive migration towards the ocean begins.

In Portugal, over the last 20 years, the number of adult individuals is estimated to have decreased by nearly 75%.

The fossil record indicates the presence of the genus *Anguilla* in Europe from 50 - 55 million years ago (Paleogene); evidence suggests it colonized the Atlantic Ocean from what is now Indonesia through the Tethys Sea, the predecessor of the Mediterranean sea.

THREATS

- Overfishing of European eel juveniles (glass eel or "meixão"). Although prohibited in all Portuguese rivers (except the Minho river in Alto Minho), fishing it is still illegally practiced.
- Reduction of freshwater habitat due to:

i) the construction of dams and weirs hindering access to upstream areas;

ii) extraction of inert material from riverbeds (sand and gravel) alters the natural water flow regime and hence migration routes.

- Climate change affects the oceanic currents and consequently the migration routes of larvae towards the rivers and of adults towards the Sargasso sea.

CONSERVATION STATUS

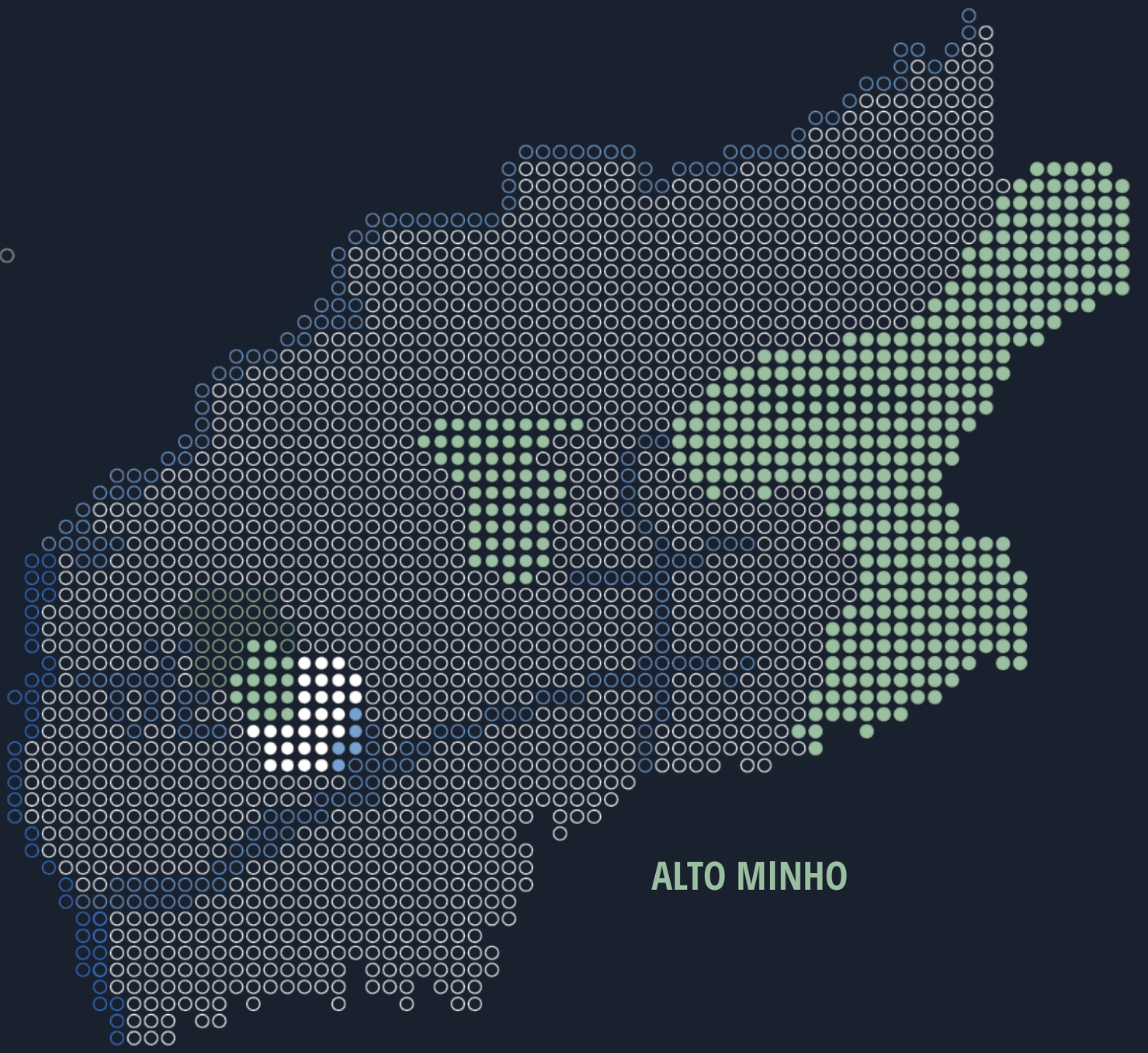
Endangered

SPHAGNUM

Sphagnum subsecundum

Kingdom Plantae, Phylum Bryophyta, Class Sphagnopsida,
Order Sphagnales, Family Sphagnaceae

IBERIAN PENINSULA



ALTO MINHO

The genus *Sphagnum* is one of the most diverse genera of mosses, being the number of species disputable (250 to 450).

Peat moss

The sphagnum moss (*Sphagnum subsecundum*) has an arctic-boreal distribution, but occurs in the Iberian Peninsula: in the Cantabrian Atlantic region as well as in the northwest of Portugal.

This moss dominates in habitats known as bogs and grow on acidic soils in soggy depressions, along mountain creeks and wet slopes. Sphagnum owes its success to the ability to cope with conditions of high acidity, anoxia (lack of oxygen) and nutrient scarcity where few other plants can survive.

This moss has no roots, and hence gets and stores water in specific cells (hyaline cells) that make up the stems and leaves. *Sphagnum* mosses have a unique leaf structure: the water stored in the special cells (dead hyaline cells) is then passed to the adjacent cells (with photosynthetic capacity) to produce carbohydrates (the source of energy).

THREATS

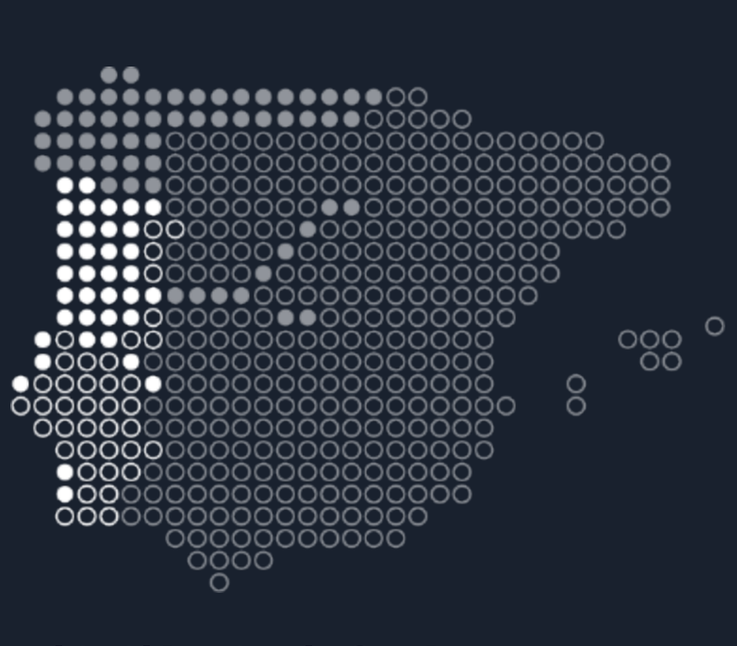
- Habitat destruction by trampling, grazing and drainage.

CONSERVATION STATUS

Not evaluated

IBERIAN EMERALD LIZARD

Lacerta schreiberi (Bedriaga, 1878)
Kingdom Animalia, Phylum Chordata, Class Reptilia,
Order Squamata, Family Lacertidae



IBERIAN PENINSULA

ALTO MINHO

Highly sensitive to water quality and therefore absent from contaminated watercourses.

Iberian emerald lizard: long tail

The Iberian emerald lizard (*Lacerta schreiberi*) is an endemic reptile of the Iberian Peninsula (as suggested by its common name). It occurs in the mountains of the northwest and central Spain, in central and northern Portugal and has some isolated populations in southern Portugal.

This lizard can be found on river and creek banks, where vegetation is dominated by species requiring high rainfall (> 600 mm), namely birch (*Betula pubescens*), European oak (*Quercus robur*) and Pyrenean oak (*Quercus pyrenaica*).

The Iberian emerald lizard is one of the most colourful species of lizards that occur in Portugal. It has sexual dimorphism: the male has a green mottled back, yellow mottled belly and bright blue head and neck during breeding season; the female has a brownish-green color with a light brown head.

Like other Lacertids, the Iberian emerald lizard has femoral glands in the thigh epidermis that produce a chemical secretion used to communicate with rivals or potential partners.

Lacerta schreiberi diverged in the Iberian Peninsula as a result of the rise of the Pyrenees in the Neogene (8 - 10 million years ago).

THREATS

- Fragmentation and habitat loss by:

i) construction of dams that leads to the submersion of large areas of habitat and promotes discontinuity among populations;

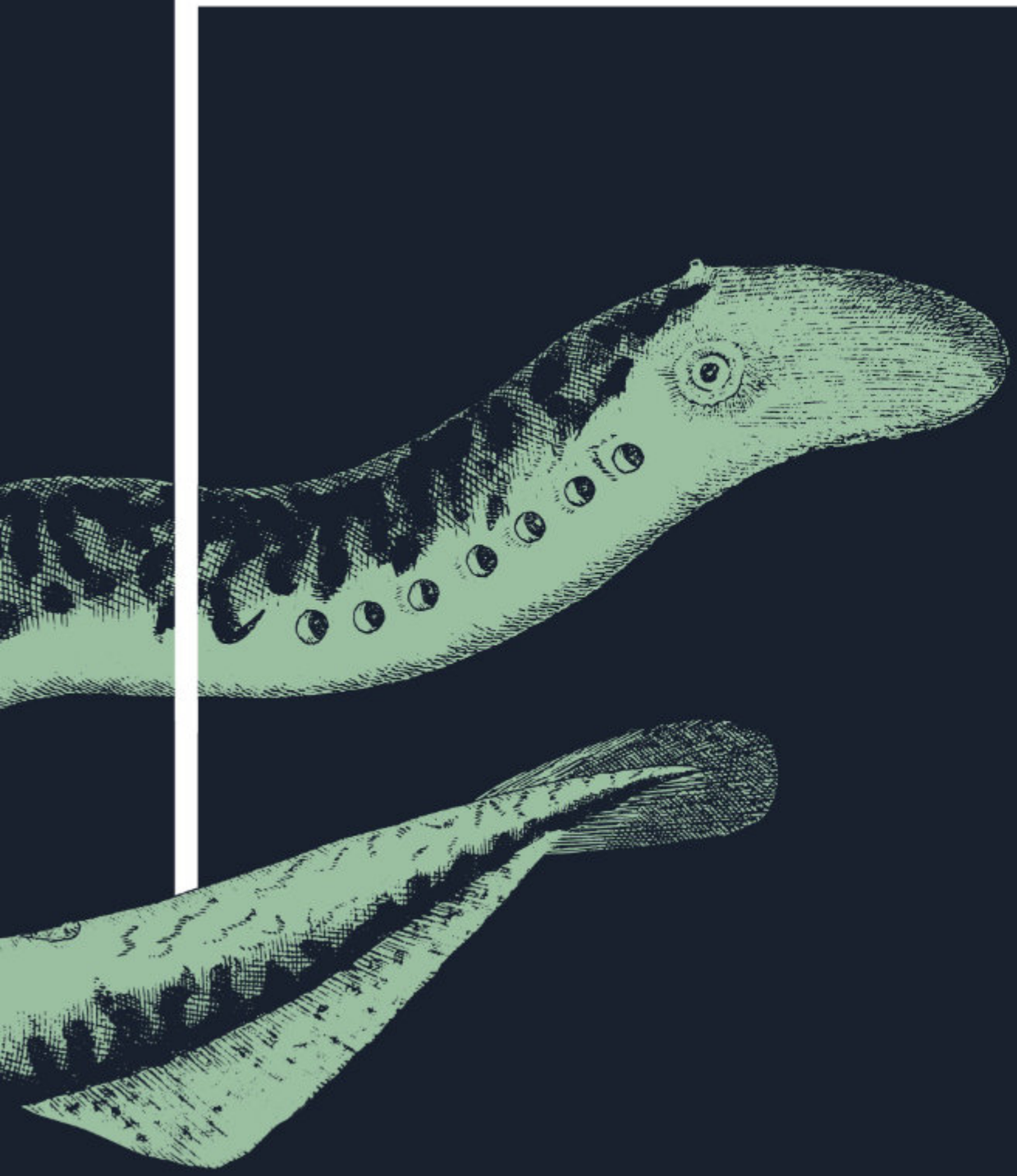
ii) wildfires that burn riparian vegetation;

iii) destruction of riparian forest for artificial restructuring of creek banks.

- Food shortages (food: water-dependent arthropods) due to water pollution. The consequence of discharges of untreated effluents of industrial, urban and agricultural origin.

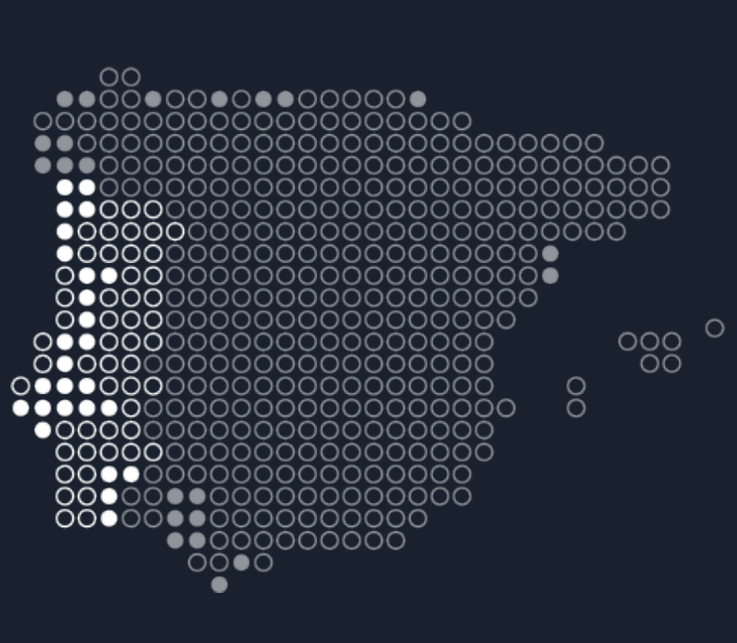
CONSERVATION STATUS

Least Concern



SEA LAMPREY

Petromyzon marinus (Linnaeus, 1758)
Kingdom Animalia, Phylum Chordata,
Class Cephalaspidomorphi, Order Petromyzontiformes,
Family Petromyzontidae



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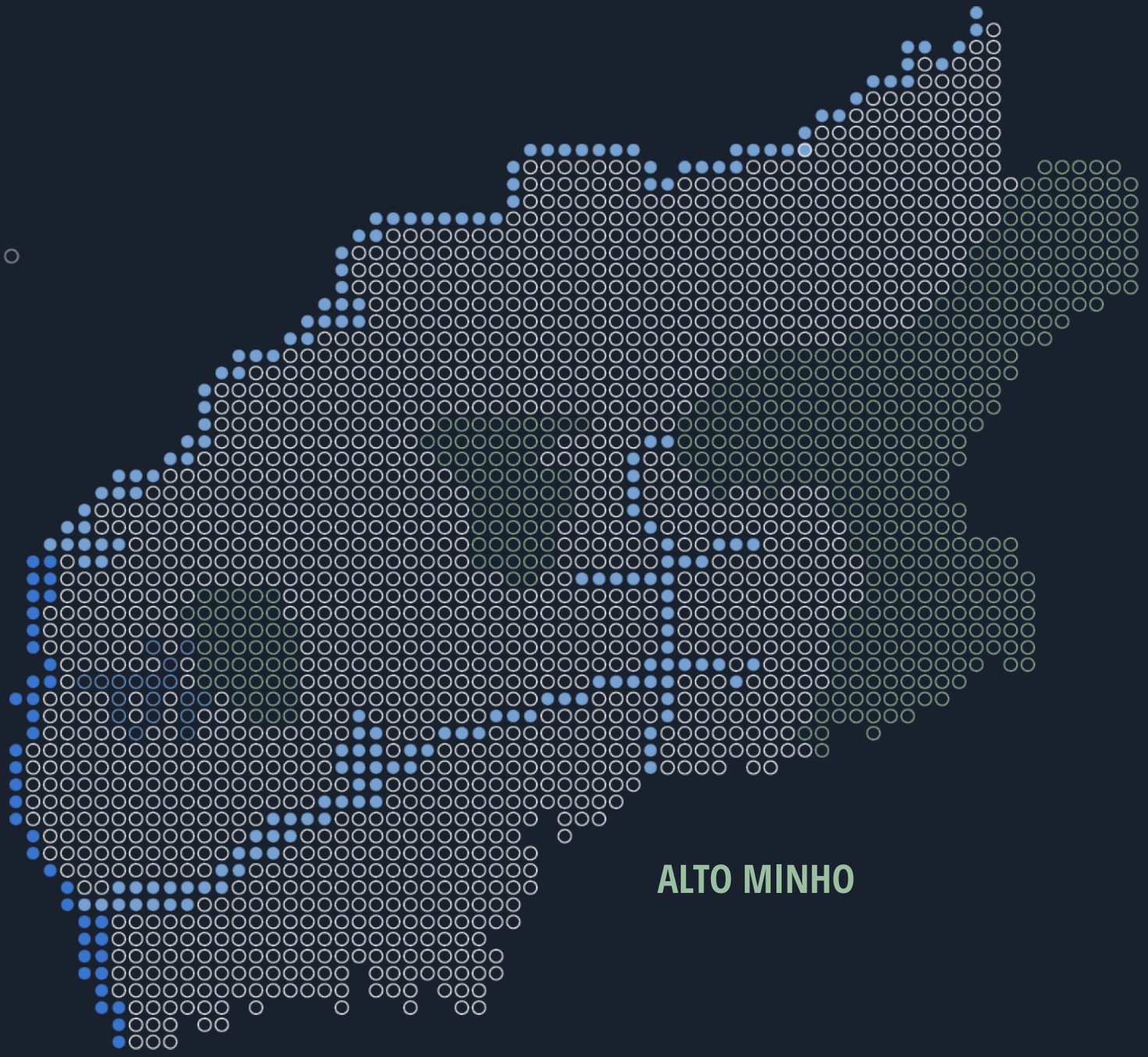


ALTO MINHO

Females lay eggs in nests dug by males in the river beds.

Lamprey (1796): seven gill slits

The sea lamprey (*Petromyzon marinus*) is an anadromous migratory species, i.e., as adults live in the sea and migrate towards rivers to spawn. The sea lamprey has a wide distribution on both sides of the North Atlantic. In Portugal, it occurs in the largest river basins: Minho, Lima, Cávado, Vouga, Mondego, Tejo and Guadiana.

Adults migrate to the Portuguese rivers between late December and late May, in search for gravel bottoms with shallow, clear and well-oxygenated waters, where eggs are laid. Both female and males die shortly after spawning (they reproduce once in a lifetime - semelparity). Larvae live in silt river beds for 4-5 years and then migrate downstream towards the sea where they reach maturity.

As adults, sea lampreys are hematophagous parasites, meaning they feed on blood of fish and marine mammals to which they cling to, using their suction cup-like mouth. That oral sucking disk consists of numerous teeth arranged in a concentric manner. The skeleton of this jawless fish is made up of cartilage instead of bone. Sea lampreys are members of an ancient vertebrate lineage that diverged 500 million years ago (Paleozoic).

THREATS

- Habitat degradation due to:

i) construction of dams that interrupt upstream migratory routes;

ii) dam-induced fluctuations in river flows;

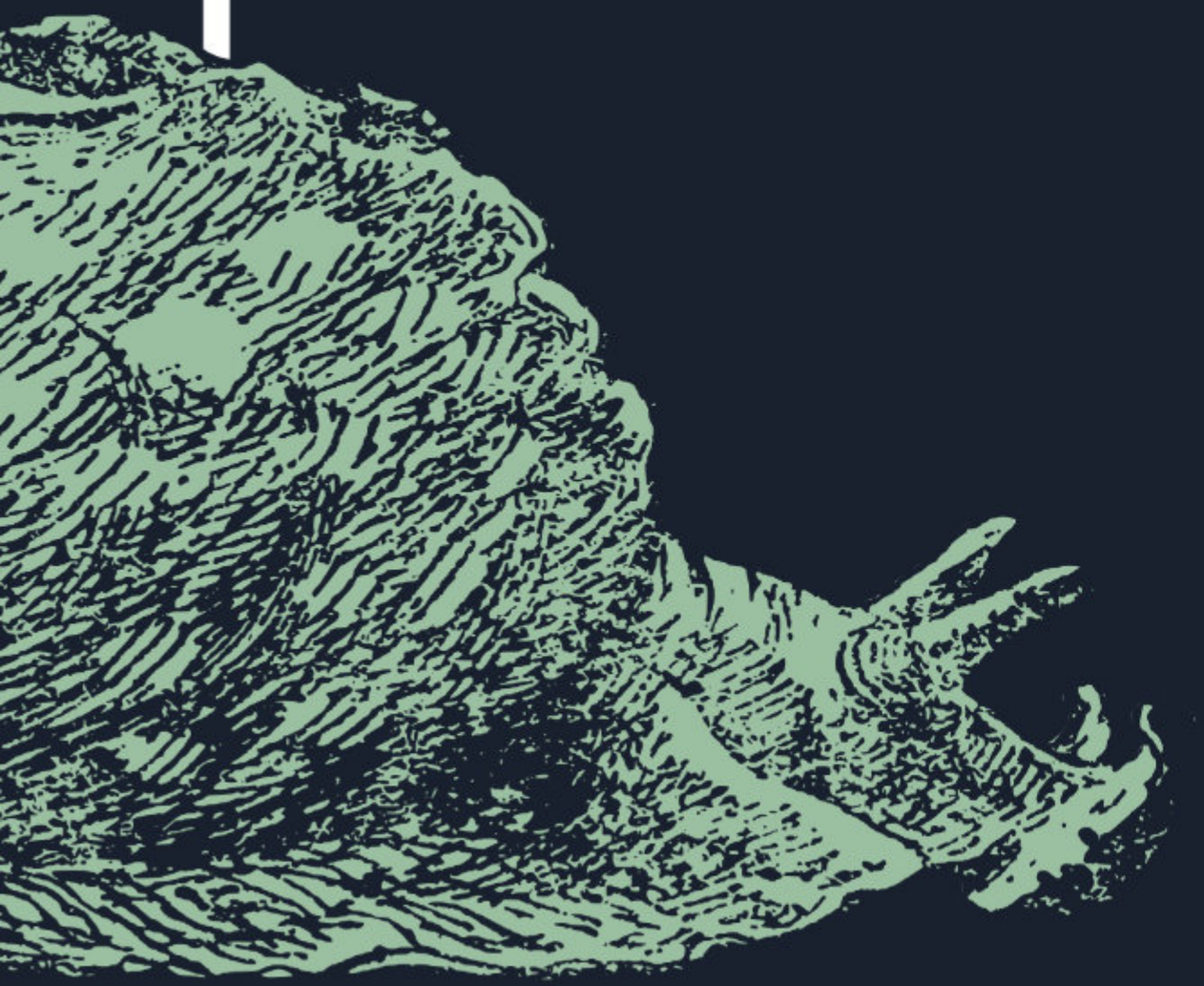
- Changes in the riverbed morphology due to extraction of gravel/ sand, which affects the availability of places to shelter and spawn.

- Decrease of water quality due to discharges of untreated industrial and/ or urban effluents, as well as agrochemicals.

- Illegal fishing.

CONSERVATION STATUS

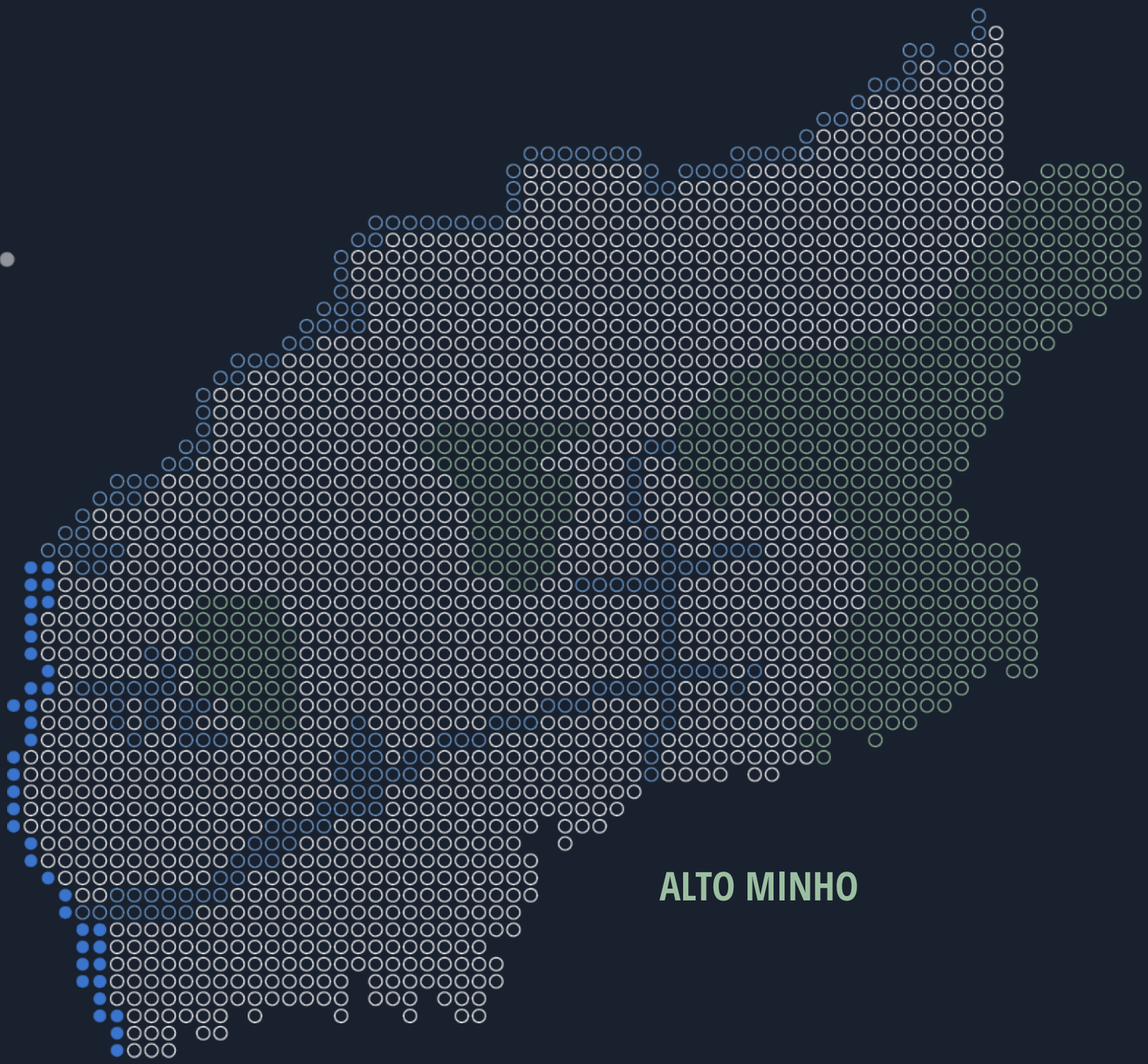
Vulnerable



SEA SLUG

Aplysia fasciata (Poiret, 1789)
Kingdom Animalia, Phylum Mollusca,
Class Gastropoda, Order Aplysiacea, Family Aplysiidae

IBERIAN PENINSULA



ALTO MINHO

When threatened it releases a cloud of purple ink - an anti-predatory defense mechanism. The ink secretion is composed of pigments derived from their diet (red algae).

Sea slug

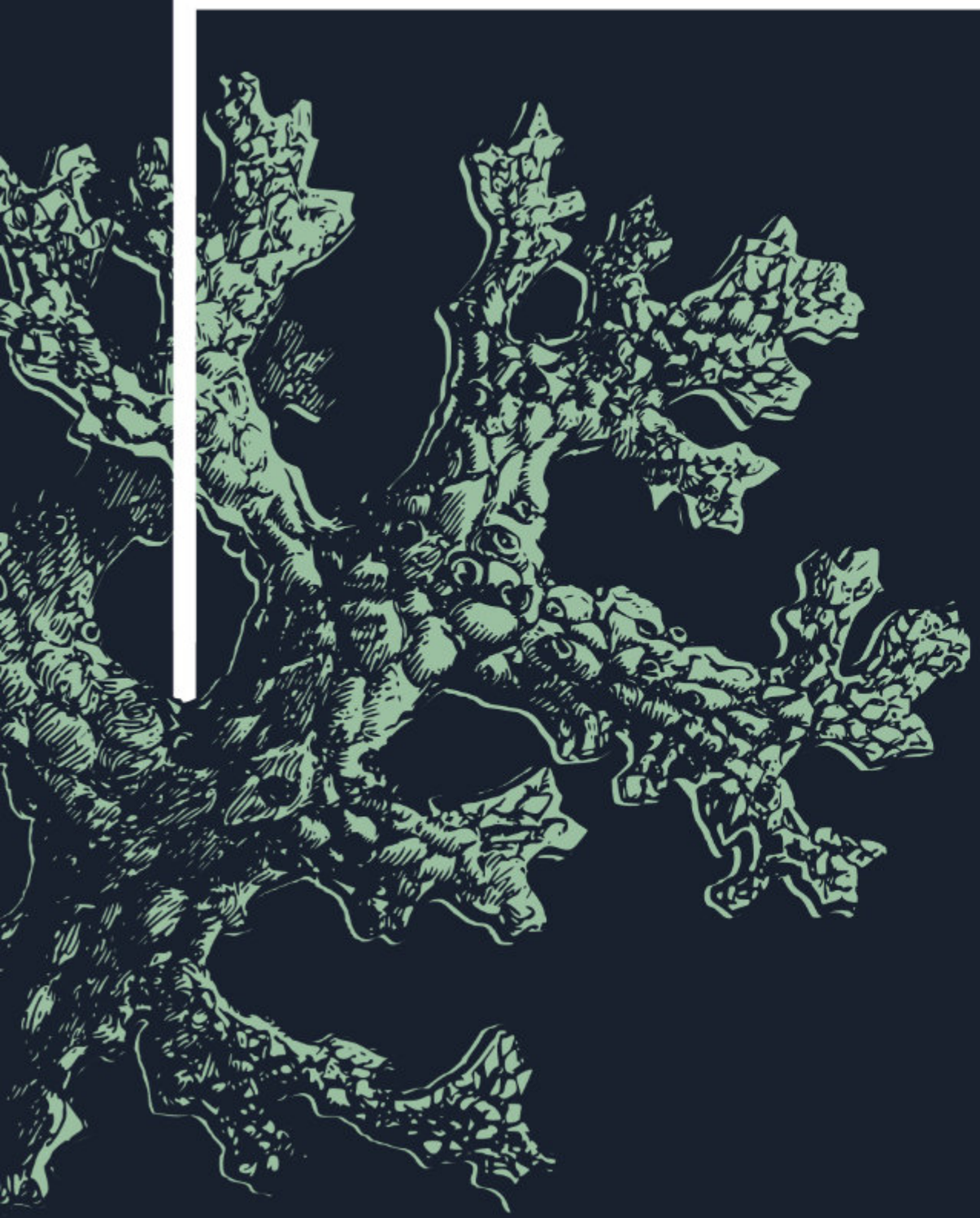
The sea slug (*Aplysia fasciata*) occurs on the western and eastern shores of the Atlantic Ocean and the Mediterranean Sea. It prefers the intertidal zone (area submerged and exposed at high and low tide, respectively) and depths less than 5 m. This mollusk is the largest species of the genus *Aplysia*, growing to 40 cm in length and can reach 1.5 kg. One of its most striking feature is the presence of external respiratory organs.

Sea slugs are hermaphrodite animals, i.e., one organism has female and male reproductive organs. They move by the action of the foot and swim with the help of two lateral extensions of the mantle called parapods.
Sea slugs are herbivorous mollusks that feed on algae.

The genus *Aplysia*, to which the sea slug belongs, appeared in the Cretaceous about 100 million years ago.

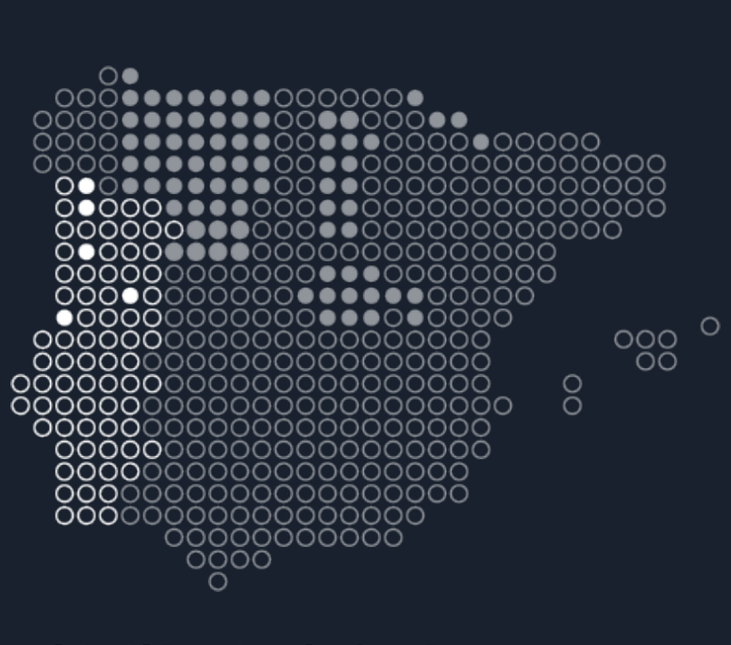
CONSERVATION STATUS

Not evaluated

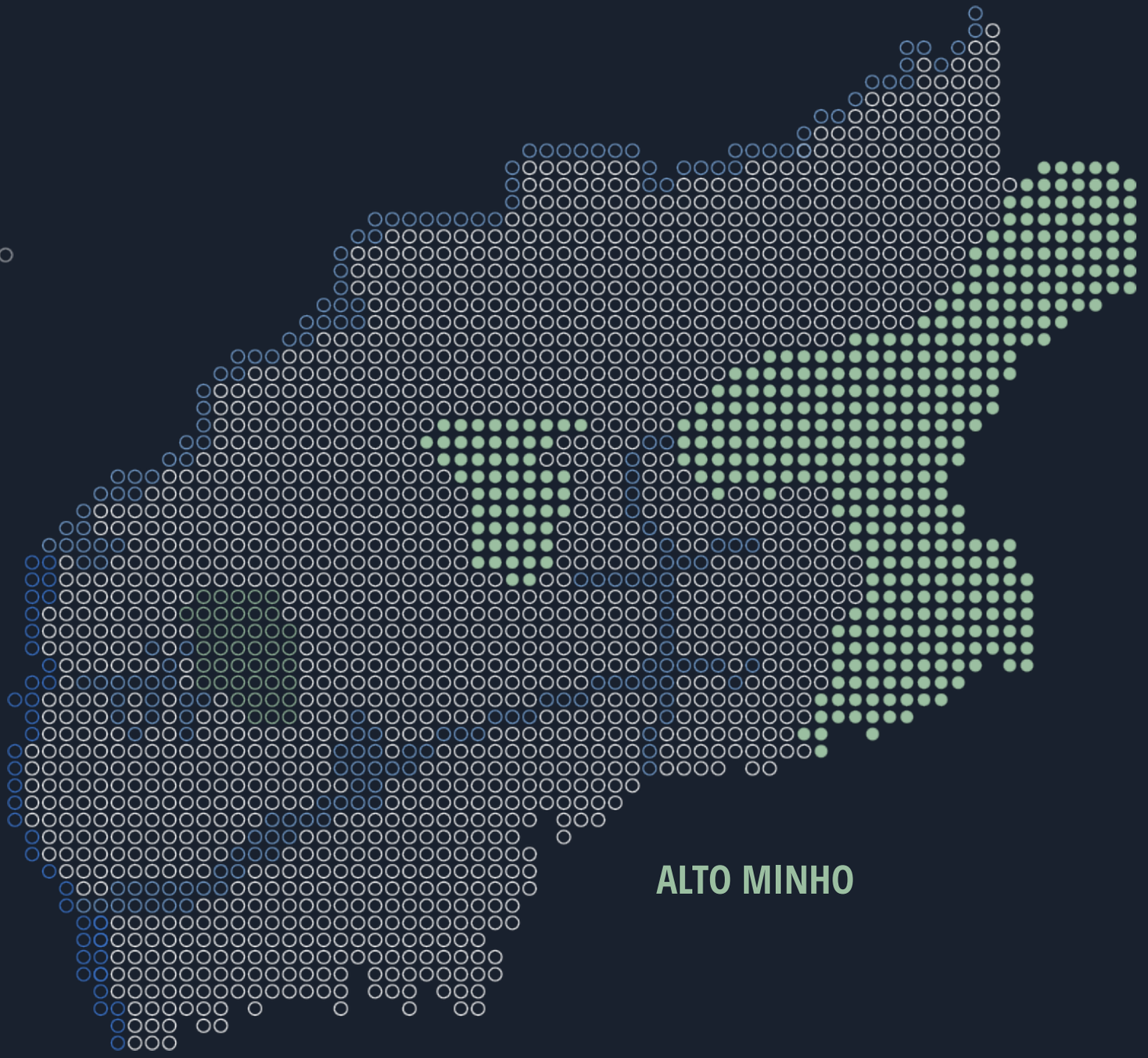


TREE LUNGWORT

Lobaria pulmonaria
Kingdom Fungi, Phylum Ascomycota,
Class Lecanoromycetes, Order Peltigerales,
Family Lobariaceae

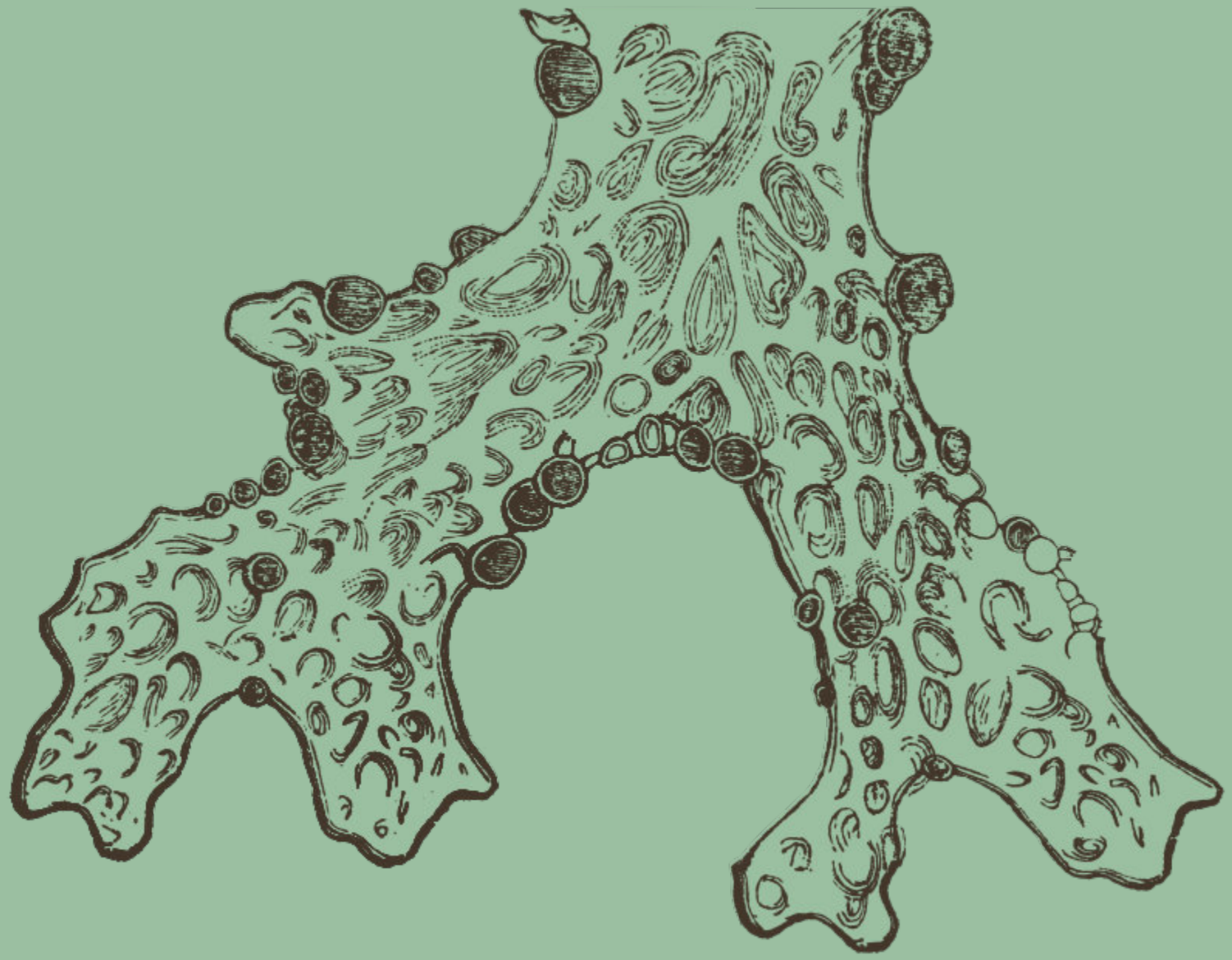


IBERIAN PENINSULA



ALTO MINHO

Lichens produce a chemical arsenal used to reduce predator attack - only a few moths and beetles can feed on them.



Lung wort

The tree lungwort (*Lobaria pulmonaria*) has a wide distribution, occurring in the forests of the northern hemisphere.

In the Iberian Peninsula it is common in the northwest, particularly in areas of Atlantic influence where precipitation is high, becoming rare towards the south. It grows on the surface of tree trunks in mature forests of oaks, chestnut trees and European ash.

This macroliquen (or lichenized fungus) is a symbiotic relationship between a fungus (*Lobaria pulmonaria*), a green algae (*Dictyochloropsis reticulate*) and a cyanobacteria (*Nostoc sp*). In this symbiosis, the fungus provides the water and nutrients that the algae later turn into food (sugars and amino acids).

In several European countries tree lungwort is considered threatened. Its high sensitivity to pollution makes it a good bioindicator of air quality.

THREATS

- Pollution: sulfur dioxide sensitive.
- Habitat loss: depends on mature forests.

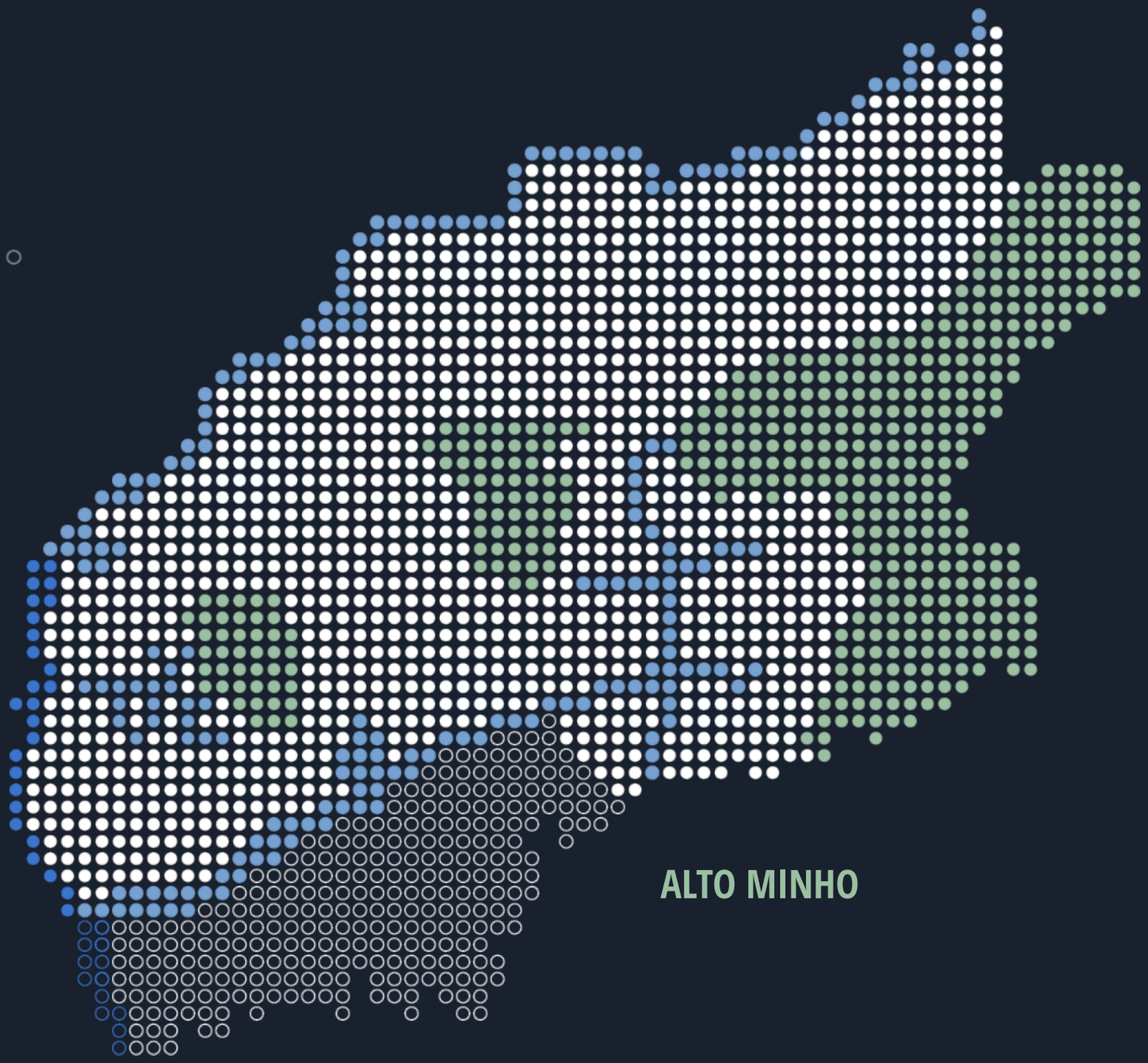
CONSERVATION STATUS

Not evaluated

IBERIAN WOLF

Canis lupus signatus (Cabrera, 1907)
Kingdom Animalia, Phylum Chordata,
Class Mammalia, Order Carnivora, Family Canidae

IBERIAN PENINSULA



ALTO MINHO

Wolf (*Canis lupus*) and domestic dog (*Canis familiaris*) footprints might get confused.

Wolf - between 1621 and 1661

The Iberian wolf (*Canis lupus signatus*, Cabrera 1907), subspecies of the gray wolf (Canis lupus, Linnaeus 1758), is endemic to the Iberian Peninsula. Currently, in Portugal, the Iberian wolf is restricted to northern wildest mountains, including the mountains of the Peneda-Gerês National Park, Serra d'Arga and Corno de Bico. However, at the beginning of the 20th century, the Iberian wolf roamed throughout the country, from Algarve to Alto Minho. Currently, the Portuguese populations represent only ca. 20% of the Iberian population.

Wolves are social animals that live in packs. The pack (3 to 11 animals) is a familiar group consisting of a breeding pair, pups of the year and some offspring from the previous year; exceptionally, the group can integrate unrelated wolves.

The pack spends about 35% of the day on the move across their vast territory, the size of which depends on the abundance of prey (rabbits, roe deer, wild boar, cattle and animal carcasses).

Communication between pack members is essential for group cohesion. To communicate, wolves use a panoply

of signals that include vocalizations, tail and ear postures, physical contact and facial expressions.

The wolf, the largest wild canid in existence today, occurs throughout the northern hemisphere and originated around 1.5 million years ago. The domestic dog is descendant from a wolf population already extinct from an already extinct wolf population (diverged 27000 years ago).

THREATS

- Degradation and fragmentation of habitat caused by wildfires and road construction.
- Shortage of wild prey such as deer, roe deer and wild boar.
- Human persecution in retaliation for predation on domestic cattle (e.g. ingestion of poisoned baits used to eliminate predators of livestock or game species). In the past, rural communities used large wall stone traps, called "fojos" to catch wolves.

CONSERVATION STATUS

Endangered

PRAYING MANTIS

Mantis religiosa (Linnaeus, 1758)
Kingdom Animalia, Phylum Arthropoda,
Class Insecta, Order Mantodea, Family Mantidae

IBERIAN PENINSULA

ALTO MINHO

Their heads can rotate 180°, as to observe the surroundings with its two large eyes.

Praying mantis: lateral view

The praying mantis (*Mantis religiosa*) have a worldwide distribution, excluding Antarctica and South America. Although it can be found in both natural and urbanized areas, it prefers shrubby habitats and meadows where its prey abound.

Adults are observed in late summer and autumn. During mating, the female may behead and eat the male (sexual cannibalism); although beheaded, the male can still fertilize the female because the sexual mechanism is controlled by the nervous ganglion in the abdomen.

The female then deposits one or more ootheca (a structure containing up to 300 eggs) on a shrub or rock. Praying mantis have a short life: adults cannot resist the low temperatures of winter. On the contrary, the protection provided by the ootheca allows embryos to survive the harsh winter conditions, hatching when temperature becomes favourable (spring).

The order Mantodea originated in the Jurassic (about 200 million years ago). This species owes its name to the fact that the upper members resemble the prayer position.

THREATS

- Habitat reduction due to agricultural intensification: it reduces prey density and sites for ootheca deposition.

- Use of pesticides: affects the species directly by toxicity and indirectly through prey scarcity.

CONSERVATION STATUS

Not evaluated

LESSER HORSESHOE BAT

Rhinolophus hipposideros (Bechstein, 1800)
Kingdom Animalia, Phylum Chordata, Class Mammalia,
Order Chiroptera, Family Rhinolophidae

IBERIAN PENINSULA

ALTO MINHO

The lesser horseshoe bat weighs as much as a nut: between 6 and 9 grams.

Lesser horseshoe bat

The lesser horseshoe bat (*Rhinolophus hipposideros*) occurs in western and central Eurasia, and also in northern Africa. In the last 50 years, this species has become extinct at the northern limit of its distribution - Belgium, the Netherlands and Germany. In Portugal, it occurs throughout the mainland, being common in Alto Minho.

This bat owes its name to the folds of skin on its nose, which resembles a horseshoe. It hunts at dusk in forests, along creeks and agricultural areas where insects abound. The prey is caught either in flight or when perched on rocks and shrubs.

The lesser horseshoe uses a biosonar to detect its pray. This process, called echolocation, consists in making a sound and interpreting its echo in order to understand the surroundings.

In spring-summer, pregnant females gather in caves or buildings, in groups of tens or hundreds of individuals, known as maternity roosts. The offspring born in June-July and become independent in late summer. When leaving the shelter to feed, females carry the offspring in their bellies.

During winter, when food abundance decreases and ambient temperature drops, bats gather in small hibernation groups, typically in underground shelters. During hibernation, the lesser horseshoe bat completely folds its wings in toward the body and enters a state of lethargy characterised by a decrease in body temperature (from 37°C to 10°C) and metabolism; this allows them to save energy and thus withstand the harsh winter conditions for 6 - 8 months. Meanwhile, basic processes such as breathing and heartbeat are fuelled by energy reserves accumulated in summer.

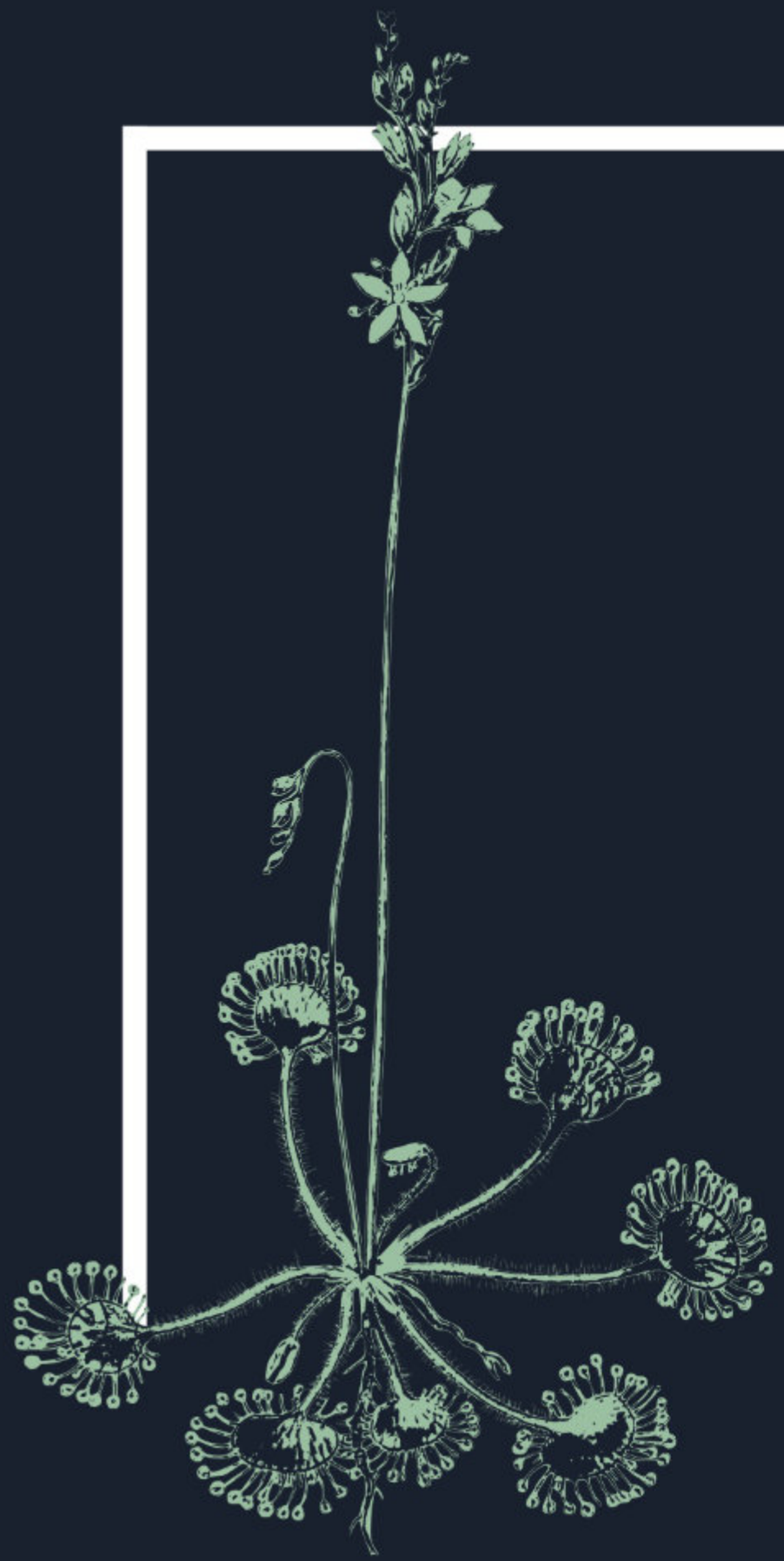
Bats of the Family Rhinolophidae, to which the lesser horseshoe bat belongs to, originated around 37 million years ago during the Paleogene.

THREATS

- Decrease of breeding and hibernation shelters.
- Destruction of forests and feeding areas.
- Food (insects) shortages and poisoning caused by pesticides use.

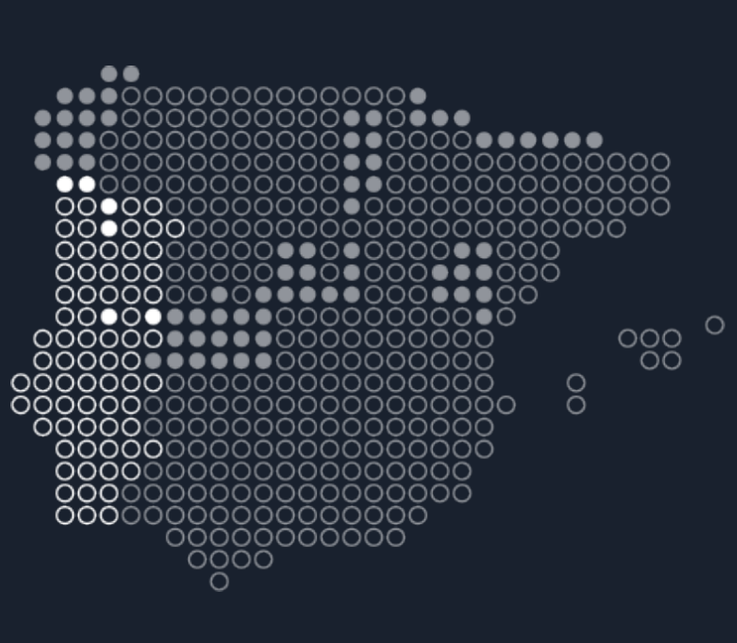
CONSERVATION STATUS

Vulnerable

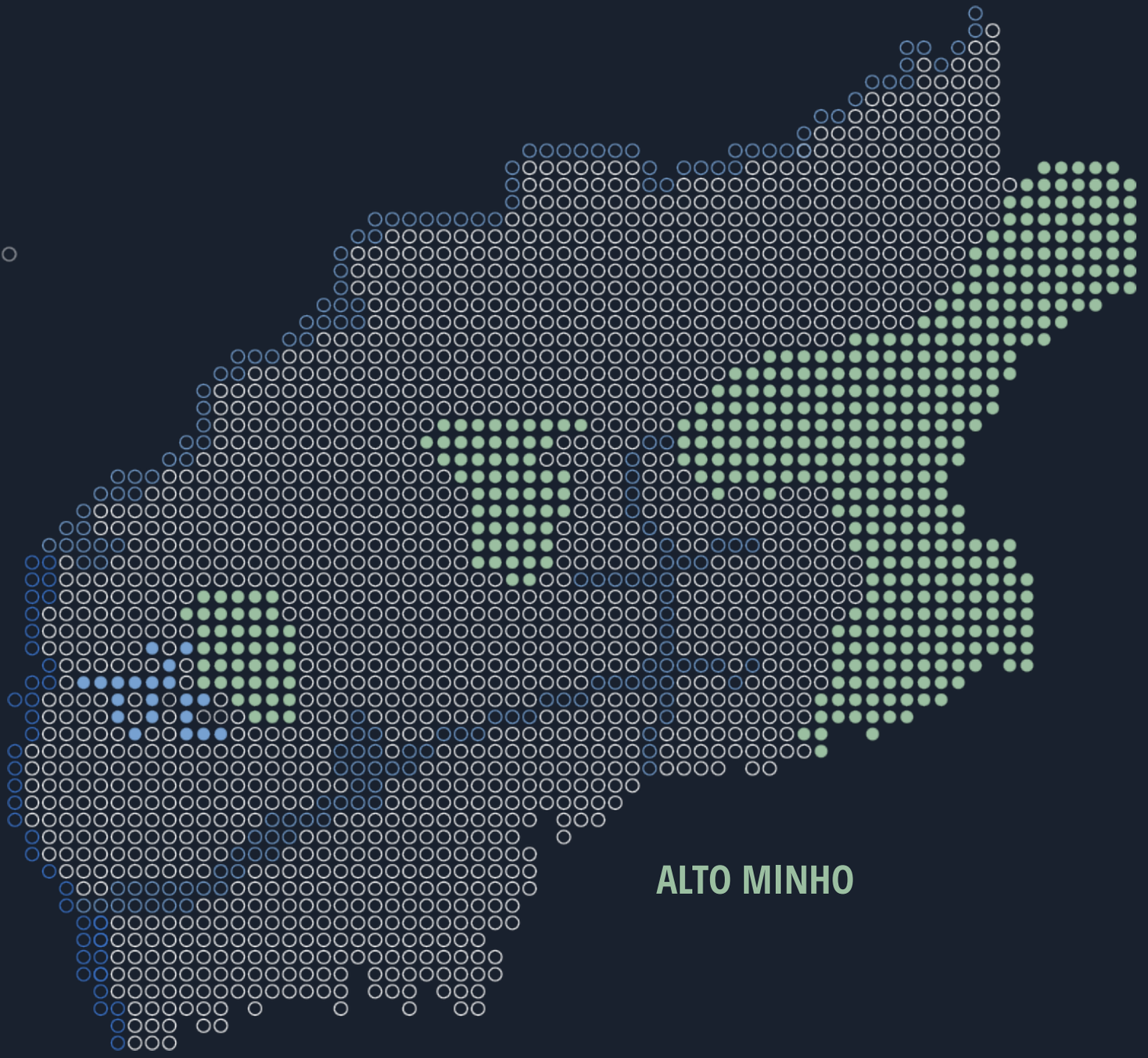


SUNDEW

Drosera rotundifolia (Linnaeus, 1753)
Kingdom Plantae, Phylum Tracheophyta,
Class Magnoliopsida, Order Nepenthales,
Family Droseraceae

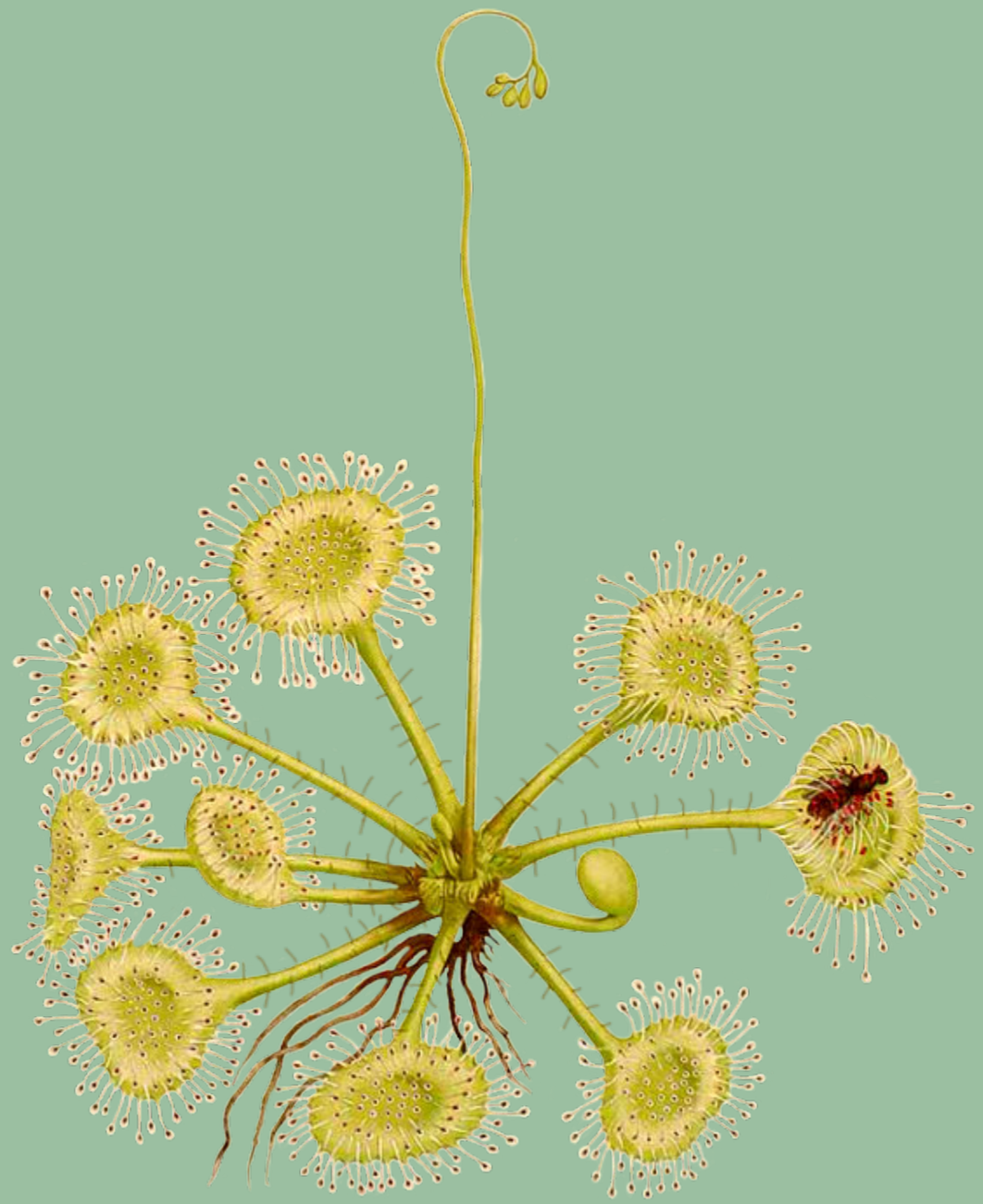


IBERIAN PENINSULA



ALTO MINHO

Sundew uses a set of signals (odor and location) to attract the insects they feed on.



Sundew

The sundew (*Drosera rotundifolia*) is a carnivorous plant with a wide distribution in the northern hemisphere: Europe, Asia and North America. It occurs in soggy meadows and bogs dominated by Sphagnum mosses, in mountainous areas. This carnivorous plant has pedunculated glands on the leaf surface to attract, trap and digest the insects. The secretion produced in these glands is a sticky mucilage, which hinders insects from escaping, while the leaf curls. Then the plant releases enzymes to digest the food. Despite energetically expensive, as it involves producing specialised leaves, glands, mucilage and digestive enzymes, carnivory allows them to survive in very poor soils, where nitrogen is scarce.

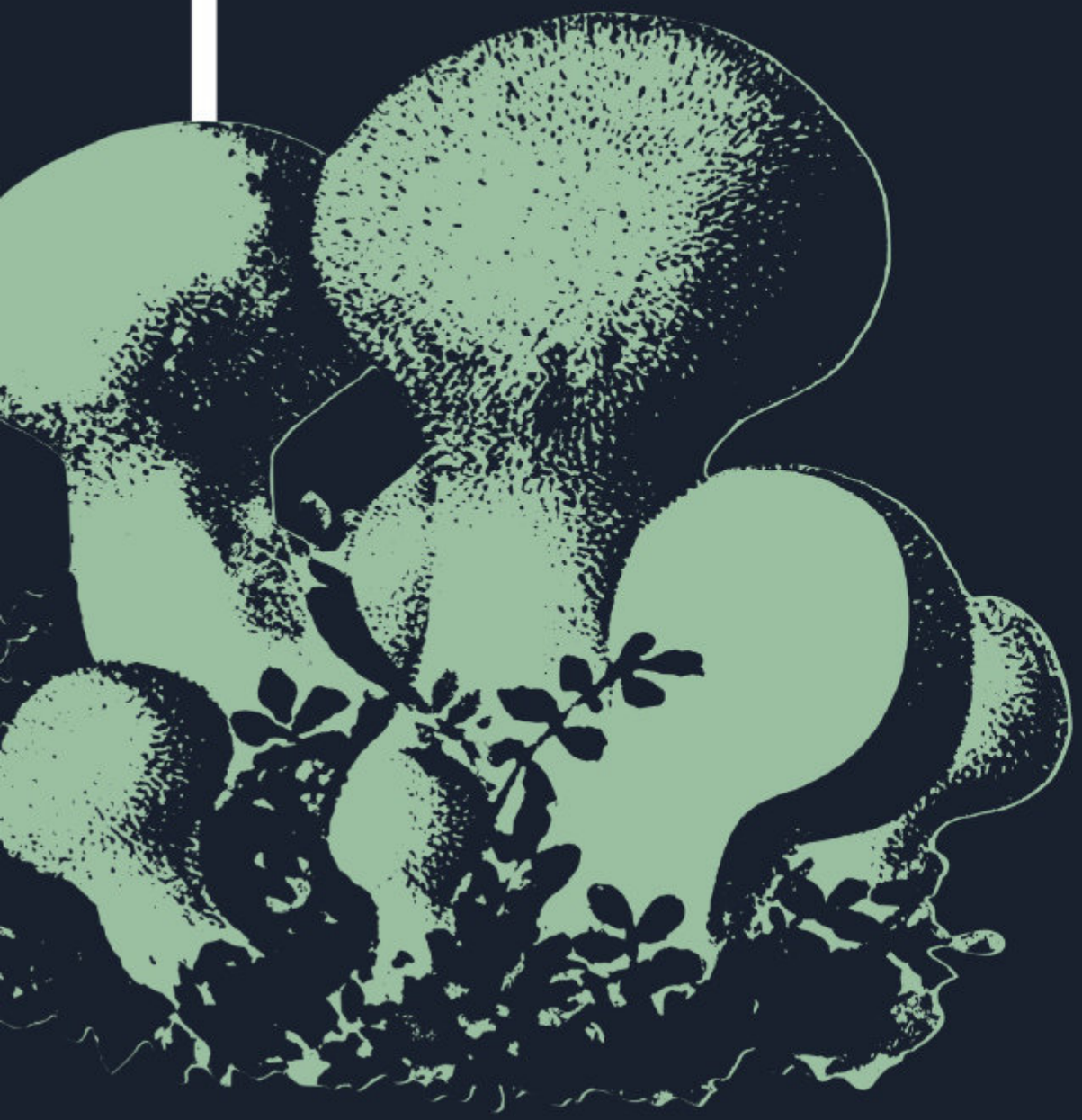
Flowering takes place between July and August: small white flowers appear at the top of long stems thought to be one of the mechanisms used to ward off pollinating insects from trap leaves.

THREATS

- Destruction of habitat by trampling, grazing and draining bogs.

CONSERVATION STATUS

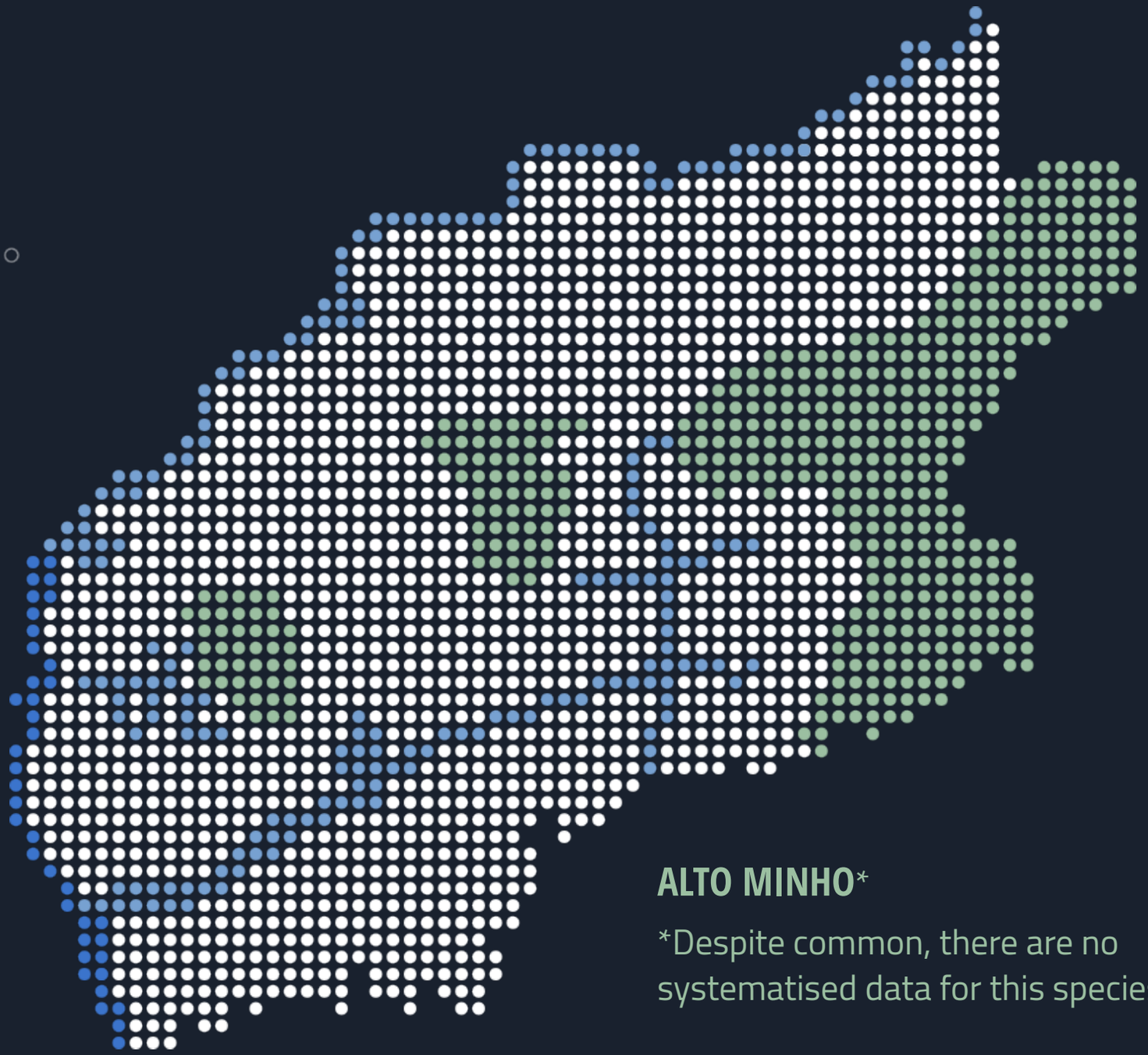
Not evaluated



PUFFBALL

Lycoperdon perlatum (Persoon, 1976)
Kingdom Fungi, Phylum Basidiomycota,
Class Agaricomycetes, Order Agaricales, Family Agaricacea

IBERIAN PENINSULA



ALTO MINHO*

*Despite common, there are no systematised data for this species.

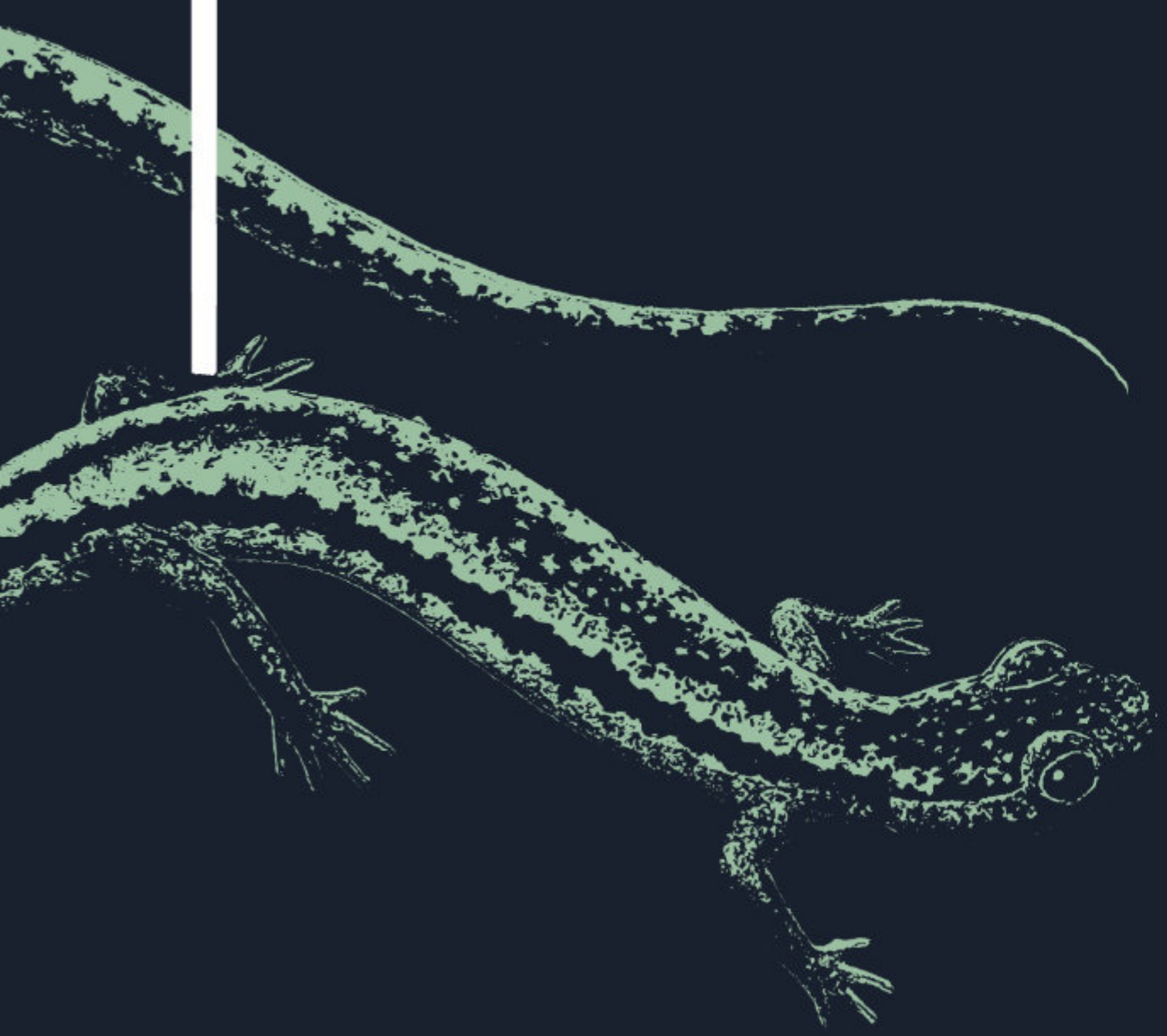
It releases globular brown spores with 3.5 - 5.0 µm in diameter (1000 times smaller than the diameter of a match).

Puffball

The puffball (*Lycoperdon perlatum*) is a fungus that occurs in forests around the world. This fungus gets its food from decaying organic matter, such as fallen leaves and dead wood. The carpophorus (fungus/mushroom fruiting structure) has the shape of a whitish pear. At the end of maturation, the mushroom releases a cloud of dark brown spores with an unpleasant odor, which justifies its Portuguese common name "peido-de-lobo" (wolf's fart).

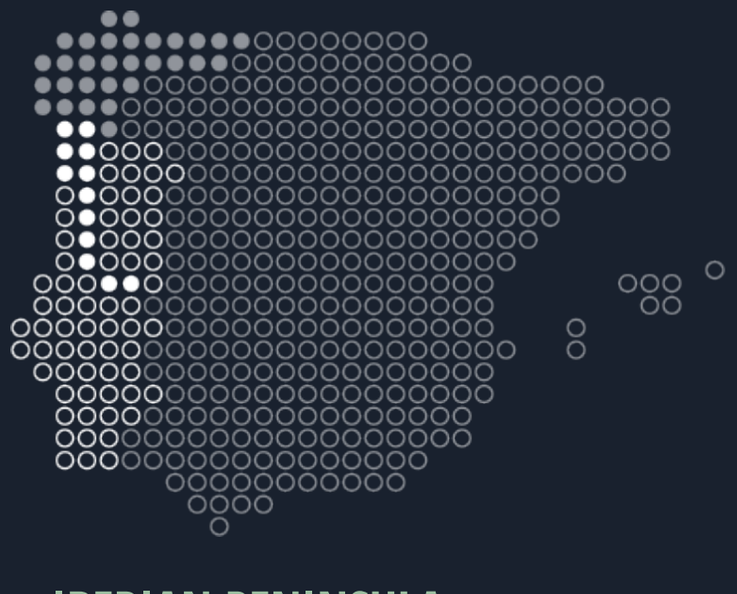
CONSERVATION STATUS

Not evaluated



GOLD-STRIPED SALAMANDER

Chioglossa lusitanica (Bocage, 1864)
Kingdom Animalia, Phylum Chordata,
Class Amphibia, Order Caudata, Family Salamadridae



IBERIAN PENINSULA

ALTO MINHO

Gold-striped salamander's tail is twice as long as its body size. When threatened, this salamander drops its tail as a way to distract the predator while escaping.

Gold-striped salamander: two dorsal golden strips

The gold-striped salamander (*Chioglossa lusitanica*) has a very restricted distribution: from northwestern Spain, to northern and central Portugal. It occurs mainly in mountainous regions where annual rainfall exceeds 1000 mm. This species is associated with small to medium creeks, with well oxygenated and clean waters, surrounded by abundant vegetation such as oaks. In addition to creeks, it can also be found in abandoned caves or mines.

The gold-striped salamander has no functional lungs and hence the oxygen is obtained through the skin. The lack of lungs is understood as an adaptation to the aquatic environment as it allows them to reduce buoyancy and thus become more agile in water.

Females lay 12-20 eggs in moist and protected locations, such as concavities at the creek banks or in cave/ mine's walls.

This salamander is sensitive to climatic extremes, so its activity is reduced in summer (aestivation) and winter (hibernation). It feeds on invertebrates.

The genus *Chioglossa* originated during the Paleogene (42 million years ago).

THREATS

- Degradation of water quality by agricultural runoffs (agrochemicals), as well as by industrial and urban effluents.

- Habitat loss due to:

i) conversion of land for afforestation with pine and eucalyptus;

ii) overexploitation of water courses which causes the water flow to decrease;

iii) wildfires.

CONSERVATION STATUS

Vulnerable

MIDWIFE TOAD

Alytes obstetricans (Laurenti, 1768)
Kingdom Animalia, Phylum Chordata,
Class Amphibia, Order Anura, Family Alytidae

IBERIAN PENINSULA

ALTO MINHO

The male carries the eggs until developing embryos are ready to hatch.

Iberian midwife toad

The midwife toad (*Alytes obstetricans*) occurs in western Europe, including the northern half of the Iberian Peninsula.

This species is associated with permanent water bodies such as streams, ponds and mountain lakes. In colder areas it has long periods of hibernation and in warmer areas it may become "dormant" (finds shelter in cooler places where remains inactive).

This toad is better known for the parental care of the male, which justifies its common name. Unlike most frogs and toads, the midwife toad does not lay its eggs in water. Once fertilised, the male wraps the egg cord around his hind legs and carries them for nearly a month, until the tadpoles are ready to hatch. Then, in that moment, it releases them into the water.

Alytes obstetricans originated sometime between 7.5 - 6.5 million years (Neogene).

THREATS

- Habitat degradation and fragmentation by urban pressure.
- Pollution of ponds and streams by runoff of human origin.
- Chytridiomycosis - infection with chytrid fungus (*Batrachochytrium dendrobatidis*). This highly infectious disease, which affects all amphibians since the 1990's, has not only caused massive mortalities, but has also led to the extinction of some species.

CONSERVATION STATUS

Least Concern

BRIAR ROOT

Erica arborea (Linnaeus, 1753)
Kingdom Plantae, Phylum Tracheophyta,
Class Magnoliopsida, Order Ericales, Family Ericaceae

IBERIAN PENINSULA

ALTO MINHO

Briar root establishes a symbiotic association with mycorrhizae (soil fungi). While the fungus helps the briar expand its root system to absorb water and nutrients, the plant, in turn, provides carbohydrates.

Briar root

The briar root (*Erica arborea*) is a tall, evergreen shrub that occurs in the Mediterranean Basin, part of western Asia and has populations in East Africa. In Europe, it is associated with thickets and forest edges of temperate and Mediterranean climates, from sea level to 1200 m in altitude. The genus *Erica* comprises about 850 species, five of which occur in Alto Minho, but only briar root reaches tree height, as its scientific name (arborea) indicates. This heather blooms in spring and has bell-shaped hermaphrodite white flowers.

The oldest fossil of an ancestor of *Erica arborea* dates from the Neogene (15 million years).

THREATS

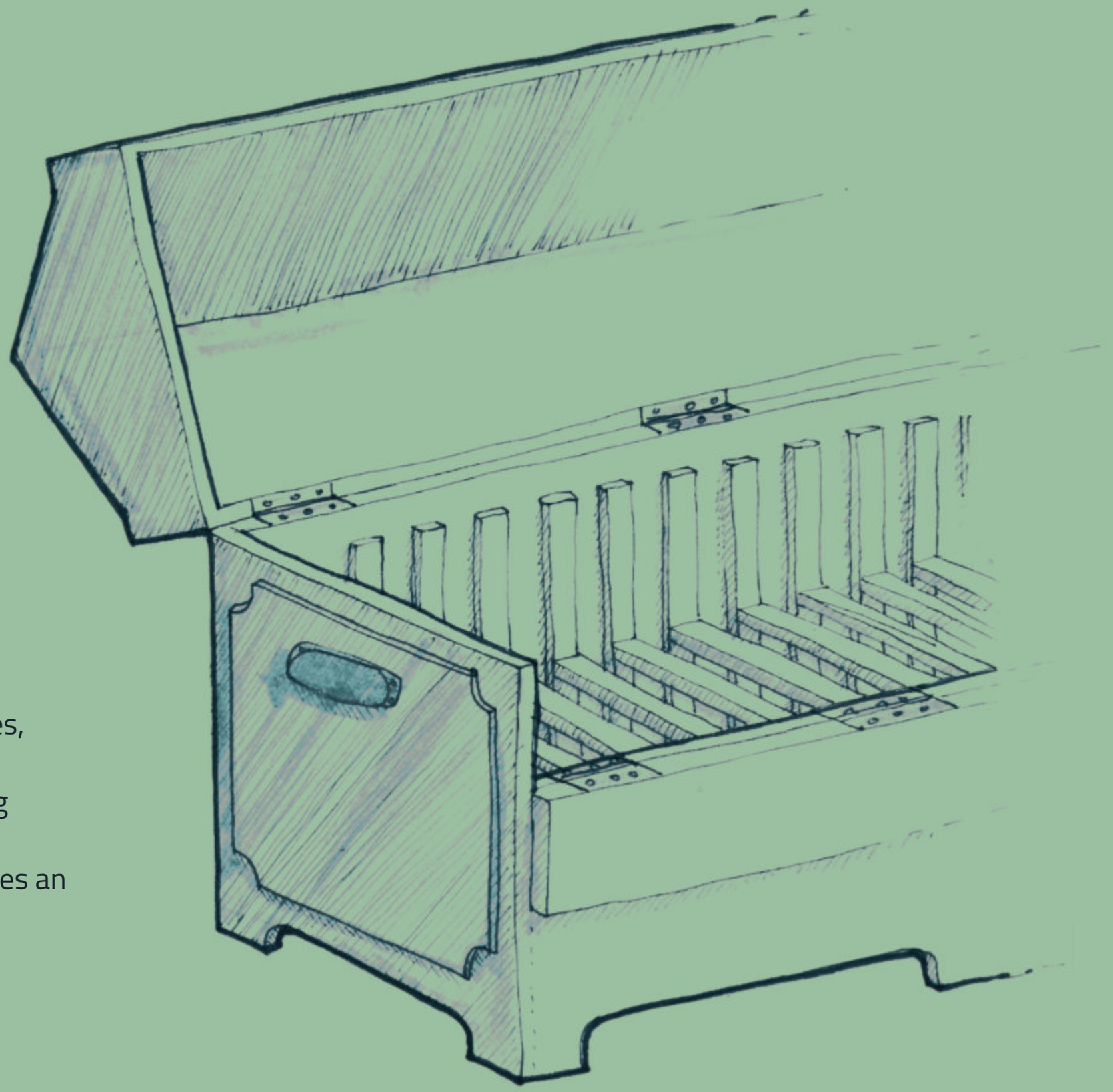
- Afforestation with Eucalyptus (Gum trees).
- Wildfires
- Invasion of habitat by exotic species such as Acacia trees.

CONSERVATION STATUS

Not evaluated

ARK OF KNOWLEDGE

The exhibition “Alto Minho: landscapes, species, stories” contains an “Ark of Knowledge” where visitors, by solving enigmas, gain access to interactive contents. The following page illustrates an example of such contents.



WILDLIFE SIGNS

LANDSCAPES

SPECIES

STORIES

Culture /'kəlCHər/ noun

Set of ideas, knowledge, practices and beliefs that constitute the heritage and way of life of a community.

Culture is a basic component of the ecosystems that humans inhabit. Man has always created strategies to adapt to and to shape his environment, as a way of interacting with his surroundings.

The fascinating universe of Alto Minho's intangible heritage is an example of this: traditions, techniques, stories, beliefs and rituals linked to the landscapes, living beings and mythical entities that inhabit this territory are plentiful.

Examples of these are the Enchanted Mouras' legends, the lost practice of community herding (known as "vezeira"), the wolf traps (known as "fojos") or the mountain sanctuaries...

Today, these narratives are mostly dissociated from our perception of the territory, mainly due to the rapid transformations of the last decades: economy, media and urbanization. Some of these traditions have been lost, while others we seek to preserve in the name of our cultural diversity in a globalised world.

RUE

The smell and the evil eye

Strolling through the backyards of Alto Minho we find such a profusion of colours, smells and flavours that we unintentionally ask ourselves whether this was where the inspiration for the traditional costumes came from. In the amidst of such profusion, there is a modest grayish-green plant, with an unpleasant smell. It is the rue and it has a very special role...

The rue protects the house and its inhabitants from evil eye and spells. It is often in a vase on the doorstep, but when there is a yard or garden, it sinks its power on earth. It is said that if a house is very envied, rue develops poorly because all its energy is spent in the role of spiritual barrier.

The rue buttons (a dehiscent capsule, from which seeds are released when ripe) are critical for the protection of babies. Their physical fragility is accompanied by a delicate spiritual condition - this is so because they are said to be permeable to entities of the spiritual world.

The rue buttons also protect adults if slipped into their pockets, but one has to choose a button with five divisions...

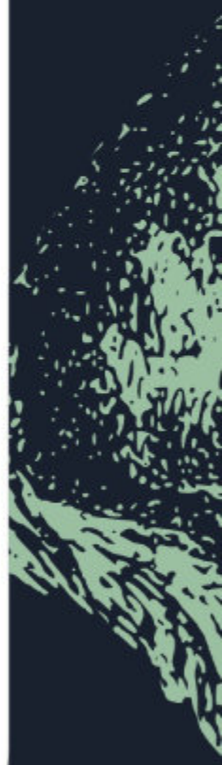
Beware of the smell! You can unintentionally hold off some sensitive noses while warding off the evil eye.

In small communities, comments about others' lives are constant. They played a key role in the maintenance of neighbourhood bonds, preventing dissent and deviant behaviours that could undermine the community. Along with gossip, but to a far more dangerous degree, envy and the evil eye existed between neighbours. While envy plays the role of jealousy in preventing social problems, for example, economic differentiation between peers, the evil eye is the ability of certain people, usually women, to cause problems to others only through the intent of their gaze. The evil eye may be born out of envy, but it also may be something that, in our tradition, arises only from the "pure evil" of the "empowered" person.

Note the link established in popular culture between babies skull anatomy and beliefs about the vulnerability to intrusion of negative intentions or spirits. The baby's skull is highly flexible and its bones are not yet fused as in the adult.

This empirical knowledge is associated with the belief that the head is the abode, or gateway, of spirits. That is why the priest spills water on the fontanelle (head soft spot).

Interesting is also the use of rue capsules as an amulet, yet it has to be a penta-split button. It resembles the pentagram (a five-pointed star) used among us for protection. For example: when cows were about to calve, this symbol was cut on their fur; it was drawn in stone jambs; and today it is still placed on metal gates. Examples of other amulets are: the crucifix (the most important), crossed fingers or garlic heads.



INTANGIBLE CULTURAL HERITAGE

Social practices, rituals and festive events

WOLF TRAP (FOJO)

The mountain's devil

For centuries, the Iberian wolf was persecuted and hunted. In the mountains, where its presence was most noticeable, and where it survives today, large stone structures (“fojo” in Portuguese) were created to capture and kill it. These abandoned "fojos" remain a memory of the way we interact with nature and with other living beings.

“Look... for wolf hunting, people from Soajo went out playing drums and pipes, also firing a few shots while walking towards that place that goes to Peneda. Once there, they started to fire. The wolf, if around the places we crossed, would run. But the people from the other villages were already doing the same on their side of the mountain, also to scare it off should the beast ran in that direction.
So, everyone around the mountain went up and then gather at Travanca or at Alto da Pedrada. Uphills there was a trap - the “fojo”. It had walls on one side and walls on the other. The trap has those walls on the sides and then it comes all the way until it closes at the bottom. People would struck from one side, struck from the other and directed the wolf there. Once at the entrance of the fojo, the wolf could no longer escape. It would run towards the inside of the trap... but at the end there was a well that was covered with bushes and weeds. The animal wasn't aware of it and eventually fell into the well. Then, we would kill the wolf. Afterwards people from Soajo would show it off in the parish, walking the streets saying “long live the wolf!””.

The Iberian wolf, the last great predator of our mountains, still survives in northern Portugal after having existed throughout the country. The attacks. on domestic livestock dictated its reputation as "a devil roaming our mountains". It is now known from scat analysis that its diet is mostly made up of domestic animals. This is a consequence of the destruction of their habitat and the decrease in the number of wild prey caused by hunting, wildfires and urbanization.

With the end of community herding, the cattle began to graze without shepherds. At the same time, garrano horses were dismissed as cargo animals and became semi-wild. Thus, both cattle and horses became wolf prey.

Despite all the transformation of the rural economy and even subsidisation, either by owing regional cattle breeds or by its death to the wolf's teeth, wolves continue to be hated and slaughtered, even in our nature reserves. This shows that, regardless of the legal entities and biological management policies that come into play, the way locals understand humans' and other living beings' cultural roles, remained

immutable. The administrative intervention failed to take into account the social sciences, as well as that people's behaviour and beliefs take time to change. Despite environmental education programs there are children who still learn the mythical description of the wolf: “My mother said that if I see a dog, as big and hairy as those walking in the snow, with sharp teeth and drooling, that is a wolf.”

The wolf portrays everything we fear in the wild. Although the popular narratives never describe attacks to humans and no one alive remembers that it ever attacked us, people still see the wolf as wild, unpredictable, a devil roaming the mountains, and one is never sure whether, at any moment, it will impose itself on the walker.

INTANGIBLE CULTURAL HERITAGE

Traditional craftsmanship

GARRANO HORSE

Unemployed and wild

Garrano is a small stature horse, native to the mountains of the northwest of Portugal, where it lives in semi-wild regime. It was once an extremely important resource for the rural highlanders. In 1940 there were about 15000 animals. With changes in agricultural production, people's mobility and abandonment of rural areas, garrano horses' numbers dropped sharply: in 2018 there were only 2200 animals.

"(...) on market days, in the churchyard, in the local store, in the mail distribution, in the miller's watermill, in the fountains and creeks, around the house of a ready-to-marry girl (...) there is the man and his garrano horse. All smarten up, he doesn't want to be below the priest and the doctor. He gives his "good day" left and right, he comes up with jokes.

The girls react well and badly: one was "hypnotised with the gallant subtlety, proud of herself, wandering in such opportunity, where women let themselves fall like Iberian nase [fish] with flax-leaved daphne [poisonous plant used to catch fish]". Others blush and sometimes want to see these shameless wooers pass by in the distance. They drop their handkerchief, but soon catch it, as if to say: I'm already committed, get yourself lost. But man pretend they don't understand and insist, they insist.

"Ah! garrano, get close that we have a lady pretending not to show off.
Chest forward and for the love of adventure.""

Luís Dantas

The garrano horse (*Equus caballus celticus*) is a breed of horse, belonging to the Equidae family. This breed is native in the Minho and Trás-os-Montes mountains in Portugal and also in southern Galicia in Spain. With the exception of some stabled animals, most live in feral groups, meaning they live in the wild but are descended from domesticated animals and have owners.

In the Peneda-Gerês National Park there is a small feral population descendant of 21 animals released in the Vale do Homem valley in 1943, at the initiative of the State Secretariat of Agriculture. This pioneering project aimed at preserving the breed in its natural environment. Nowadays, the owners of garrano horses are subsidised for the same purpose: keeping the breed in the natural habitat.

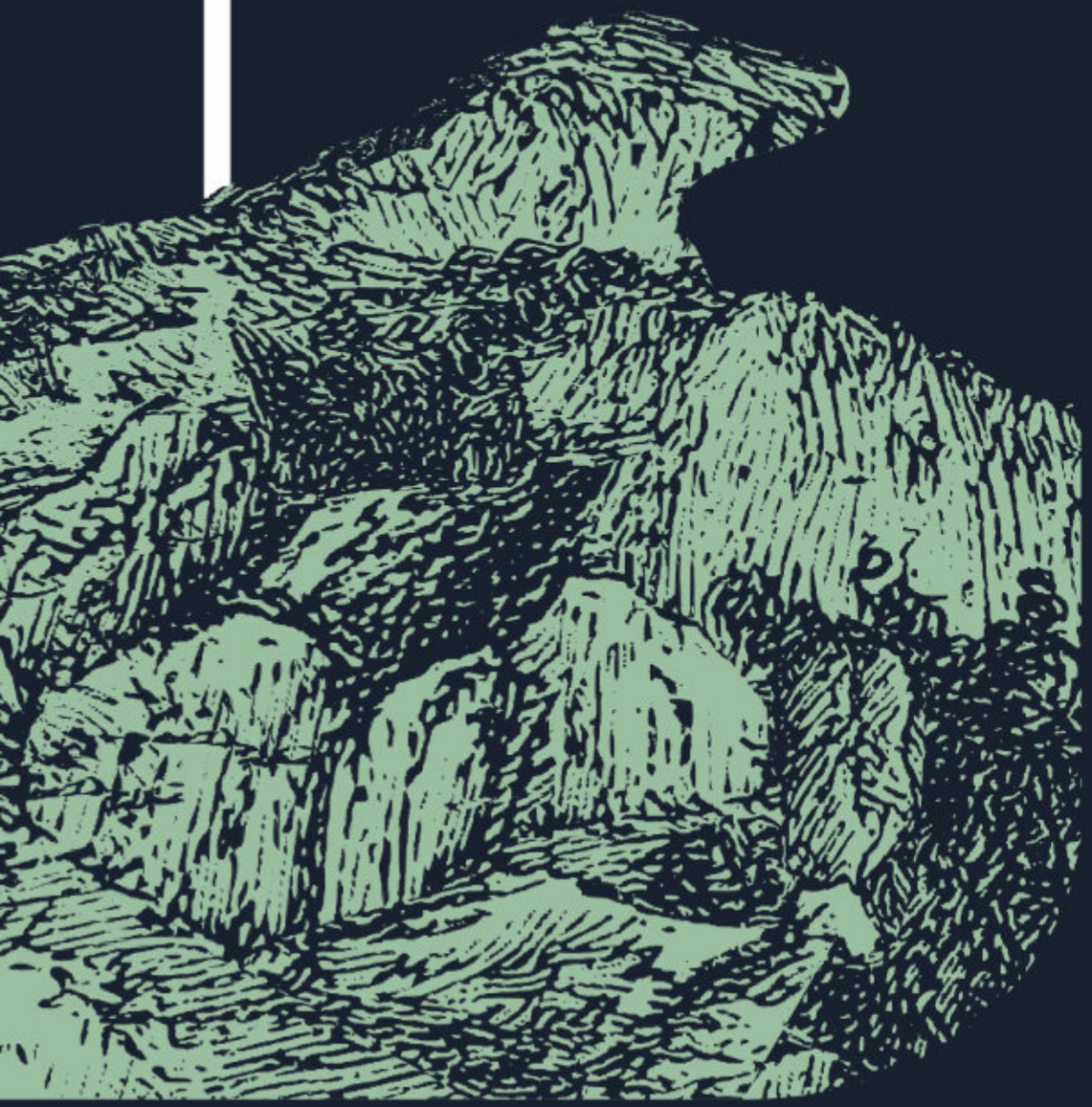
The garrano horse has a short stature (155 - 160 cm) and does not exceed 300 kg - the reason to be considered a pony. Morphological characteristics such as short stature, sturdy limbs and rump slightly slanted make their center of gravity lower than other horses, allowing them to move smoothly across the rugged, stony terrain of the mountains.

Historically, garrano horses played an important role in agricultural and forestry activities, particularly transporting cargo along the winding mountain paths. In addition to rural works, they were also used to smuggle goods between Portugal and Spain during the Portuguese (“Estado Novo”) and Spanish (“Franquismo”) dictatorship regimes.This horse also served as a means of transport for the wealthiest farmers.

With the mechanisation of agricultural work and the widespread of rail and car transportation, the interest in garranos for agro-forestry work and cargo vanished. In the last decade, the interest for this horse has returned, being now used for sightseeing tours in the northwest mountains.

INTANGIBLE CULTURAL HERITAGE

Traditional craftsmanship



LAMAS' LIZARD

The mountain pass monster

Those who travel through the mountain pass from Lamas de Mouro, leading to the Sanctuary of Senhora da Peneda find, on the hill's summit, a huge petrified lizard. Is it a mere stone or the remains of an ancient monster?

In the Peneda mountains used to live a huge lizard. Devouring people, he used the guerrilla tactic of catching passersby in the only connection between the Lamas de Mouro valley and the Peneda valley. But one day, a lady stood up to it, drew from her distaff and stabbed it, killing and turning the lizard into stone. Some say that the heroine is no more than Our Lady of Peneda, who appeared in the Meadinha cliff... Meadinha stems from the Portuguese word for skein, the first coil of linen or wool; the linen/ wool thread is created with, no less than, a distaff.

The lizard of Lamas is a mythical survivor of a time that no longer exists, where monsters battled against saints and the fight between good and evil was performed by the deities right before our eyes...

This kind of narrative is not unique to our territory. In Our Lady of Lapa in Sernancelhe (another rock-bound lady), it is said that the huge reptile (dried and stuffed) that has been inside the church since 1711 (probably a former vow from India) was a lizard which inhabited that mountain. There is also a reference in a toponym nearby - Cova do Lagarto (Lizard lair). But it has not been confirmed whether or not there is a rock formation as in Lamas de Mouro. The Sernancelhe lizard was also killed by a woman (in some versions a spinner like in Peneda, in others a shepherdess) who threw it her skeins and ended up choking him. Different in content, in Lisbon, in the church of Our Lady of Penha de França (“penha” means stone in portuguese) there is also a lizard that, at the Lady's request, woke up a man who was about to be attacked by a snake.

It is interesting to note the link between lizards and stones, and on the other hand that these reptiles, always defeated by women or Our Lady, are associated in other popular narratives with masculine elements, while snakes with feminine elements. For example, lizards were blamed for girls' pregnancies (who were supposedly virgins) and threw themselves at them when they were menstruating.

Although in Portuguese popular culture the transformation of a being into stone is not common, as it happens in Nordic mythology, there is a possible connection (or Christianization of an older history) via the struggle between St. George and the Dragon. A woman (or Our Lady) would not use a sword like the male saint, she rather uses her sharp spindle.

INTANGIBLE CULTURAL HERITAGE

Oral traditions and expressions

WEREWOLF

The man-horse

The werewolf... a man who turns into a wolf?! Or are these just Hollywood stories? Let's go at night, hidden, to discover the werewolf of Alto Minho...

In Portuguese and Alto Minho stories, unlike what you see in the movies, the werewolf never has the shape of a wolf. He is a man who, on certain nights of the week (regardless of the moon phase), turns into a horse-like being, and in that form runs wildly through hill paths and village streets.

In its races it must pass by seven places loaded with symbolism: crossroads, wayside crosses and cemeteries.

Its "fado", or spell, is broken only if someone has the courage to wait for it and quickly make it bleed. If the stabbing succeeds, the being becomes a man, who falls naked on the ground, tremendously thanking his saviour for ceasing the curse. If the attempt fails, the werewolf strikes... and that can be serious!
As to prevent werewolf aggressiveness towards passersby, one should never walk in the middle of the road at night; only on the sides...

Symbolic remnants of ancient mythologies and real religious practices or human experiences (note: they are always real to believers as they influence their daily lives and reality), these narratives are a window into a past closer to elemental forces, closer to Nature as a magical, divine and terrible element.

From this past, experienced by those who knew how to tell stories (parents, grandparents, elders), lies nearly dead the most secretive type of cultural heritage, as all urban and media acculturation strongly conveyed that these are beliefs of ignorant peasants.

The werewolf, not being a wolf but a horse-like being, may resemble the shamanic voyage, because it travels the world of the living and of the spirits assuming the powers of totem animals. Here, the werewolf travels seven places of contact between humans and the "other world":

- Crossroads are feared places, protected by wayside crosses and ancestors' devoted shrines, where ghosts and witches appear;

- Wayside crosses sacralise wild territories, often in places of violent deaths, thus preventing the soul from being lost in such place;

- The cemeteries are themselves the site of the communities' ancestors. Ancestors who can walk the paths, like the werewolf, in their procession of the dead. But fundamentally, these are spaces where the living visit those who have already left, asking for guidance, resolution or forgiveness.

INTANGIBLE CULTURAL HERITAGE

Oral traditions and expressions

MAIAS

From door to door

At dusk on April 30th, Alto Minho is decorated with flowering brooms - “Maias”, from the Portuguese word Maio, which means May, the month. These plants have the power to protect our homes from the evil that roams free during this night. This is one of the examples of how Nature has magical and protective powers.

Some say it is hunger, others the devil, others call it the donkey or the white horse. The truth is that, in this night, something is set wild into the world and it is not very pleasant. To protect ourselves, one must go to the hills, roadsides and paths to pick a spontaneous plant - brooms.

In some places of Alto Minho people make wreaths, with this slightly bitter-smelling plant, that then hang on their doors. In other localities, people simply use broom cutting that slip into the cracks of the door jambs, car windshields and all the vehicles the believers may own.

Its role? To protect and secure the luck of humans for the coming year. Make your own Maia next May!

Brooms (genus *Genista*) are shrubby plants traditionally used for cattle bedding, with the aim of later generating manure. Although it may not seem quite a noble purpose, it was indeed an important function: increase soil fertility and therefore ensuring the survival of rural communities prior to the arrival of synthetic fertilisers. Brooms blossom when days start to warm up and the short winter days are definitely left in the past.

On this day, across Europe, the Sun's victory over the darkness is celebrated:
- bonfires are lit;
- young people decorate the houses with branches in exchange for eggs;
- witches choose this night for large gatherings, so its is said;
- a huge human-like figure is made and then burned.

Plants, as a protective element, are common. Especially those with an active smell: garlic, rue, rosemary, flax-leaved daphne... they illustrate a perspective that Nature not only has physical properties but also spiritual attributes - sometimes positive, others negative. Brooms assume a protective property, either in bloom on the first night of May or made into an actual broom to protect from spells. In this uncertain and mystical world, in which humans and the rest of beings interact, we've created and discovered defence mechanisms, as well as defined rules for rituals which define us as a species.

INTANGIBLE CULTURAL HERITAGE

Social practices, rituals and festive events

ENCHANTED MOURAS

Underground treasures

Granite and boulders are hallmarks of Alto Minho region. Why are they spread like this? And what secrets and fantastic beings are they hiding?

Prior to anything, it must be said that enchanted Mouras (moor women in Portuguese) have very little to do with the Arabs that lived in the Iberian Peninsula. They are blond, have light skin... not even their people, the Mouros (moor in Portuguese), have Maghreb origin. Rather, these are strong and giant beings that inhabit the interior of the hills or the ruins of castles and iron age fortresses.

The beautiful enchanted Mouras are magical and lonely beings. Their homes are great boulders, Neolithic burial mounds and water pits. The enchanted Mouras were trusted to secure the treasures of their people when they departed.

Occasionally, village boys have a chance to win these treasures, but they never do. Sometimes because they are curious and lurk for the treasure ahead of the time the Moura has set, others because they dare not kiss the woman as she appears, on the third day, in the shape of a snake.

The enchanted Mouras are mythological beings of the Portuguese and Galician culture. They are creatures linked to boulders, caves, Neolithic burial mounds, wells and fountains. One can consider them elemental beings, that is, beings deeply linked to the natural elements in which they dwell. These women are invariably treasure keepers, sometimes offering a sample of this treasure to passersby - asking for secrecy, always broken - and others offering its totality to those who can disenchant them. The disenchantment ritual resembles the typology of battles and love narratives between the Christians and the historical Moors (Arab), where moorish girls have been enchanted by their relatives, usually the father. The Arab father is always opposed to his daughter's love for the Christian knight.

The Moura, despite being an underground inhabitant, has solar features (blond hair, golden treasures) that are presented to humans eyes in their favourite time: the dawn of St. John's day, which coincides with the summer solstice and represents the highest moment of Nature’s telluric force. In that morning, they appear

under the sun, combing their hair, hand spinning yarn, singing, with their treasure of gold objects…

In the mythical universe, the boulders, as physical spaces, are occupied by the Mouros and their treasures. As a result of reports of encounters with these enchanted beings, some places of our landscape acquire a special meaning for the local communities (Eliade, 1997: 455). These sites were, as long as the rural cultural continuum persisted, perceived as inextricably belonging to both the physical and the mystical world. For instance, after someone reported a meeting with an enchanted Moura in a boulder or mine, that place was perceived differently, affecting daily life tasks nearby. No one else would ever look at that enchanted site in the same way.

THE CALL OF THE OWL

The messenger

Death and its mysteries shape the culture of the whole world. This impactful and dramatic event is the source of numerous practices and beliefs. The owl, with its hoot, is the communication vector of someone's end-of-life. A sharp and melody-free warning on the roofs of the village.

The owl is said to announce death. If it perches and hoots on a roof, then someone in that house is meant to die. Sometimes, just for listening to its nearby call, a sick neighbour or a village elder immediately comes to mind. “Often happens”, so it is said. Leite de Vasconcelos, at the beginning of the twentieth century, saw in Alto Minho this response to the owl's hoot: “Go hoot to yourself, damn owl!”.

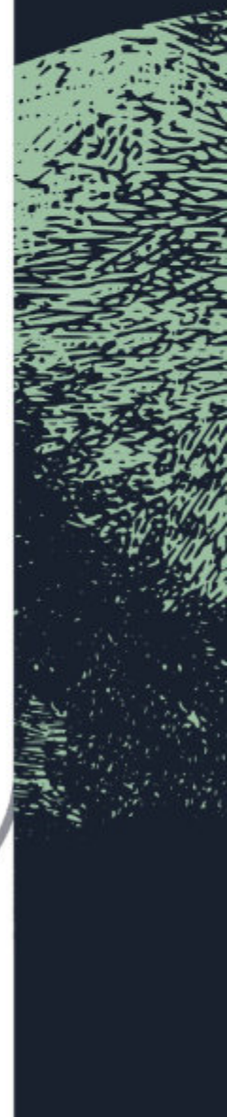
Beside houses, the owl also connects with the invisible world in another village building - the church. It was said to enter the church through the bell tower, looking to drink the olive oil used in the lamps. Today, with the electric lights, the owl has lost its mythical food - in some churches even candles have been electrified!

Nocturnal mammals and birds, along with reptiles and many insects, are infamous creatures in popular mythology. Populated with sounds, creatures and mysterious lights, the night is feared. It is during this dark reign that werewolves, witches and ghosts emerge. The shadows darken the territory, the sounds widen in the valleys, the paths become dangerous.

The owl, described as an ugly dark bird with its evil hoot, represents an antithesis of the rooster as the announcer of the day. The rooster dispels witches and the dangers of the night, and is often depicted facing east in the bell tower of the churches, the direction the sun rises every morning. Owls, messengers of disgrace, roam the darkness, knowing our most painful destiny.

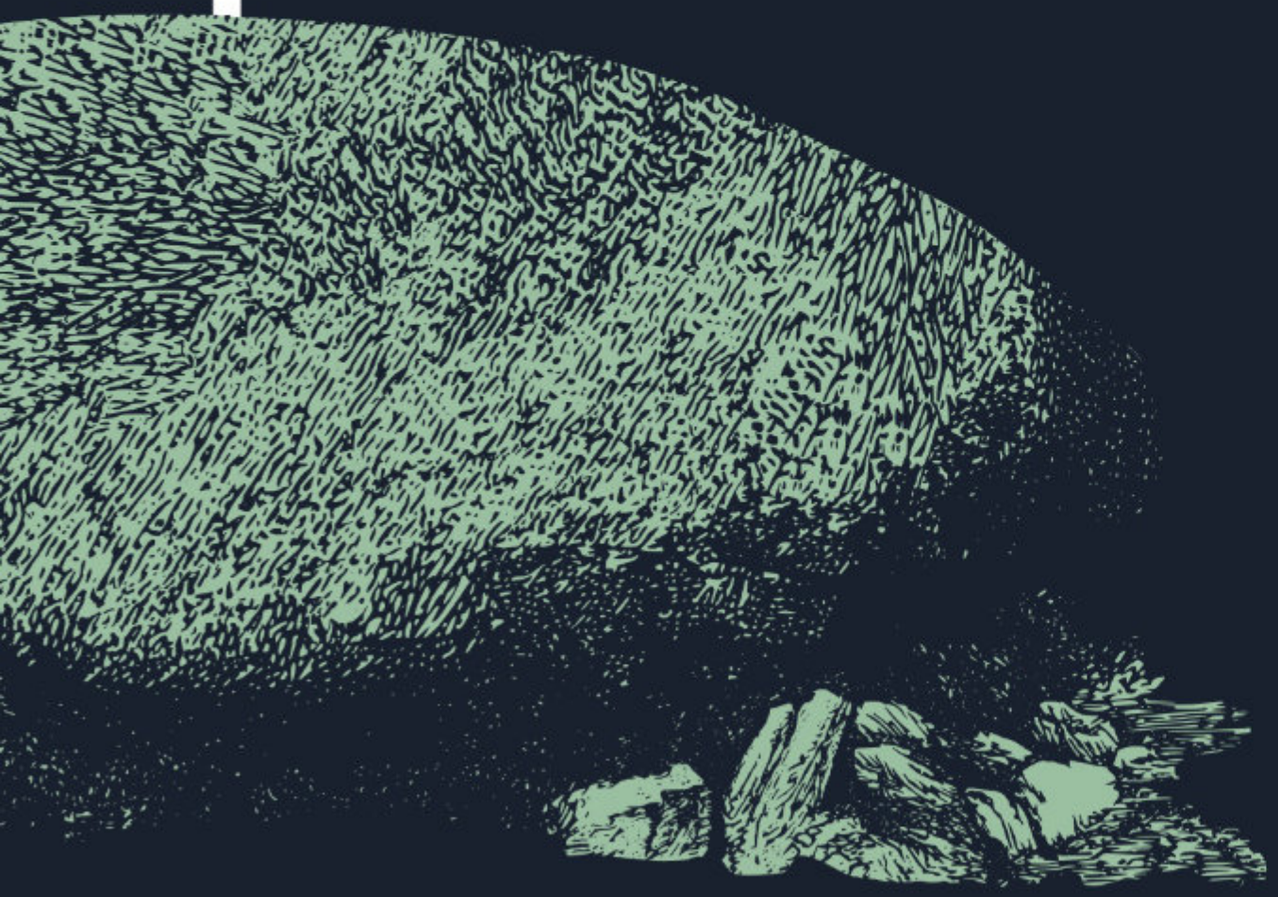
In Alto Minho, we find another belief related to death, to which the night also serves as setting. It's the procession of souls, or "Santa Compaña" as is known in Galicia (Spain), a gathering of the dead's souls that used to live in the parish. These souls are joined by the soul of the neighbour destined to die next.

Our concerns with death, its unknowns and the suffering it can inflict, is reflected in the existence of Catholic churches and chapels dedicated to Our Lady of the Good Death. To her, Alto Minho's inhabitants ask for a good death, that is, painless for those who leave, and without problems for those who stay. A good death will carry the soul to heaven, freeing it from the flames of Purgatory that so dramatically are represented in the small shrines ("Alminhas" in Portuguese) of the rural crossroads.



INTANGIBLE CULTURAL HERITAGE

Oral traditions and expressions



WEDDING BOULDER

Marry me because you can

Marriage, the prominent and defining moment of future life, is perhaps the most awaited ceremony in rural society. There are at least two divination rituals of the ceremony linked to natural elements: wedding boulders and cuckoo’s calls. Both, through simple rituals, become agents of communication of our future in love.

On the way to the Monastery of São João d'Arga, where in August is celebrated one of the most famous pilgrimages of the Alto Minho region, there are two wedding boulders.

The "ready-to-marry young men and women" throw a small stone at the boulder trying to get it on its top. If the stone remains, then they will marry that same year.

But caution! To be happy one must also "aim" for the right person...

Divination rituals are frequent in Portuguese rural culture. In a culture strongly dependent on its surroundings and annual rhythms, it is not surprising that Nature was the source of evidence for how to interpret the present and how to unveil the future.

Cuckoos were asked in rhyme:
"Cuco de (a place's name),
Cuco do lameiro
Quantos anos me dás de solteiro?"

" Cuckoo from (a place's name),
Cuckoo from the river
how many years do I still have as single?'

The number of times the cuckoo "coo-cooed", represented the number of years the person would need to wait till marrying...

Boulders are Alto Minho's hallmarks. They are legacies of the Mouros, the home of the Enchanted Mouras (see Enchanted Mouras chapter), places for fertility rites and even the set for Marian apparitions. On their way to the monastery of São João d'Arga, the pilgrims from the east and those from the west, each found their

divinatory altar. Those in the west have their wedding boulder between Saint Aginha and the monastery; those of the east have theirs in Arga de Baixo.

The groups of pilgrims stopped there and the ritual served as another excuse for conversations between young people. But more than an excuse, this ritual set São João d'Arga pilgrimage as a venue for dating and meeting young people from all over the region. Gatherings in a place apart, in days apart from the rest of the year. There, passion and love, music and revelry coexisted with devotion. After all, God may not be as harsh and serious as to allow all this joy.

"Ó minha pombinha branca,	*"Oh my little white dove*
No adro de S. João;	*in St. John's churchyard;*
Quando chegará a hora	*when will be the time*
De entrares no meu coração?"	*for you to enter my heart?"*
"Ó meu Senhor S. João	*"Oh my lord St. John*
Casai-me que bem podeis	*I know you can marry me*
Já tenho teias de aranha	*Because I have spider webs*
Naquilo que bem sabeis"	*growing down where you know"*

INTANGIBLE CULTURAL HERITAGE

Social practices, rituals and festive events

THE SLEEPING RIVER

There is a belief, nearly vanished, that rivers sleep at night. So we must let it rest and limit our activities to the solar realm.

A lady, who was washing her clothes in a river, told me that her mother used to say that at night the rivers sleep. While they are sleeping, we should not go to their banks, to fish or to wash.

As with any other places outside the village, the rivers become dangerous at night. There are many stories about rivers and creeks that intertwine, remembering the distant belief that watercourses are a ritual space or even a living being with desires, wills and powers.

In this context there is the famous legend of the Lima river - the river of oblivion; or the belief recorded by Leite de Vasconcelos about the Lima and Minho rivers, that every day drowned an animal and every year, at least, one person; there were also the midnight baptisms; or the savage witches who walked along the river beds in a fuss.

While one cannot neglect the pedagogical side of taking a child off a watercourse at night, there are several fantastic elements linked to the Alto Minho rivers and creeks that can be explored.

The local popular mythology dedicates many narratives to streams. Indirectly linked to accident prevention, we find the narratives that Lima and Minho rivers every day devoured a living being, as well as the stories associated with the mountain's brooks. Immediately comes to mind the pagan rituals of water sacrifices recorded throughout Europe; or Saint Martinho of Dume, who in the sixth century wrote: "Many demons that were cast out of heaven are patrons of the sea, rivers, springs...".

Whether rivers sleep is unknown, but there are reports of baptisms that took place during the night (midnight baptisms), which occurred, for example, in the old bridge of Ponte da Barca. Pregnant women would ask the first person to cross the bridge to bless their bellies with water from that river - usually one that divides two parishes - as to ensure a safe pregnancy.

At night, the witches walked along the waterways, resembling singing and dancing nymphs. Beyond crossroads and forest glades, rivers are another place where witches used to gather. For this reason, it was said that anyone crossing the Minho river should have pebbles in their mouth, as not to talk with the dangerous women. This practice is reminiscent of one in which stones were placed in the mouth, as not to forget the way back home. And this, in turn, reminds us of the Lethe River - the river of oblivion which the romans thought was here, our river Lima.

INTANGIBLE CULTURAL HERITAGE

Oral traditions and expressions

OUR LADY OF PEACE

May 10th, 1917

In the amidst of World War I, in Barral (Ponte da Barca), a young shepherd reports an apparition of a lady dressed in blue. This happened three days before the apparitions of Fátima (May 1917). This lady introduced herself as Our Lady of Peace starting at that moment a local cult, which goes on for 100 years.

Severino Alves, 10 years old, was on his way to fetch the flock when he saw a lightning. Ahead, he saw a lady who soon disappeared. On the next day, he returned to the exact same site, impelled by the local priest... and there was the lady again. In a voice between laughter and singing she said:
“Don't be scared, it's Me, boy. Go tell the shepherds to always pray the rosary, that men and women should sing the "Star of Heaven" and to cling on me, that I will help the world and placate war”.

The ecclesiastical structure sought to discredit the child, but being unsuccessful compelled him to attend a seminary in Braga, from where he escaped: “Then they began to say that it was a lie, to threaten me with the constable, beating me, trying to force me to say it was a lie”.

“Our Lady told me to tell everyone and I would now say I saw nothing?! Never!". Popular faith went its own way...

The reports of apparitions of Mary, mother of Jesus, date back to the 1st century. Throughout the centuries there are numerous manifestations, especially in Catholic countries: Lourdes, Fátima, Guadalupe...

In Alto Minho we can mention Our Lady of Peace, Our Lady of Anguish, Our Lady of Peneda or Our Lady of Snow.

Aurélio Lopes (2017: p. 60-63), an anthropologist who dedicated himself to the apparitions of Fátima, synthesised the most common characteristics of Marian apparitions, several of which fit perfectly with Barral's apparitions:
- Our Lady appears surrounded by light: a lightning is described here;
- Her figure is a replica of the ecclesiastical images, she wears white or blue: in this case blue;
- The social concerns of the time are expressed: in this instance, World War I;
- The language used fits into the witness cultural background: Our Lady expresses herself in a regionalism, asking people to "cling on me";
- The disagreement function, associated with increasingly universal punishments: Our Lady recommends praying the rosary (something common at that time) but also calls for an old prayer to be recovered. Together, as if they provide reconciliation or even "mana" to the deity to "help the world and placate war".

As for the typology of the phenomena, clearly in Barral as in other countless northern folk narratives, apparitions occur in places outside the village, almost always to illiterate children. The Lady always asks humanity for a change of behaviour.

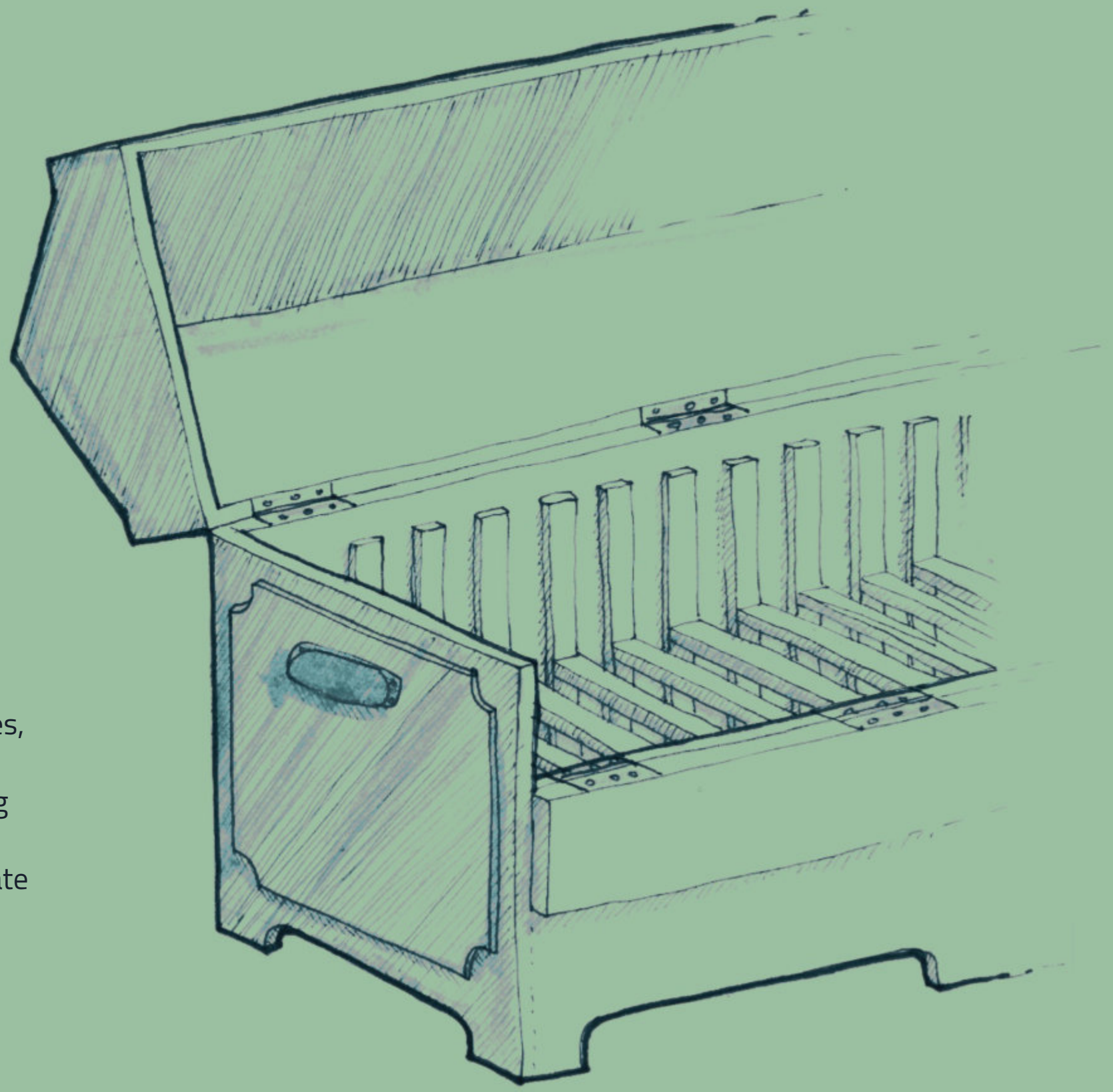
Barral's apparitions fully fit into the popular religious Marian context, which is often inconvenient to the Catholic structure that seeks to control what can be defined as sacred. Severino's failure to adhere to Catholic structure and discourse (he refused to stay in a seminary in Braga and fled a Galician one where he had been sent), as well as Fátima's contemporaneity did not benefit the process of acceptance or promotion of Barral's apparitions. The figure of the witness, little prominent in the cult, gradually acquires an exciting mythology that eventually will have room to flourish, a few decades from now.

INTANGIBLE CULTURAL HERITAGE

Oral traditions and expressions

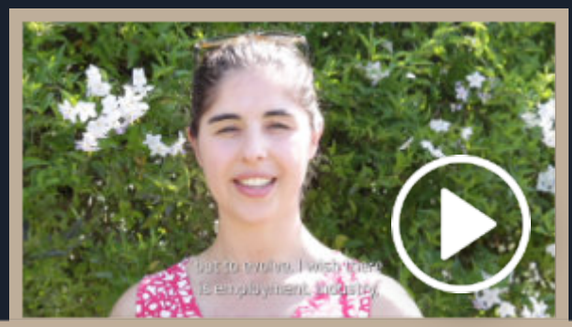
ARK OF KNOWLEDGE

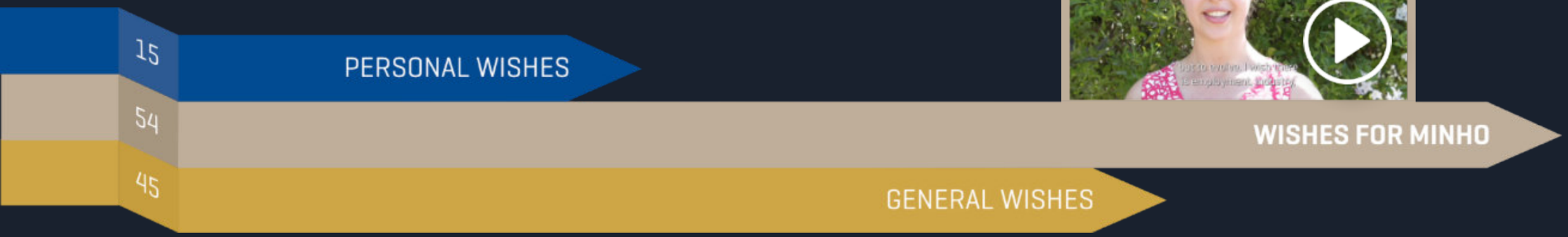
The exhibition “Alto Minho: landscapes, species, stories” contains an “Ark of Knowledge” where visitors, by solving enigmas, gain access to interactive contents. The following pages illustrate some examples of such contents.



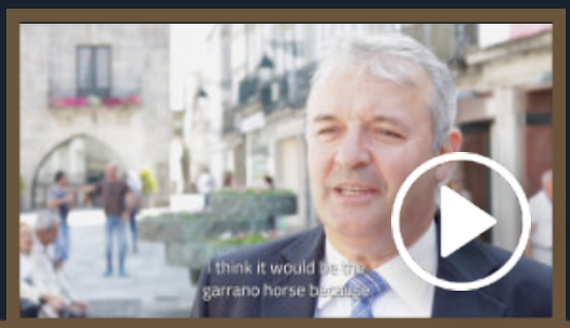
In more than 100 street interviews through Alto Minho, we asked 3 questions.
These were the results:

WHAT DO YOU WISH FOR THE FUTURE?





WHICH ANIMAL BEST REPRESENTS MINHO?



30 HORSE / GARRANO

8 SEAGULL

11 OTHER BIRDS

10 FISH

6 PIG

20 CATTLE

11 WOLF

4 ROOSTER/CHICKEN

6 DOMESTIC ANIMALS

6 OTHER ANIMALS

WHAT DO YOU LIKE MOST ABOUT MINHO?

- 51 NATURAL HERITAGE
- 27 PEOPLE
- 6 EVENTS
- 14 PILGRIMAGES
- 5 TRANQUILITY
- 12 TRADITIONS AND CULTURE
- 8 FOLKLORE
- 5 ANIMALS
- 28 GASTRONOMY
- 11 ALL OF IT!

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