

FAUNA

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Legal deposit 452583/19

ISBN 978-989-54359-3-7

January 2019



Fox (Vulpes vulpes)

Introduction

The Site of Community Importance 'Serra de Arga' (SCI PTCON0039), classified in accordance with the Decision of the Commission of 7 December 2004, with a total area of 4,493 hectares, is a special conservation area that includes the municipalities of Caminha, Viana do Castelo and Ponte de Lima.

This small brochure is part of a set of materials promoting this region's heritage. The aim is to highlight some of the region's natural and cultural assets while raising awareness about the importance of preserving them.

The Serra d'Arga has a wide variety of fauna, with over 180 wild species of vertebrates, including fish, amphibians, reptiles, birds and mammals. This brochure highlights this diversity and also draws attention to the species that are particularly emblematic of the region, many of which are endangered. It also describes the different areas that comprise this Site of Community Importance, including the entire River Ancora corridor, in order to provide a better understanding of the various species of fauna and describe the best locations to observe them.



Limits of the study area and the 'Serra de Arga' SCI

Study Area

'Serra de Arga' SCI

Description of the area

The 'Serra de Arga' (PTCON0039) is a Site of Community Importance (SCI) classified as valuable for nature preservation within the Rede Natura 2000 framework (classified by the Commission Decision of 7 December 2004).

Located in the far north-west of mainland Portugal, it covers an area of 4,493 hectares, with a diversity and complexity of habitats that include the downstream section of the River Âncora corridor and major tributaries as well as the whole area of the Serra d'Arga mountain. Due to its importance as an ecological corridor, information is supplied here on the species of fauna present along the River Âncora, including the final section before the river meets the ocean at Vila Praia de Âncora. This region is characterised by its markedly Atlantic climate, with low average temperatures and very high levels of humidity and precipitation. Another particularity is its terrain, with a significant variation in altitude from sea level at the estuary of the River Âncora to 825 metres at Alto do Espinheiro in the heart of the Serra d'Arga. These characteristics have blended to form a distinctive landscape with a wide variety of biotopes that play a major role in the survival of many species of fauna.

This area is also strongly influenced by different anthropogenic factors. Human impact can be seen along the River Âncora, gradually decreasing from the densely populated areas, near the coast, to the wilder areas in the mountains. The river mouth and small estuary are in the midst of an urban environment but have excellent ecological characteristics, principally for a wide variety of migratory birds.

The areas surrounding the river have been particularly affected by forest transformation and are currently dominated by pine and eucalyptus forests, with large patches of exotic species of low ecological value.

However, despite these changes, the lotic river corridor has water of high quality and provides a good habitat for various animal species.

Estuary of the River Âncora





Mouth of the River Âncora (above)

River Âncora (right)







The mountainous areas, with low population density, have been altered by traditional agricultural activities and extensive grazing. A series of biotopes have been created that are of great interest to different species of fauna, with patches of agroforestry mosaics, typical of the Portuguese northern mountains, formed by small farms and grasslands surrounded by small woodlands.

Overall, the area is of great ecological value, with diverse habitats and a wide range of animals.

Mountain (next page, top)

Mountain pasture (next page, bottom)

Faunistic heritage

The area covered by the Serra d'Arga and the River Âncora corridor, from its sources to the estuary, is home to at least 186 species of wild vertebrates, including fish, amphibians, reptiles, birds and mammals. Approximately 30% of these species are considered endangered, either in Portugal (according to the Red Book of Vertebrates in Portugal) or in Europe as a whole (protected species in accordance with Birds and Habitats Community Directives). The importance of this area for fauna can be better understood if we compare it with the most important protected area in Portugal, the Peneda-Gerês National Park (PNPG), which is not far away and is about 15 times larger. The 186 confirmed vertebrate species in the Serra d'Arga account for about 80% of the 235 species mentioned in the PNPG development plan, which strongly reflects the importance of the Serra d'Arga for different species of fauna on both a regional and national level.



Amphibians

Amphibians have complex life cycles and are very dependent on water. The word amphibian comes from the Latin anfi, which means double, and bios, meaning life, and refers to the fact that these species alternate between aquatic and terrestrial phases during their life cycle. They are cold-blooded animals (ectothermal) with bare skin (without scales, feathers or hair) that allows cutaneous respiration. In the aquatic phase, which includes the breeding period, amphibians lay their eggs at a wide variety of water points (rivers, streams, temporary or permanent ponds, tanks, mines, etc.) and remain in these spots whilst the larvae develop (amphibian larvae are commonly known as tadpoles). After this period, metamorphosis occurs as they are transformed into adults and the majority of amphibian species move to inhabit new locations. Adult amphibians can be found in many different habitats, where they are usually discreet and only come out at night, remaining sheltered during the day under stones or vegetation or even underground. The best way to see amphibians, therefore, is at the water points, particularly during the breeding period (which is mainly in spring for most species).

The amphibians of Portugal consist of two main groups: Anura and Caudata. The former, which have no tails, include frogs and toads; the latter, with tails, include salamanders and newts.

Eighteen species of amphibians have been identified in Portugal, of which at least eleven (six of the Anura group and five Caudata) can be found in the Serra d'Arga – the others are typical of Mediterranean habitats. Practically all of the amphibians endemic to Atlantic climates can be found in the Serra d'Arga.

One of the rarest and most emblematic Portuguese amphibians, the gold-striped salamander (*Chioglossa lusitanica*), can be found in the Serra d'Arga and is particularly dependent on the characteristics mentioned above. Its distribution is limited to areas with temperate climates and high annual rainfall.

Gold-striped salamander (Chioglossa lusitanica) The gold-striped salamander is endemic to the north-west of the Iberian Peninsula and is found mostly in north-west Portugal. Dependent on very high levels of humidity, its usual habitat is around small rivers with limpid, well-oxygenated waters and environments with abundant vegetation, where it usually remains hidden from direct sunlight. These small animals (measuring between 12 and 15 cm, with their tails accounting for two-thirds of their total length) have the peculiarity of being the only species of amphibian in Portugal that has caudal autonomy, meaning that if they are threatened by a predator, they are able to drop a portion of their tail, which continues to move for a while and serves as a distraction, giving them time to hide.

The gold-striped salamander is classified as an endangered species by the International Union for Conservation of Nature, and as 'Vulnerable' by the Red Book of Vertebrates in Portugal. Even so, in the Serra d'Arga it can find a suitable climate and biotopes in excellent conditions, which seems to make it relatively abundant in the small watercourses that flow through the mountain. The Serra d'Arga is also home to another amphibian species endemic to the Iberian Peninsula: the Iberian painted frog (Discoglossus galganoi). Despite its name, this species is in fact a toad from the Alytidae family (anurans with wrinkled skin, frequently found on land, are commonly referred to as toads, while smooth-skinned ones, more abundant in water, are commonly referred to as frogs), and can be found in certain parts of Portugal and the western half of Spain. A toad with aquatic habits, it is generally seen close to water points such as small streams, although it can also be found in floodlands, meadows and marshes, sometimes some distance away from water. Classified as 'Almost Endangered' by the Red Book of Vertebrates in Portugal, it is less endangered than the gold-striped salamander.



Iberian painted frog (Discoglossus galganoi)

In addition to those two species, which are the most important from a conservation perspective, the Serra d'Arga is also home to other interesting amphibians, such as the Iberian frog (*Rana iberica*), a small frog endemic to areas of the Iberian Peninsula with an Atlantic climate, which is very abundant in this region; the common midwife toad (*Alytes obstetricans*), which has a peculiar breeding strategy whereby males carry a string of fertilised eggs on their backs to protect them from predators in the water, depositing them only when they are ready to hatch; the natterjack toad (*Epidalea calamita*), a robust toad normally found in terrestrial habitats, whose long hind legs enable it to run short distances; and the marbled newt (*Triturus marmoratus*), often seen during the breeding period in different mountain ponds, which is distinguished by its unusual colouring (green back with dark patches of varying size, shape and position).









A - Marbled newt (Triturus marmoratus)
B - Natterjack toad (Epidalea calamita)
C - Iberian frog (Rana iberica)
D - Common midwife toad (Alytes obstetricans)



Iberian emerald lizard (Lacerta schreiberi)

Reptiles

Unlike amphibians, reptiles are truly independent of water. They have thick, dry, waterproof skin with no glands, covered with epidermic scales (snakes and lizards) or cartilaginous plates (crocodiles and caimans) which, in turtles, join together to form a protective shell. Like amphibians they are ectothermal, unable to control their body temperature internally, but compensate for this with specific behaviours that help regulate their body heat. Most reptile species remain totally inactive in colder seasons: the hibernation period. Outside this period, reptiles often seek for places with good sun exposure, such as the tops of rocks or stone walls, or even

roads and paths, where they can often be seen basking until they reach their ideal temperatures. Such spots are particularly good for seeing reptiles in the weeks immediately after the hibernation period, when they are still quite inactive and less able to disappear quickly. For some species of Portuguese reptiles, the cold, wet climate of this particular region is not suitable. However, 12 of the 28 species present in mainland Portugal can be found in the Serra d'Arga.

The wild reptiles present in Portugal are normally divided into three groups: turtles (order Testudines), lizards (order Squamata; suborder Sauria) and snakes (order Squamata; suborder Snakes). In the Serra d'Arga, only Squamata (with scales) reptiles can be found, including lizards and snakes.

There are seven species of lizards in the Serra d'Arga, including some that are of particular interest from a conservation perspective and/or which have unusual peculiarities.

The Iberian emerald lizard (*Lacerta schreiberi*) is medium-sized, about 12.5 cm long, and stands out because of the unusual bluish colour of its head and neck during the breeding season (the male in particular).

It is a species that can almost always be found in rivers and streams with good-quality and limpid water, as it is very sensitive to pollution and avoids contaminated watercourses. This species is endemic to the Iberian Peninsula, in particular those areas where the climate is influenced by the Atlantic, with high levels of humidity. In Portugal it is relatively abundant in the north; in the south there are just a few isolated populations in areas with climatic conditions similar to those in the north. It is not considered an endangered species in Portugal but it has a high conservation value at the European level, as it is listed in annexes II and IV of the Community Habitats Directive. In the Serra d'Arga it is relatively abundant along the entire corridor of the River Âncora.

Another particularly interesting species, relatively abundant in the Serra d'Arga, is the western three-toed skink (*Chalcides striatus*), a small, snake-like lizard with tiny vestigial three-toed limbs (tridactyl).



Western three-toed skink (Chalcides striatus) The western three-toed skink is endemic to the Iberian Peninsula and is normally found in damp areas, in open spaces with an abundance of grass (meadows, abandoned farmlands and woodland clearings). It is not considered to be endangered and is quite often seen in the Serra d'Arga, though it is not very well known or abundant in Portugal.

There are three species of small lizards in the Serra d'Arga: the Bocage's wall lizard (*Podarcis bocagei*), endemic to the northwest of the Iberian Peninsula; the ocellated lizard (*Timon lepidus*), most abundant in high mountainous areas, which is actually the largest Iberian lizard and can reach a length of 80 cm; and the slow worm (*Anguis fragilis*), a small, snake-like lizard with no limbs, also frequently found throughout the region. The Serra d'Arga is also home to the Montpellier snake (*Malpolon monspessulanus*), the largest Portuguese snake, which can reach a length of more than two metres. It can be found in a wide variety of habitats including pine forests, montado systems, scrublands, wet heaths, pastures, the edges of woods and farmlands, and also exposed, rocky areas. It is aggressive but does not pose a threat to humans. Though it produces a strong neurotoxic venom, its fangs are located at the rear of its jaws so it needs to bite its prey and keep it partially swallowed in order for the venom to be injected and take effect.



Southern smooth snake (Coronella girondica)

Bocage's wall lizard (Podarcis bocagei)



Much smaller (normally less than 50 cm), less abundant, discreet, and with nocturnal habits, the southern smooth snake (*Coronella girondica*) seems to be relatively rare in the Serra d'Arga. Unlike the Montpellier snake, this small species is not aggressive and rarely bites — though even if it did, it does not have venom-injecting fangs and is therefore completely harmless. To defend itself when it senses danger, it releases a substance with an unpleasant smell in an attempt to deter predators.

Also present in the Serra d'Arga are at least three other species of harmless snakes: two water snakes (the grass snake, *Natrix natrix*, and the viperine water snake *Natrix* *maura*), mainly but not exclusively found in aquatic environments; and the ladder snake (*Zamenis scalaris*), a species characteristic of Mediterranean climates, apparently quite rare in this region.





Viperine water snake (*Natrix maura*) Ladder snake (*Zamenis scalaris*)



Birds

Birds, a large and diverse group of vertebrates, are endothermic (able to regulate their body temperature), have a high metabolism, and are characterised by the several bodily adaptations that enable them to fly - feathers covering the skin; a skeleton with pneumatic bones (hollow and light, but also resistant); and air sacs (pockets of air attached to the lungs) that help them change their volume, making them lighter. They are the most diverse group of vertebrates in Portugal, with over 260 different species regularly frequenting the mainland according to the Red Book of Vertebrates in Portugal. In the Serra d'Arga they are also the most abundant group, with the confirmed presence of 126 species from 17 orders and 45 different families, all of which have adapted to the different habitats present in the region.

It should be noted that many species of birds migrate and their presence in a specific region varies according to their phenology.

In general, about half of the 126 confirmed species are present all year round. The others are normally found only in the spring and summer (migratory breeding birds), only in the winter (wintering birds), or during migration stopovers. The latter group generally visit in either the pre- or post-breeding periods (March-April or August-September). In the Serra d'Arga there are several endangered species of birds, of which at least 17 are protected in Portugal in accordance with the Red Book of Vertebrates in Portugal, and many others protected in Europe by the Bird Community Directive. There are also several species that are emblematic and/or have unusual behaviour, frequent in the Serra d'Arga but rare on a regional and national level.

The most abundant and diverse group of birds are the passerines or perching birds. In the Serra d'Arga there are over 70 species, including the very small, such as the long-tailed tit (Aeaithalos caudatus), the medium-sized, such as the song thrush (Turdus philomelos), and the large, such as the crow (Corvus corax) and Eurasian magpie (Pica pica). The majority are relatively common and not significantly endangered, and they have a variety of eating habits reflected by the different shapes of their beaks. Species that are mostly insectivorous - including flycatchers (Ficedula hypoleuca and Muscicapa striata), treecreepers (Sitta europaea and Certhia brachydactyla) and the different species of warbler such as the melodious warbler (*Hippolais polyglotta*) - have fine beaks adapted to capturing small insects. Granivore species (feeding mainly on seeds) include finches such as the common chaffinch (Fringilla coelebs), the European goldfinch (Cardue*lis carduelis*) and – more difficult to spot - the hawfinch (Coccothraustes coccothraustes), along with sparrows (Passer montanus and Passer domesticus) and the cirl bunting (Emberiza cirlus) - these have strong, cone-shaped beaks that vary in size according to their diet.

Some more specific groups, such as the shrikes (Lanius senator and Lanius meridionalis), also have particular adaptations such as their slightly curved, hook-shaped beaks, similar to those of birds of prey, reflecting their predatory eating habits. Passerines are in fact a very diverse group, varying considerably in size, colour and behaviour, and can be found in many different habitats. They include species found in aquatic environments, like the white-throated dipper (Cinclus cinclus), woodland environments, like the Eurasian blue tit (Cyanistes caeruleus), heaths, like the Dartford warbler (Sylvia undata), or rocky environments, like the blue rock thrush (Monticula solitarius).



Crow (Corvus corax)





Song thrush (Turdus philomelos)

Eurasian nuthatch (Sitta europaea)





Common chaffinch (*Fringilla coelebs*)

Woodchat shrike (Lanius senator)



Long-tailed tit (Aegithalos caudatus)



Dartford warbler (Sylvia undata)



Griffon vulture (Gyps fulvus)



European honey buzzard (Pernis apivorus)

Another important group in the Serra d'Arga are birds of prey (orders Accipitriformes and Falconiformes), which although much less diverse and abundant, include many of the most important protected species. The Montagu's harrier (Circus pygargus), peregrine falcon (Falco peregrinus), European honey buzzard (Pernis apivorus) and northern goshawk (Accipiter gentilis) are all considered to be highly endangered, while species such as the short-toed snake eagle (Circaetus gallicus) and griffon vulture (Gyps fulvus) are considered to be near-threatened in Portugal and are also protected by European conservation statutes.

Montagu's harrier is one of the rarest species found in the Serra d'Arga. Considered to be an Endangered species in Portugal, and listed in Annex I of the Bird Directive, it is a medium-sized bird of prey, with an evident sexual dimorphism.

Males, smaller than females, are generally smooth and greyish and their wings are trimmed with black, whilst females are less attractive and brownish/greyish in colour. It is a species that usually flies low over the ground where it nests, normally in open areas like plains or plateaux. In the Serra d'Arga, it is more often seen in higher areas, on a plateau, with low vegetation. It is only present in Portugal as a migratory breeding species and very probably breeds in the Serra d'Arga.

Montagu's harrier (*Circus pygargus*)







Eurasian eagle-owl (Bubo bubo)

The peregrine falcon (*Falco peregrinus*), another important species, is an endangered diurnal bird of prey that is typical of mountainous areas. It is the largest falcon in Portugal and also the fastest animal in the world, reaching speeds of over 200 km/h when diving to prey on other flying birds (its maximum momentary speed has been calculated at around 350 km/h). It nests in the mountain escarpments of the Serra d'Arga and is present all year round.

Peregrine falcon (*Falco peregrinus*)

Nocturnal birds include two large groups: nocturnal birds of prey (Strigiformes) and nightjars (Caprimulgiformes). Some high conservation value species from this group are present in the Serra d'Arga, such as the Eurasian eagle-owl (*Bubo bubo*), which is the largest Portuguese owl, and the European nightjar (*Caprimulgus europaeus*), a very unusual nocturnal insectivorous bird.

With a wingspan of more than 1.5 metres, the Eurasian eagle-owl (*Bubo bubo*) is a powerful nocturnal bird of prey that rarely appears during the day. The best way to see it is to listen for its typical call (a low, powerful, echoing and clearly disyllabic song), which can be heard often in the Serra d'Arga, mainly during the winter between November and February. It is present all year round and is normally found around the mountain escarpments, where it makes its nests.

Another nocturnal bird of prey in this region is the barn owl (*Tyto alba*), which is more common and can often be found in more urban environments.



Kentish plover (Charadrius alexandrinus)



The most important aquatic bird, due to its conservation value, is the common tern (*Sterna hirundo*). This fish-eating species, classified as 'Endangered' in Portugal (Red Book of Vertebrates in Portugal), can be sporadically seen in this small estuary, on its curious plunge-diving for fish, especially during its migration periods.

As it is a protected species (classified in Annex I of the Habitats Directive), but mainly because it is emblematic species of rivers and estuaries, it is also worth mentioning the presence and abundance in the area of the common kingfisher (*Alcedo atthis*). This very colourful bird can be found along most of the River Âncora corridor and estuary. Can easily be spotted during its typical rapid flights across the surface of the water, or diving to catch the small fish it feeds on.



Mediterranean gull (Ichthyaetus melanocephalus)





Little egret (*Egretta garzetta*)

Great cormorant (Phalacrocorax carbo)



Common tern (Sterna hirundo)

Common kingfisher (Alcedo atthis)







Beech marten (Martes foina)

European polecat (Mustela putorius)



Otter (Lutra lutra)

The otter (*Lutra lutra*) is one of the carnivorous mammals most often found along the River Âncora corridor. This semiaquatic carnivorous species can be seen at dawn and also during the night.

Although relatively abundant all over mainland Portugal, in several other European countries its numbers are declining and its area of occupation shrinking.

Mammals

Mammals are a very diverse group of animals and also the most recent to evolve, which is why they exhibit the most complex evolutionary characteristics. These include internal fertilisation; mammary glands in females; bodies covered in hair, which helps them control their body temperature; a well-developed nervous system, with a large brain; and a fully developed circulatory system, with a heart divided into four parts. In the case of placental mammals - the group that includes all the mammal species present in Portugal - their embryos develop internally, which increases the probability of successful reproduction.

These characteristics have led to mammals becoming well adapted, globally diverse and well distributed across all types of environments, including the sea. The mammals of Portugal can be divided into seven orders (Insectivorous, Carnivorous, Chiroptera, Rodents, Lagomorpha, Artiodactyla and Cetaceans), all of which except one (the Cetaceans or marine mammals) are represented among the 33 wild species found in the Serra d'Arga.

Carnivorous mammals in particular are abundant in the Serra d'Arga and are especially emblematic of the region. They include species such as the wolf (*Canis lupus*), otter (*Lutra lutra*), fox (*Vulpes vulpes*) and badger (*Meles meles*), and also smaller, less well-known species such as the genet (*Genetta genetta*), European polecat (*Mustela putorius*) and weasel (*Martes foina*).



Iberian wolf (Canis lupus signatus)



Garranos running free

Of all the carnivorous species present in the Serra d'Arga, the wolf is the most emblematic and also the most endangered, with a higher conservation status. It is classified as 'Endangered' by the Red Book of Vertebrates in Portugal and listed in annexes II and IV of the Habitats Directive as a priority conservation species at the European level. The sub-species present in Portugal, the Iberian wolf (*Canis lupus signatus*), is endemic to the Iberian Peninsula and in Portugal is found mainly in the mountains in the north of the country.

It used to be abundant but its numbers have been greatly reduced by factors including constant hunting by humans and the decline of many of the species that constitute its prey, which are mainly other medium-sized or large mammals such as deer and wild boar.

The mountainous area of the Serra d'Arga is currently the westernmost region in Portugal where the wolf is regularly present. It seems that in the more distant past it was a frequent visitor, but then it virtually disappeared until recently.

Its reappearance appears to be related to the increasing numbers of its favourite prey in this region – the Garrano ponies that roam through the mountains.

The Garranos are also one of the most important animal species in the region but they are of domestic origin and cannot be considered truly wild. They are the result of the taming of wild horses, which dates back to the Neolithic era, and the consequent artificial selection of characteristics from crossing multiple breeds. Nevertheless, since many Garranos are currently free all year round, forming groups that imitate the behaviour of their wild ancestors, their role in the ecosystem is fundamental. Resistant and well adapted to the cold and wet conditions of the Serra d'Arga, these small horses (in fact they are ponies, because they never exceed

about 1.35 metres in height at the withers) mainly live in herds consisting of one adult male and a harem of several females. Besides being the main prey for the wolves of the Serra d'Arga, they also have a great impact on the landscape due to their intense grazing in the mountain area.

Two wild species of artiodactyla (ungulated mammals with an even number of toes on their feet) are also prey for wolves in this area: the roe deer (Capreolus capreolus) and the wild boar (Sus scrofa). Unlike the boar, which is currently common in most parts of the region and whose presence is easily confirmed from their abundant droppings, the roe deer is a much more discreet species, although it is not endangered. This small deer (the smallest in Europe), symbol of the Peneda-Gerês National Park, can currently be found around the larger mountains and natural parks mainly in the north of the country, including the Serra d'Arga.

Several species of non-flying mammals (insectivores, lagomorphs and rodents) can be found in the Serra d'Arga, including the wild rabbit (*Oryctolagus cuniculus*), Iberian hare (*Lepus granatensis*), squirrel (*Sciurus vulgaris*), hedgehog (*Erinaceus europaeus*), and different kinds of mice and shrews.

However, from these groups, the most noteworthy creature is a small, particularly endangered mammal, the Pyrenean desman (*Galemys pyrenaicus*).

This small insectivore from the mole family is a rare species endemic to the Iberian Peninsula and the Pyrenees (it is also present on the French side of that mountain chain), which currently has a conservation status of 'Vulnerable' (Red Book of Vertebrates in Portugal) and is listed as a Critically Endangered species in Europe (annexes II and IV of the Habitats Directive). It can only be found in small mountain rivers with limpid, cold and well-oxygenated waters, where there is a wide variety of different shelters and substrates. It is very sensitive to pollution and human disturbance, and very difficult to see. In sections of the River Âncora further upstream, its presence can be confirmed from its droppings, which it often leaves on rocks or the banks of the river.

Finally, there are also various flying mammals in the form of bats of the order Chiroptera. There are at least eleven bat species in the Serra d'Arga, all of which are considered endangered in Europe (in fact, all the bat species in Portugal are considered endangered and listed in annexes of the Habitats Directive).

Some species, such as the dwarf bat (*Pipistrellus pipistrellus*) and the serotine bat (*Eptesicus serotinus*), seem to be very common in the Serra d'Arga and can be seen after sunset as they fly around frenetically to catch insects, often near rural villages or over the river. They use different types of shelters and during the day can often be found hidden in small cracks in buildings or trees.

Pyrenean desman (Galemys pyrenaicus)



Other species, such as horseshoe bats (*Rhinolophus ferrumequinum* and *Rhinolophus hipposideros*, both endangered in Portugal), seem to be a lot less frequent, using underground cavities like old abandoned mines to shelter during the day.



Dwarf bat (Pipistrellus pipistrellus)



Serotine bat (Eptesicus serotinus)



Greater horseshoe bat (*Rhinolophus ferrumequinum*)



Lesser horseshoe bat (Rhinolophus hipposideros)



Greater noctule bat (Nyctalus lasiopterus)

Due to its size, the greater noctule bat (*Nyctalus lasiopterus*) is a significant presence in the area. It is the largest bat in Europe and has a wing span of up to 50 cm. This species is mainly found in forests, often in large oak groves, where it normally shelters in old tree cavities. It can fly long distances (up to 130 km) to feed, and prefers riverside and urban areas.

Fish

Fish are vertebrates and ectothermal, with spindle-like bodies and fins (absent in some groups) held together by bones or cartilage. They breathe through their gills, obtaining oxygen dissolved in water. Their bodies are normally covered in scales. They are strictly aquatic and live in salt or fresh water or migrate to spend part of their lives in the sea and the other part in rivers.

In the Serra d'Arga, and in particular in the River Âncora, the presence of five species of fish, belonging to four orders and four families, has been confirmed.

Two of these species are classified as 'Endangered' in Portugal: the European eel (*Anguilla anguilla*) and the three-spined stickleback (*Gasterosteus aculeatus*).

The eel is a catadromous migratory species that begins its life cycle in the ocean and spends most of its life in fresh inland water, or brackish coastal water, returning to the ocean to spawn and then die. In its larval phase, when it is commonly known as an elver or glass eel (because it is almost transparent), it enters the rivers and grows there until it is time for it to migrate to the sea, where it breeds (in a very restricted geographical area, in the Sargasso Sea). It is a species that needs to undertake mass migrations between different aquatic systems and is highly threatened by the construction of obstacles that prevent it from doing so. Another very significant threat to the species is overexploitation, mainly in its larval phase (elver), through illegal fishing (eel fishing is only allowed in the estuary of the River Minho) or excessive capture of its larvae.

The three-spined stickleback is a small fish, up to 6 cm long, with no scales but bone plates and spines along the sides of the body that give it a characteristic shape. This species is still not very well known in Portugal and is normally not very abundant in the hydrographic basins where it can be found. It is an anadromous species which grows partly in the sea and breeds in fresh water, although non-anadromous populations can also be found in fresh water or estuaries.





Eel (Anguilla anguilla)

Two species of cyprinids, the northern straight-mouth nase (*Pseudochondrostoma duriense*) and the arched-mouth nase (*Achondrostoma oligolepis*), both protected at the European level (listed in Annex II of the Habitats Directive), are not considered endangered in Portugal. Both species have a restricted distribution area, the northern straight-mouth nase being endemic to the Iberian Peninsula and the arched-mouth nase exclusively to Portugal.

One of the species found all along the River Âncora is the trout (*Salmo trutta*), which is sensitive to pollution and high temperatures. It is characteristic of cold, well-oxygenated flowing waters containing coarse substrate.

The five species of fish are present in the downstream section of the River Âncora, decreasing in richness to upstream sections, where only trout can be found in the highest stretches of the river. Three-spined stickleback (Gasterosteus aculeatus)



Northern straight-mouth nase (*Pseudochondrostoma duriense*)



Arched-mouth nase (Achondrostoma oligolepis)



Trout (Salmo trutta)

The best places for wildlife observation

The richness of fauna in the Serra d'Arga is mainly due to the diversity of the biotopes, attracting species with different ecological requirements.

As in most wild areas, the greatest number of different species can be found where water is present (rivers, streams, estuaries, etc.).

However, the areas with less species richness are often home to species of great conservation value.

Much of the wildlife in the Serra d'Arga, particularly the species with greater conservation value (those classified as endangered in Portugal and/or Europe as a whole), can be found in three main areas: the coast and the estuary of the River Âncora, the River Âncora corridor (and other watercourses), and the mountain areas.



The coast and the River Âncora estuary

In the entire Serra d'Arga region, and despite its small area, the coast and the estuary of the River Âncora are home to the greatest number of vertebrates species. The presence of 96 species, mainly birds, has been confirmed. With unique characteristics, comparing to the other areas of the Serra d'Arga, the River Âncora estuary serves as a shelter for several birds during the migration period. Species such as the sanderling and dunlin (Calidris alba and Calidris alpina), the little egret (Egretta garzetta), the Eurasian oystercatcher (Haematopus ostralegus), the great cormorant (Phalacrocorax carbo), various gulls (Chroicocephalus ridibundus, Ichthyaetus melanocephalus, Larus canus, Larus fuscus, Larus marinus and Larus michahellis) and the sandwich tern (Thalasseus sandvicensis) are found only in this area, occurring regularly, mainly outside the breeding periods.

Other species can be seen here in the breeding period, such as nightingales (*Acrocephalus arundinaceus* and *Acrocephalus scirpaceus*), usually in dense reeds, and the Kentish plover (*Charadrius alexandrinus*), usually on beaches.

The whole estuary is of interest to birdwatchers – especially the areas of reed beds, where several species often hide.

In this area, the best time to see wildlife, and particularly birds, is in the wintering and migration periods, essentially between September and March/April, although even in the breeding season (May to August) several species can often be seen. The influx of human visitors during

Estuary



the summer months might make it difficult to spot some of the more important species, as these often remain more sheltered or avoid areas that are more exposed to disturbance.



Final section of the River Âncora



Eurasian reed warbler (Acrocephalus scirpaceus)

Sandwich tern (Thalasseus sandvicensis)

The River Âncora corridor

In the Serra d'Arga, the corridor of the River Âncora (and other watercourses) contains the greatest diversity of wildlife in the area, including many threatened species.

Fish or amphibians are particularly dependant on these biotopes, as too are some reptiles, birds and mammals. A continuum of biodiversity is created by the different characteristics of the downstream section of the River Âncora and the upstream areas, such as the small mountain streams. Different species of fauna can be found in these areas all year round. However, spring is the best time to visit the river corridor, mainly because that is when the wildlife becomes more conspicuous (more active, more colourful, etc.).

In the areas further downstream it is possible to find all the fish species present in the region.



River Âncora, in Âncora





Perez's frog (Pelophylax perezi)

Wild nightingale (Cettia cetti)

Species that are typically aquatic, such as the otter (*Lutra lutra*), the common kingfisher (*Alcedo atthis*) and the Perezzi's frog (*Pelophylax perezi*) are frequent in the area. You can also find many species associated with riparian galleries, including various small passerines such as the wild nightingale (*Cettia cetti*), which is very easy to hear although it can be difficult to see, and flocks of small, restless long-tailed tits (*Aegithalos caudatus*).

Along the downstream section of the river, one of the best places to spot wildlife is around a small bridge in Âncora. Going further upstream, the wildlife becomes more typical of areas around mountain rivers. Between Âncora and the area next to the Pincho waterfall can often be seen species such as the white-throated dipper (Cinclus cinclus), Iberian frog (Rana iberica) or Iberian emerald lizard (Lacerta schreiberi), as well as others typical of the surrounding riparian woodlands such as the common genet (Genetta genetta), the weasel (Martes foina), and forest birds including woodpeckers (Picus viridis and Dendrocopos major) and treecreepers (Certhia brachydactyla and Sitta europaea). Along this stretch of the river the only fish species present are those that are typical of mountain areas, and upstream from the Pincho waterfall only the trout (Salmo trutta) remains.

Along the upstream section of the River Âncora, the area around the bridge in Montaria is one of the richest fauna hotspots in the Serra d'Arga. Although trout are the only fish present, the vast majority of the other species that live along the river can be seen around here, including those whose habitat is the riparian gallery. In these high areas you also can find some of the most endangered species, typical of small mountain watercourses, such as the Pyrenean desman (Galemys pyrenaicus) or the gold-striped salamander (Chioglossa lusitanica). There are also more common species like water snakes (Natrix maura and Natrix natrix), the Iberian frog (Rana iberica), and several others associated with the rich biotopes present in the surrounding areas, such as the southern smooth snake (Coronella girondica), the common genet (Genetta genetta), the tawny owl (Strix aluco), and the European crested tit (Lophophanes Cristatus).



Intermediate section of the River Âncora



River Âncora, downstream from the Pincho waterfall



Pincho waterfall





Iberian frog (Rana iberica)

White-throated dipper (Cinclus cinclus)



River Âncora, in Montaria



Water snake (Natrix natrix)



Common genet (Ginetta ginetta)

Finally, the small watercourses that can be found throughout the area, especially on hillsides, also deserve attention. These streams are of great importance for several species, and are often the best places to find the gold-striped salamander and other amphibians, or even evidence of the presence of certain mammals.





Serra d'Arga streams

Gold-striped salamander (Chioglossa lusitanica)



Serra d'Arga streams



Footprint of a badger (*Meles meles*)

The mountain areas

The mountain areas, as they are generally described, encompass a great diversity of biotopes (agroforestry mosaics, meadows and wet meadows, heathland and sparse vegetation, rocky outcrops, small hardwood forests, pine forests, peat bogs, etc.) and include the entire plateau area and steep slopes of the Serra d'Arga.

Rocky mountain area





Mountain heaths



Plateau



Blue rock thrush (Monticola solitarius)

Although they have less species than the areas described previously, the mountain areas also have less human disturbance and several threatened species are only found here. Examples include diurnal or nocturnal birds of prey such as the peregrine falcon (Falco peregrinus); the Eurasian eagle-owl (Bubo bubo), which nests in steep rocky areas of the mountain; the short-toed snake eagle (Circaetus gallicus), which nests on trees in hillside forests and often hunts on higher ground; and the Montagu's harrier (Circus pygargus), which seems to be more often found in plateau areas with heaths. This is also the case with some small birds that are uncommon in the region, such as the blue rock thrush (Monticola solitarius) and the tawny pipit (Anthus campestris). The mountain areas are also excellent habitats for reptiles like the ocellated lizard (Timon lepidus), which can be found in many different spots on the high ground, and amphibians such as the natterjack toad (Epidalea calamita), which uses small temporary ponds for breeding and then disperses to different spots where the adults usually remain hidden during the day.



Ocellated lizard (Timon lepidus)

The mountain areas are also frequented by the most emblematic wild animal in the Serra d'Arga: the wolf (*Canis lupus*). As a top predator the wolf seems to find in Serra d'Arga enough food to survive, mostly due to the presence of the Garrano pony, a large mammal of domestic origin, also emblematic of the region.

The interaction of these two large mammals is often evident from the presence of wolf footprints and excrements in the areas most frequented by large groups of Garranos. The frequent presence of Garrano carcasses is also a sign of this interaction. The remains of these animals also attract necrophagous species like the griffon vulture (*Gyps fulvus*), which frequently flies hundreds of kilometres to feed on the carcasses left behind by wolves.

On the hillsides, the rural villages with their agricultural and agroforestry mosaics are often the areas with greatest diversity of wildlife in the mountain areas.

In these biotopes you can often see a wide range of birds all year round, including the European greenfinch (*Chloris chloris*), European goldfinch (*Carduelis carduelis*), Eurasian blackcap (*Sylvia atricapilla*), Eurasian wren (*Troglodytes troglodytes*) and song thrush (*Turdus philomelos*). Birds of prey such as the common buzzard (*Buteo buteo*) also frequent these areas to hunt small rodents, being even abundant around these farmlands.



Short-toed snake eagle (Circaetus gallicus)



Griffon vulture (Gyps fulvus)



Wolf dejects



Garranos





Rural area

Agricultural area



Agroforestry area



Rural area





European goldfinch (Carduelis carduelis)

Barn swallow (*Hirundo rustica*)



Iberian wall lizard (Podarcis hipanica)



Particularly in spring and summer, these places are invaded by large flocks of barn swallows (*Hirundo rustica*), which breed in the small villages and feed on the abundant insects in the fields.

These agricultural and agroforestry areas are also frequented by species of mammals including the fox (*Vulpes vulpes*) and the serotine bat (*Eptesicus serotinus*); reptiles such as the iberian wall lizard (*Podarcis hipanica*); and amphibians such as the fire salamander (*Salamandra salamandra*).

Spring is the best time of the year to see the typical fauna of these mountainous areas, although many species remain here all year round.

Common buzzard (*Buteo buteo*)

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PORTUGAL 2020



UNIÃO EUROPEIA Fundo Europeu de Desenvolvimento Regional