



Comenius

Dora Pejacsevich Primary School, Našice
Croatia



Bioraznolikost
(Biodiversity)





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BIODIVERSITY OF CROATIA

Due to its specific geographical position on the dividing line between several biogeographic regions and due to its characteristics amongst climate and geographical conditions, Croatia is one of the richest European countries in terms of biodiversity.

The great diversity of land, marine and underground habitats has resulted in a wealth of species and sub-species, including a significant number of endemic (uniquely Croatian). There is still a comprehensive inventory of Croatian biodiversity.

New species and subspecies are being discovered each year. Over the past five years, 188 new taxa of terrestrial macrofauna, 144 taxa of freshwater macrofauna and 22 taxa of marine macrofauna have been registered in Croatia. The number of known species in Croatia is around 38,000 though the estimated number is far higher - from 50,000 to over 100,000. This is a very significant number for a relatively small country.

One of the reasons for the large number of endemics in Croatia, and especially marine taxa, is the fact that this area was less greatly affected by glaciation. The most suitable for endemics of flora are the Velebit and Biokovo mountains while invertebrates are most represented in underground habitats (cave invertebrates, the slug, the stone (stone) slug) and the warm coasts of the Adriatic (orange loach (damselfish) and others).

PLANTS

FUNGI & LICHENS

DOMESTIC BREEDS

TERRESTRIAL INVERTEBRATE

AQUATIC INVERTEBRATES

REPTILES & AMPHIBIANS

BIRDS

MAMMALS

Group	Number of species	Number of subspecies
Plants	1,400	10
Fungi	1,200	5
Lichens	1,100	5
Terrestrial invertebrates	10,000	100
Aquatic invertebrates	1,000	50
Reptiles & amphibians	100	5
Birds	150	10
Mammals	100	5



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PORTUGAL

Portugal's strong biological diversity is explained by its location, which encompasses three bio-geographical regions - the Atlantic and Mediterranean on the Portuguese continent and Macaronesia for the archipelagos of Madeira and the Azores. Several species depend on the combination of these habitats for their survival. Examples of such habitats are the "montado" (traditionally grazed oak forests), the cereal steps and the mountain "taboal" (broad meadows). In continental Portugal, there are over 3 000 species of vascular plants, around 400 species of vertebrates and an immense number of invertebrates. In Madeira and the Azores, there are more than 1 700 endemic species which do not exist anywhere else.

Much of Portugal is included in the Mediterranean Basin biodiversity hotspot. Important terrestrial ecological regions include the Madeira Evergreen Forests, the Azores Temperate Mixed Forests, and the Southwest Iberian Mediterranean Sclerophyllous and Mixed Forests. For additional endemic see for subterranean animals (Naturdata) for animals, and for plants.

Bird populations can act as sensors, giving fairly good indications of trends in birds regard to exotic plants: over 550 species have been introduced into Portugal's continental territory and these have now been classified as casual, sub-spontaneous.

Birds unique to Portugal include the Madeira Laurel Pigeon (Madeira Wind Birds) and, as breeding species, Zino's Petrel (Madeira Wind Birds) and the recently described Monteiro's Storm-petrel (*Oceanodroma monteiroi*) (Azores-birds). The Azores Bullfinch *Pyrrhula murina* (AZOREN) is usually considered distinct from the Eurasian Bullfinch *Pyrrhula pyrrhula* and the Madeira Firecrest *Regulus madeirensis* (Madeira Wind Birds) distinct from the European Firecrest *Regulus ignicapillus*. The Deserted Petrel *Pterodroma deserta* (Madeira Wind Birds) may be distinct from Pea's Petrel *Pterodroma fasciata*.

Among about 200 vascular plant species found nowhere else are *Ulex densus* (Azores), *Neosilene*, *Thymus laticephalus*, *Silene rottmaleri* *hyacinthoides* (Azores), *Trifolium azoricum*, the Fringe of Madeira the Madeira Bell-heather *Isoplexis sceptrum*, the Disc Houseleek *Orchis scapularum*, the Madeira Cranebill *Geranium madeirense*, the Azores Blueberry the Azores Juniper the Azores Bellflower Azores Ivy Hedera azarica and a fern *Dryopteris azarica*. Endemic genera include *Muschio*, *Chamaemelia*, *Melanostichum* and *Monarda*.

Reptiles found nowhere else include the Selvagens Gecko *Tarentola bischoffi* (Monchus), which is often considered a subspecies of Grand Canary Gecko *Tarentola boettgeri*, and the Madeira Wall Lizard *Pollarda* (or *Triton*) *digesi*.

The Portuguese Nawl *Lissonotus mauritanicus* is sometimes considered distinct from the more widespread Basco's New Lissonotus *bascoi*.

Arthropods known solely from Portugal include the Madeiran Speckled Weevil *Cerf's Grayling*, a looper moth *Kenochlorodes magna*, a bumblebee *Bombus maderae*, a longhorned beetle *Crotchiella brochiptera*, a ground beetle *Trechus tarconius*, a predaceous diving beetle *Maladoma lorio*, a weevil *Donax multiridatus*, a bush Psamatophones borreleti, a large cave-dwelling brittlefly *Squamania algarum*, a nursery web spider *Pisaura scorensis*, the Deserted Wolf Spider *Hugus ingesi*, Frode Cave Spider *Anagista uloensis*, and a pseudoscorpion *Titanobolus*.

Freshwater fish restricted to Portugal include the Squallid *ardensis* and Squallid *bergensis*, the Ruffe *Zanclus cornutus*, and the Frode Looney Lamprey *Lobostichius*. Several described endemic new species include *Chamaeleon madeirensis*, *Acheta*, *Phyllotreta*, and *Acheta*.

Marine fish include the Madeira Bay Skipper *Centrolabrus* *caeruleus*, a thimblehead *Centrolabrus caeruleus*, a thimblehead *Centrolabrus caeruleus*, the Blackspot Conger *Paracombusia*, and a scorpionfish *Scorpaena azarica*.

Native Laurel Pigeon

Monteiro's Storm-Petrel

Zino's Petrel

Deserted Petrel

Ulex densus

Azores Blueberry

Azorean Bat

Chamaemelia

Muschio

Trechus Tarconius

Psaura scorensis

Lissonotus mauritanicus

Hydrobia bischoffi

Tarentola bischoffi

Scorpaena azarica



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NORWAY

In the past 100-200 years, human activities have resulted in far-reaching changes in Norwegian nature. Changes in land use are among the greatest threats to biological diversity. Local variability in habitats and species composition is being reduced, and some species are being lost. About 4000 species are on the current Norwegian Red List and half of these are threatened. Invasive alien species also cause harm to the local fauna and flora. However, there have been success stories too - such as the recovery of the white-tailed eagle population.

SPECIES

Species are the building blocks of biodiversity. The number and combination of species in an area reflect the variation in non-biological environmental factors, and indicate that the ecosystems in the area are healthy and intact. Knowledge of species is necessary for the understanding of biodiversity as a whole.

In Norway, around 40 000 species are found, but the actual numbers present are probably approximately 60 000. These numbers do not include bacteria and viruses. The largest group of terrestrial animals in Norway (same as elsewhere) is the insects, of which roughly 16 000 species exist. For most of these, however, information about their distribution is lacking. In addition, thousands of insect species are probably yet to be found.

Most species present in Norway today are immigrants from the time right after the last ice age (10 000 years ago). The history of immigration, together with non-biological environmental factors, have played an important role in determining the Norwegian biodiversity as we know it today. In addition, human activity through thousands of years also made an impact. Traditional, non-made cultural landscapes are among the ecosystems with highest number of species present.

For some groups of species we have relatively detailed knowledge; birds, mammals, vascular plants and freshwater fishes. For other groups, knowledge is lacking. A few species are found exclusively in Norway. Others have a wider distribution, but may display characteristics unique for Norway. Such local variation is part of the genetic diversity within species.

LYNX (Lynx lynx)

WOLF (Canis lupus)

Red Deer

Wolverine (Gulo gulo)

Brown bear (Ursus arctos)

Roe Deer

Northern Norway is rich in its diversity of flora (plants) and fauna (animals). The primary flora found in Norway are heather, mountain birch, dwarf birch and shrub willow. Fir, spruce, and pine trees are also abundant. Notably, only 27 percent of Norway is covered by forest. Tundra, or boreal forest, is found inland and in northern Norway. Arctic tundras can be found in Finnmark, in the far north of Norway. Tundra consists of treeless plains that are frozen for much of the year.

One of the most common animals in northern Norway is the elk. In fact, elk (or, as we call them in the United States, "moose"). Other common fauna include roe deer, red deer, foxes, horses, reindeer, badgers, wolverines, lynx, wolves, owls, hawks, mice, squirrels, gulls, and ducks. Reindeer are a domesticated animal in northern Norway, and reindeer husbandry is highly protected as an exclusive Sami livelihood.

Until the middle of the 19th century, there were large populations of the four "large" carnivores: brown bear (Ursus arctos), wolverine (Gulo gulo), wolf (Canis lupus) and lynx (Lynx lynx) throughout much of Norway. All four species were relentlessly hunted, and as a result wolves and bears were almost exterminated by the middle of the 20th century. Since then, their populations have shown signs of recovery.

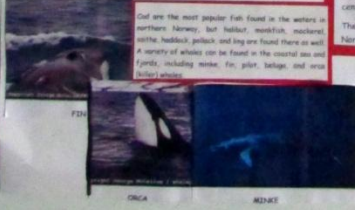
There are a multitude of seabirds and fish varieties found in the north Sea coast. Norway's puffin (Enderby).

FISH

NORWAY LARSEN (Enderby)

ORCA

WHALE





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FINLAND

The most popular mushrooms picked are the chanterelle and forest chanterelle, the rufous, northern, and soft-boiled milk caps, vege, slippery jack, shaggy inkcap, porcini mushroom, and the orange birch and apricot gill mushrooms.

Situated in the boreal coniferous forest zone, Finland is surrounded by the Baltic Sea, Sweden, Norway and Russia. The northwestern part of the country lies above the Arctic Circle, whereas the southern area of the landscape is dominated by an archipelago of 176,000 islands. Between these extremes, Finland is characterized by vast forests and 188,000 lakes, which give the country the yet understating name of "land of the thousand lakes".

Finland hosts approximately 45,000 species of animals and plants, representing 29% of the total species described for Europe and possibly 3% of the species in the world. Of the total number of species found in the country, 23,400 have been assessed in 2005, showing that 10% of these are threatened.

Much of the country is dominated by conifers, mainly pine and spruce (although European larch, fir, and juniper can also be found). However, in the extreme southern part of Finland there is a deciduous zone, the trees being mainly birch, hazel, aspen, maple, oak, alder, and alder. The most common types of berries picked in Finland are lingonberry, bilberry, cranberry, raspberry, buckthorn berry, wild raspberry and strawberry, raspberry, arctic bramble, and the elusive and highly prized cloudberry.

All Europe's large carnivores (Brown Bear, Grey Wolf, Eurasian Lynx and Wolverine) are present in Finland, and the only existing population of the endangered Siberian Leopard also found in the country.

Some of the most present and endemic animals which can be found in Finland are: Arctic Fox, Red Fox, and meadow dog, the otter (or ermine), European mink, the Least weasel (the smallest mammalian carnivore in the world), the European polecat, the Pine marten, and the sable; the badger; and the otter-Saimas Ringed Seal which can only be found on Lake Saimas, and which is one of only three species of freshwater seal living today. Siberian Flying squirrel, elegant Whooper swan, Viperaus lizard, which is the northern lizard species in the world, and the only one in the Lacertillidae family that is viviparous, Slow Worm.

BROWN BEAR (Ursus arctos)

EURASIAN LYNX

MOLVBERG (Eurasian lynx)

GREY WOLF

ARCTIC FOX

RED FOX

MEADOW DOG

LEAST WEASEL

EUROPEAN MINK

PINE MARTEN

SABLE

BADGER

OTTER-SAIMAS RINGED SEAL

LEAF-BELLIED MOTH

VIPEVAUS LIZARD

SLACK WORM

WATERFOWL BENEFIT FROM WETLAND RESTORATION
MEASURING IN HIGH WOOD PRODUCTION

THE RASDNE HABITAT OF TAMMISARAJÄRVI ARCHIPELAGO NATIONAL PARK ON FINLAND'S SOUTHERN COAST HAS BEEN SUBSIDIZED IN THE NATIONAL LANDWATER BIODIVERSITY PROGRAMME VESAMU

THE SAIMAS RINGED SEAL IS A RELICT THAT WAS SEPARATED BY LAND UPLIFT 8000 YEARS AGO AFTER THE LAST ICE AGE. THE SEAL IS THE ONLY ENDANGERED SPECIES IN FINLAND.

Wetland, grassland and forest ecosystems are big part of Finland's landscape and need to be preserved. The Nature2000 network, with nearly 1900 areas, covers some 5 million ha of Finland's total area of 34 million ha. The overall protected area network includes 37 national parks, 19 strict nature reserves, 12 wilderness reserves and 500 other protected areas, helping the conservation of stands, lakes, rivers, forests and fell landscapes, and of the species they host.

ROPOVUO NATIONAL PARK WAS ESTABLISHED WITH THE HELP OF LAND REHABILITATION BY THE TAMMISARAJÄRVI UPM. MORE RECENTLY UPM HAS HELPED TO BUILD AND EVALUATE UPM'S BIODIVERSITY PROGRAMME

HOME OF THE SAIMAS RINGED SEAL AND THE WHITE-BACKED WOODPECKER, LINDANSARAJÄRVI NATIONAL PARK IS ALSO A POPULAR AREA FOR BOATING

INTERNATIONAL AIR QUALITY STUDIES SHOW THAT AIR IN PALLAS-PLASTENTURVE NATIONAL PARK IS THE CLEANEST IN EUROPE. RESEARCH PROJECTS FOCUS ALSO ON ENVIRONMENTAL EFFECTS OF TOURISM AND ON WOLF POPULATIONS



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CYPRUS

Cyprus is situated at the easternmost end of the Mediterranean basin and is the third largest island of the Mediterranean after Sicily and Sardinia, with an area of 9,251 km².

Cyprus is part of the "biodiversity hotspots" of the Mediterranean basin, mostly thanks to its many endemic birds, mammals and insects. It is also considered a centre of plant diversity having almost 2,000 taxa of which 143 are endemic. The Natura 2000 Network in Cyprus is comprised of 63 sites from which 32 areas are Sites of Community Importance, 21 areas are classified as Special Protected Areas and 8 have both at status.

30 types of mammals are reported to exist in Cyprus, namely 16 bats, 10 land mammals, 3 dolphins and 1 type of Monk Seal. The famous Mouflon called "Ovis gmelini ophion" is the biggest mammal in Cyprus.

In Cyprus, there are 370 types of birds, 53 of which are permanently based on the island while the rest 317 are migrating birds. Additionally, in Cyprus there are 22 types of reptiles which consist of 6 snakes, 11 lizards and 3 turtles (2 sea turtles and one turtle of freshwater) while there are also 3 types of amphibians (frogs).

The Cyclamen (Cyclamen cyprium) has been declared Cyprus' national plant while the Golden oak (Quercus alifolia) has become the island's national tree.

Among the most important endemics to be found in our island are the Cyprus "Bassia or "Zaidalpa" ("Bassia cypria") which is one of the only three types that exist around the world, the Cyprus' Cedrus ("Cedrus brevifolia") which is one of the 4 types of Cedrus worldwide, the Cyprus ("Taxus cypria"), the endemic Crocus ("Crocus cypria") and the so called "Quercus alifolia".

ENDÉMIC PLANTS

Quercus alifolia, *Cedrus brevifolia*, *Bassia cypria*, *Quercus alifolia*, *Crocus cypria*, *Taxus cypria*, *Cyclamen cyprium*, *Quercus alifolia*

MAMMALS IN CYPRUS

Alouatta palliata, *Equus asinus*, *Ovis gmelini ophion*, *Delphinus delphis*, *Neomeris libanotis*, *Lepus saporis cypria*

BIRDS IN CYPRUS

Upupa epops, *Parus parus*, *Alectoris chukar*, *Circus cyaneus*, *Pelecanus ruber nasalis*, *Asio otus*, *Pratincola francolinus*, *Lanius excubitorides*, *Accipiter gentilis*, *Merops apiaster*, *Aluco erithacus*, *Erithacus rubecula*

REPTILES IN CYPRUS

Crotaphytus retusus, *Ophisops apolloniae*, *Lacerta chalcidica*, *Cerastes cerascherus*, *Testudo hermanni*, *Testudo hermanni*, *Testudo hermanni*

INSECTS IN CYPRUS

Trichostema phoeniceum, *Zerynthia caryocorymbi cypria*, *Cyprina cypria*, *Chryseis gabbii*, *Chryseis gabbii*, *Chryseis gabbii*