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ROMANIA

Delta Dunării

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**The Danube Delta**

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## Tezaurul Deltei Dunării

În circa 10.000 de ani, fluviul Dunărea (2.850 km) a format la vărsarea în Marea Neagră o deltă cu suprafața de 5.800 de km<sup>2</sup> (circa 82% în România, restul în Ucraina) – un mozaic de brațe, canale, lacuri, ghioluri, grinduri, insule, întinderi nesfârșite de stufrăji și păduri subacvatice.

Cea mai bine conservată deltă din Europa și în zona deltelor este cea mai mare biodiversitate de pe planetă, Delta Dunării este parte a Patrimoniului Mondial UNESCO și rezervatie a biosferelor.

Inițial, pe locul său actual se află un imens golf al Mării Negre. Aluviunile acumulate printr-un proces îndelungat, favorizat de faptul că fluviul și refluxul mării sunt neglijabile, i-au separat prin cordoane litorale.

Chilia, cel mai nordic braț al Dunării, cu lungimea de 111 kilometri, poartă spre mare 60% din debitul total al fluviului și 58% din aluviuni, de mai bine de un veac; și jumătate formând în dreptul localității Periprava o deltă secundară. Mult timp principala cale de navigație din Delta, brațul Chilia a fost folosit din ce în ce mai puțin după regularizarea și canalizarea, începând din a doua jumătate a secolului al XIX-lea, a brațului Sulina, situat mai la sud.

Cu lungimea de aproximativ 70 de kilometri, Sulina transportă circa 18% din volumul de apă al Dunării și se varsă în mare în orașul cu același nume, despre care istorii nesovietice povestesc că ar fi fost întemeiat în secolele VI-VII î.Hr., dar date certe există din perioada bizantină. Sulina a devenit la sfârșitul secolului al XIX-lea unul dintre cele mai importante porturi de pe Dunăre, după stabilirea aici a Comisiei Europene a Dunării, care garantează circulația liberă a navelor spre Marea Neagră. Fostul sediu al comisiei, cele trei faruri și alte câteva clădiri sunt mărturie ale epocii de glorie a orașului. Cimitirul vechi din Sulina, în care se odihnesc oameni din peste douăzeci de naționalități și din șase culte religioase, amintește de „mozaicul de raze” (Jean Bart) care are acest loc odinioară.

Sfântu Gheorghe, cel mai mic și cel mai sudic dintre cele trei brațe ale Dunării, are 108 kilometri, înainte de secționarea unor meandre. Astăzi cu circa 40 de kilometri mai mic, este folosit mai ales pentru transportul fluviilor de interes local. La vărsarea brațului Sfântu Gheorghe în mare, pe partea dreaptă, s-a format insula Sacalin, un început de deltă secundară. De cealaltă parte a brațului, pe malul mării, se întinde o plajă lată, cu nisip fin, care, în ciuda popularității din ultimii ani, păstrează farmecul unui loc sălbatic. În nopțile fără lună, licuricii de mare cămbrează țărâmul la Sfântu Gheorghe oferă un spectacol unic.

Delta Dunării este o zonă în continuă transformare. Suprafața ei se modifică permanent, apă, un extraordinar arhitect, adună sedimente sau mușcă din nisip, modelând peștele. 45% din suprafața deltei se află permanent sub apă, jumătate este acoperită temporar (mai ales primăvara), doar 5% reprezentând uscatul, constituit mai ales de marile grinduri Letea, Caracoram, Stipoc, Sărăturile și Câmpul Chiliei.

Între dunele grindului fluviu-maritim Letea, considerat de specialiști unul dintre cele mai interesante medii naturale din România, s-a dezvoltat Pădurea Letea (cu suprafața de 2.825 de hectare), care combină floră balcanică, mediteraneană, stepică și subtropicală. Plante cărtăroase – precum vița sălbatică, hameiul și *Periploca caryota*, liana care atinge aici cea mai nordică răspândire din Europa, creează peisaje luxuriante. Liânele încolțite pe crengile și trunchiurile noduroase ale arborilor seculari, sălcie

de pe taluzuri, cu aspecturi de pădini adventive, ca niște bărbi, și cai sălbatici sunt cele mai emblematiche imagini ale Pădurii Letea.

În Delții mai există încă o pădure cu aspect subtropical, Caracoram, dezvoltată în centrul grindului cu același nume, pe un teren nisipos de origine marină, care în unele locuri a dat naștere la dune de până la nouă metri înălțime. Este formată, în special, din stejari, care ajung în acest loc la 30 de metri, ramurile lor viguroase făcând o umbră atât de deasă, încât localnicii au botezat-o Pădurea Dunării. Aici a fost identificat cel mai mare stejar din Delta Dunării, cu vârsta de 400 de ani și circumferința de patru metri. Este numit Stejarul Ingenunchiat, datorită ramurilor sale care s-au întins pe pământ.

Dar spectacolul desăvârșit al naturii surprinde în fiecare colț al Deltei Dunării. Situația sa la jumătatea distanței între Polul Nord și Ecuator, la confluența mai multor zone climatice, a favorizat diversificarea extraordinară a plantelor (2.994 de taxoni). Stuful ocupă circa 200.000 de hectare din suprafața Deltei Dunării. Tigele lui înalte, cu frunze tăioase, vivesc malurile lacurilor și canalelor cu perlele dese, iar rizomii lui se împletesc cu rădăcinile albe plante acvatice, țesând plauri. Aceste insule plutoase sunt un prețios habitat deltaic, la fel și stepele nisipoase, dunele, zăvoaiele cu sălcii și plopi, pădurile de stejar pedunculat și cele de frasin de bălț sau pufos, precum și mlaștinile de la limita lacurilor, acoperite de covorașe dense de plante submerse ori cu frunze plutoase, precum iarba broaștei, plutici, nuferi albi și galbeni.

Una dintre cele mai mari zone umede din lume, Delta Dunării este paradis al păsărilor de apă. Situată pe traseul a mai puțin de cinci rute de migrație ale păsărilor din Europa, Asia și Africa și beneficiind de factori climatici favorabili și diversitatea condițiilor de viață, Delta oferă adăpost pentru 365 de specii de păsări, ceea ce reprezintă aproximativ 81% din avifauna României și 50% din speciile de păsări din Europa. Multe migrații vin aici ca să culcăbrească, unele se opresc ca să își refacă forțele pentru continuarea unei călătorii de mii de kilometri, iar altele, precum fundacii polari, furtunari, lebedele de iarnă și multe specii din neamul pescărușilor iermează printre bălțile Deltei. Pe malurile Complexului lagunar Razviț pot fi văzute toamna țărzii mii de găște cu gâtul roșu sau cu crăpim, cu lii se mai spune.

Dar spectacolul este impresionant mai ales de primăvară până toamna. Cerul este brăzdat de stoluri de rațe și liște, din stufrăjiu vechi les legându-se cărduri de lebede și de găște, printre bălțile cu vegetație ierboasă bogată se ascund lopătării, iar în vizuini părăsite de vulpi, călăfarii albi. Pe ramurile sălcilor se strâng perechi de comorani, printre nișăii își caută hrană piciorongii și grațioasele egrete – monumente ale naturii. La marginea stufului stau nemițați (chiar și oară, se spune) stărei cenuși, în zonele izolate de mal se retrage ciocintorul, iar pe prundoaie, pescăria răzătoare. Pe insule de plaur retrase, greu accesibile omului, și în hățșuri culăbrească pelicanii, protejați la nivel global, cu efective în continuă scădere. Delta Dunării adăpostește vara cea mai mare parte a populației europene de pelican comun și pelican cenuș. Spre deosebire de pelicanii comuni, cei creni culăbrească în grupuri mai mici, uneori chiar în perechi izolate, de obicei în zăvoaiele de la gura brațului Sfântu Gheorghe. Cea mai mare pasăre din România (circa 13 kilograme), pelicanul are anvergura ariilor de până la 3,6 metri.

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# Treasures of the Danube Delta

Over the course of around ten millennia, the Danube (2,850 km) has formed a delta where it empties into the sea that covers 5,800 square kilometres (around 82% in Romania, the rest in Ukraine), a mosaic of branches, channels, lakes, pools, islands, endless expanses of reed beds, and subtropical forests.

The best preserved delta in Europe and one of the planet's areas of greatest biodiversity, the Danube Delta is a UNESCO World Heritage site and biosphere reserve.

Originally, what is now the delta was a huge gulf on the Black Sea. Alluvial accumulations over the millennia, helped by negligible tides, eventually fragmented the gulf into coastal cordons.

Chilia, the northernmost branch of the Danube, 111 km in length, carries sixty per cent of the river's total volume and fifty-eight per cent of its silt, and for more than one and a half centuries has formed a secondary delta near Periprava. Long the Delta's main channel of navigation, Chilia fell out of use after the Sulina branch to the south was straightened and converted into a canal in the second half of the nineteenth century. Seventy kilometres long, Sulina carries around eighteen per cent of the total flow of the Danube and empties into the sea by the town of the same name, which is thought to have been founded in the sixth to seventh centuries B.C., although historical evidence dates back only to the Byzantine period. By the end of the nineteenth century, Sulina had become one of the most important Danube ports, after the European Danube Commission was established here, which guaranteed free circulation of shipping en route to the Black Sea. The old commission building, three lighthouses, and a number of other buildings stand witness to the town's glory days. The old cemetery in Sulina, where people of more than twenty nationalities and six different religions are laid to rest, is a reminder of the 'mosaic of races' (Jean Bart) to which the town was once home.

Sfintu Gheorghe, the oldest and most southerly of the Danube's three branches, stretched for 108 kilometres before its meanders were lopped off. Now forty kilometres shorter, it is used mainly for local river traffic. At the point where the Sfintu Gheorghe branch empties into the sea, Sacalin Island, an incipient delta, has formed to the right. On the other side of the branch, on the seashore, there stretches a broad beach of fine sand, which, despite its popularity in recent years, has preserved its wild charm. On moonlit nights, the glow worms that throng the shore at Sfintu Gheorghe offer a unique sight.

The Danube Delta is an area in continuous transformation. Its surface area is constantly changing, as water, nature's greatest architect, accumulates sediment and erodes the sand, thereby shaping the landscape. Forty-five per cent of the delta's surface area is permanently below water, while half is temporarily submerged, particularly in spring, and only half can be said to be dry land, to be found mainly in the Letea, Caracorman, Stipoc, and Sărăturile sandbanks and the Chilia Plain.

Among the dunes of the Letea fluvial-maritime sandbank, regarded by experts as one of Romania's most interesting natural environments, the Letea Forest has developed (2,825 hectares), which combines Balkan, Mediterranean, steppe and subtropical flora. Climbing plants such as wild vine, hops, and *Periploca graeca*, the liana which here reaches its

northernmost European limit, create a luxuriant landscape. The lianas coiling around the knotty branches and trunks of the centuries-old trees, the willows at the water's edge, with their beard-like bunches of adventitious roots, and the wild horses to be found here are emblematic of the Letea Forest.

In the Delta there is another subtropical forest: Caracorman, which has sprung up in the middle of the sandbank of the same name, among dunes that rise in places to nine metres in height. The forest consists mainly of oak trees, which here can reach thirty metres, and their foliage casts such a dense shadow that the locals name the place the Black Forest. The largest oak tree in the Danube Delta has been identified here, a four-century-old specimen four metres in girth. It is known as the Kneeling Oak, thanks to its branches, which stretch down to the ground.

The spectacle of nature extends to every corner of the Danube Delta. Its position halfway between the North Pole and the Equator, at the juncture of a number of climatic zones, has encouraged extraordinary diversity of plant life (2,994 taxa). Reeds occupy around two hundred thousand hectares of the Danube Delta. Their tall stems and pointed leaves line the banks of the lakes and canals, forming dense curtains, and their rhizomes interweave with the roots of other aquatic plants to form floating islets. These islets are a precious natural habitat, the same as the sandy steppes, dunes, water meadows with their willows and poplars, forests of peduncular oak and ash, and the marshes at the fringes of the lakes, which are covered with thick carpets of underwater and floating plants, such as frogbit, water fringe and white and yellow water lilies.

One of the world's largest wetlands, the Danube Delta is a paradise for waterbirds. Lying on no less than five routes for birds migrating to and from Europe, Asia and Africa, and enjoying climatic conditions favourable to biological diversity, the delta is home to around 365 bird species, representing around eighty-one per cent of Romania's bird life and fifty per cent of Europe's bird species. Some migratory birds come here to nest, some stop here to rest and regain their strength before continuing a journey of thousands of kilometres, while others, such as the black-throated loon, puffin, winter swan and numerous species of seagull spend the winter in the pools of the delta. In late autumn, thousands of red-breasted geese can be seen on the banks of the Razim lagoon complex.

But the spectacle is at its most impressive from spring to autumn. The sky is streaked with flocks of ducks and coots, from the reed banks emerge gaggles of swans and geese, spoonbills lurk in the dense vegetation of the pools, and shelducks take shelter in burrows abandoned by foxes. On the branches of the willows gather pairs of cormorants, black-winged stilts and graceful egrets—a protected species—forage for food in the marshes. At the edge of the reed beds, grey herons stand motionless, sometimes for up to an hour, so it is said, and the pied avocet and gull-billed tern withdraw to the most isolated sandbanks. On floating islets in areas inaccessible to man and in thickets, the globally protected but endangered pelican makes its nest. In summer, the Danube Delta is home to Europe's largest population of common and Dalmatian pelicans. Unlike the common pelican, the Dalmatian pelican nests in small groups, sometimes even in isolated pairs, usually on long narrow lakes near the mouth of the Sfintu Gheorghe branch.

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Romania's largest bird, weighing around thirteen kilos, it has a wingspan of 3.6 metres. This globally endangered species has been declared a natural monument. The sight of these magnificent birds gliding through the air or forming living islands on the water is among the most impressive to be seen in the Danube Delta.

The most numerous colonies of waterbirds are to be found in the Marchelea, Uzliņa, Petiteasca-Leahova area, an agglomeration of lakes that are slowly becoming freshwater after being cut off from the sea, and on the Lupilor and Chituc sandbanks, a mosaic of spits of land, dunes, and lakes that separate the waters of Lake Sinoe. Similar to Sacalin-Zatoane, an area in the south of the Delta, with young sandbanks that alternate with isolated, shallow lakes, around one hundred bird species have been observed during their spring-winter migration.

The diversity of the Danube Delta's biotopes also attracts songbirds and birds of prey, which are drawn to wetlands and marshes, but do not necessarily require large expanses of water. In spring, the white-tailed eagle, having braved the winter, is joined by the marsh harrier and Danube eagle, a species on the brink of extinction in Europe. Male chaffinches wait for their mates to return from warmer climes, where they have wintered with their chicks, and rollers and bee-eaters hurry to lay their eggs before their departure to sub-Saharan Africa in August. The reed beds and water meadows thrum to the sound of tits, sparrows and swallows, the long trills of skylarks, and the rhythmic tapping of woodpeckers.

But the Danube Delta is home to more than just birdlife. In its reed beds and groves have been identified forty-five species of mammal, including the muskrat, a rodent that builds floating nests of reeds and bulrushes, the nutria, the polecat, and the ermine, a carnivore with a valuable pelt, as well as rabbits, deer, badgers, foxes, raccoon dogs, and jackals. The Delta is one of the last refuges for the wildcat (*Felis silvestris*), the freshwater otter (*Lutra lutra*), and the monk seal (*Monachus monachus*). Where the Danube empties into the sea there can be found three species of dolphins, including the endangered Delphinus delphinus.

The greater part of the Danube Delta's fauna is made up of invertebrates (3,713 species), however. Researchers have identified ten species of amphibians, twenty species of reptiles, and 2,240 species of insect, thirty of which can be found only in this geographic area: dragonflies, butterflies, beetles, crickets, and large numbers of mosquitoes, an important link in the food chain. The channels, pools and swamps of the delta are an empire of mosquitoes from May to October.

But above all, the Delta is a paradise for fish, providing an excellent habitat for the 133 species (around eighty per cent of Romania's fish life), including both freshwater (carp, catfish, bream, pike, zander, tench, Prussian carp) and saltwater (turbot, sprat, anchovy). Where the Danube meets the sea, banks of shellfish have formed, which provide food for the species of sturgeon that live in the Black Sea but swim up the Danube to mate. A relic of the old fauna of the Sarmatian sea, sturgeon is prize for its meat and caviar, but is now on the verge of extinction, as are the sterlet and bastard sturgeon, due to excessive fishing and fragmentation of their habitat.

Sturgeon fishing is banned. Other species can be fished, but only in certain areas and times of the year, and under certain conditions.

The fish life of the Danube Delta is of great ecological, touristic, and above all economic importance, given that fishing is the main traditional occupation of the region, which is why it needs to be practised responsibly. The same goes for tourism, since this can lead to over-exploitation of natural resources, pollution, and the building of access routes that fragment habitats and alter both the landscape and biodiversity.

In order to preserve the delta's vegetation and provide a refuge for certain animal species, certain areas, comprising nine per cent of the territory, are strictly protected. In the Roșca, Buhaloa, Hrețcița area can be found the largest floating beds of vegetation in the delta, and it is home to a large pelican colony. Erenciu is the only area of the delta where black alder (*Alnus glutinosa*) grows, and the alder groves are home to the majestic white-tailed eagle. Popina Island is home to numerous grasses endemic to the Dobruđa steppe and provides nesting conditions for numerous birds, as well as being a habitat for the black widow spider and Dobruđa bush cricket (*Isophya dobrogensis*). The Chituc and Lupilor sandbanks are two places where the jackal can be found, and the highly salty (chlorosulphuric) waters of the Murgiholm lakes are propitious for the development of zooplankton and phytoplankton. The lake, whose name is Turkish for 'purple', thanks to the violet hues its shows at sunset, provides shelter for seagulls, terns, stilts, plovers, and red-crested pochards. In winter, the lake is slow to freeze over and provides a refuge for snow geese and winter swans.

Archaeological discoveries reveal that the delta has been inhabited since the Stone Age. Digs have brought to light vestiges of Gaeto-Dacian settlement, overlaid in many places by signs of Greek and Roman civilisation. The ruins of the Argamum – Orgame fort on Cape Dolosman, dating to the seventh century B.C., and Histria, founded by the Milesians in 657-6 B.C., demonstrate the strategic and economic importance of the region at the mouths of the Danube.

In the Danube Delta live around twenty-seven thousand people in thirty-two towns and villages, of which twenty-five lie within the nature reserve. The Delta's population is a mixture of ethnic groups: Russians (Lipovians), Ukrainians (Haholsi), Bulgarians, Turks, Tartars, Greeks, Roma, and Romanians from all the historical provinces. Although each group has its own particularities, their cohabitation in the same habitat and access to the same resources has given rise to a solid, unified culture, which completes the picture of the Danube Delta reserve. The villages of Crișan, Letea, and Mila 23, the third of which is accessible only by water, still preserve numerous simple cottages thatched with reeds and painted white and turquoise. Isolation has allowed the preservation of a number of local festivals, traditions and rituals, which are emblematic of the local identity.

One of Romania's most priceless treasures, the Delta is an inexhaustible world. The diversity of its habitats, no fewer than thirty in number, and the forms of life to which it is home in a relatively small area make it a true museum of biodiversity, an inestimable natural gene pool. Its landscapes, now sandy, now marshy, now watery, teeming with life, create a unique mosaic, which reveals its vulnerable beauty only gradually, which discreetly tells its own story and finds its way into the soul of the visitor, slipping within as softly as an ancient boat along the channels of the Delta.

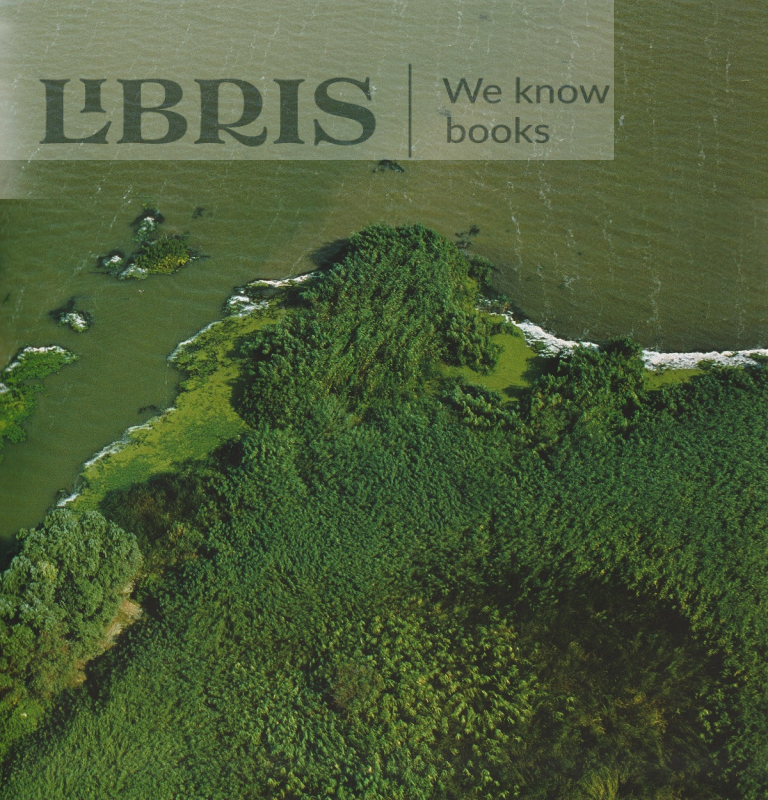
An aerial photograph of a river flowing through a dense green forest. The river is in the upper half of the image, with white foam from the rapids visible. The forest below is lush and green, with a small body of water or a bend in the river visible in the lower right corner.

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