

Poučná staza Starac
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1 Poučna staza Starac

Educational trail Starac



Poučna staza Starac smještena je na južnim obroncima Požeške gore, a proteže se kroz brojne vinograde, vovnjake i šume, sve do vidikovaca s kojega se pruža pogled na pleterničke ravnice i gore koje ju okružuju. Njihovim obroncima i dalje dominiraju šume koje imaju izrazitu važnost ne samo za gospodarstvo nego i cjelokupni ekosustav. Osim što su izvor sirovina od kojih je zasigurno najvažnija drvena masa koja se koristi kao građevinski materijal, ogrjevo ili u raznim industrijama, šume su izvor raznih plodova, ljekovitog, začinskog i aromatičnog bilja i gljiva. Šumska vegetacija sprječava eroziju, a šume podržavaju vodni režim i hidrološki ciklus, te štite od poplava regulirajući globalnu klimu i smanjujući učinak stakleničkih plinova. Uz sve to šume imaju rekreacijsku funkciju te su idealno mjesto za izlete, ali i edukaciju. Ova poučna staza upoznao će sve znatiželjnike s važnosti šumskih staništa, njihovom raznolikosti i pravilnim načinom gospodarenja jer upravo su zaštita i održivo gospodarstvo ključ očuvanja raznolikosti i funkcija šumskih staništa.



Jeste li znali? Did you know?

- Generalna skupština Ujedinjenih Naroda proglasila je 21. ožujka Međunarodnim danom šuma kako bi podigla svijest o važnosti različitih šumskih staništa.
The United Nations General Assembly proclaimed 21 March the International Day of Forests to celebrate and raise awareness of the importance of forests of all types.
- Šume su poput gradova za divlje životinje. One su dom za više vrsta divljih životinja nego bilo koje drugo stanište.
Forests are cities for wildlife, forests and trees are home to more wildlife than any other landscape.
- Stabla su važna za održivost gradova. U urbanim područjima mogu sniziti temperaturu zraka do 8 stupnjeva, smanjujući potrebu za klimatizacijom za 30%. Stabla u urbanim sredinama izvrsni su filtri za zrak, te uklanjaju štetne tvari i sitne čestice iz zraka.
Trees are important for creating sustainable cities: in urban areas, they can cool the air by up to 8 degrees, reducing air conditioning needs by 30 percent. Urban trees are also excellent air filters, removing harmful pollutants and fine particles.
- Dokazano je da provodjenje vremena u šumama ili čak samo oko drveća poboljšava naše zdravlje.
Spending time in forests, or even just around trees, is proven to boost our health and wellbeing.



- Šumska staništa
Forest habitats
- Mozaik staništa
Habitat mosaic
- Urbano područje
Urban area
- Poučna staza Starac
Educational trail Starac



The Starac educational trail is located on the southern slopes of Požeška Gora and stretches through numerous vineyards, orchards, and forests, all the way to the lookout point with a view of the Pleternica plains and the surrounding mountains. Their slopes are still dominated by forests, which are essential not only for the economy but also for the entire ecosystem. Apart from being a source of raw materials, the most important of which is wood, which is used as a building material, firewood or in various industries, forests are a source of various fruits, medicinal, spicy and aromatic herbs and mushrooms. Forest vegetation prevents erosion, and forest support the water regime and hydrological cycle, and protect against floods by regulating the global climate and reducing the impact of greenhouse gases. In addition, the forests have a recreational function and are an ideal place for excursions, but also education. This educational trail will acquaint all curious people with the importance of forest habitats, their diversity, and their management, because protection and sustainable management are the key to preserving the diversity and function of forest habitats.



2 Mozaik staništa

Habitat mosaic



Djelovanjem čovjeka i krčenjem šuma nastao je mozaik vovnjaka i vinograda, preostalih šumaraka, žravnica i grmlja koji je stanište za gnijezđenje mnogih ptica, ali i skrovište za sisavce, kukce i ostale životinje. U ovako raznolikom staništu dolaze mnoge vrste ptica s okolnih staništa poput livada i šuma. U grmovu često oduvanja glasno, ali melodično pjev kosa (Turdus merula), dok vinogradi prepuni plodova privlače velika jata čvoraka (Sturnus vulgaris). Na osunčanim dijelovima često vidamo zidne gušterice (Lacerta muralis) i livadne gušterice (Lacerta agilis), zelembače (Lacerta viridis), te pokojeg sljepića (Anguis fragilis). Obilje kukaca i glodavaca privlači i zmije poput bjelice (Zamenis longissimus), bjelouške (Natrix natrix) ili smukulje (Coronela austriaca).



Bjelica



Sljepić



Jeste li znali? Did you know?

- Iako slični zmijama, sljepić je potpuno bezopasni beznogi gušter.
 - Sljepića od zmija prvenstveno razlikuju sposobnost odbacivanja repa i prisutnost kapaka.
 - Tijelo većine zmija ima tendenciju nježnog sužavanja do kratkog repa, dok su sljepići zdepastiji i imaju duži rep.
 - Sljepići imaju kratak, djelomično rascvao jezik koji, za razliku od zmija ne mogu ispruziti kroz zatvorena usta.
- Despite appearances, the slow worm is actually a legless lizard not a snake.
- Slow worm identity is given away by its abilities to shed its tail and blink with its eyelids.
 - The body of most snakes tends to taper gently down to a short tail while slow worm typically appears far chunkier with the longer tail.
 - Slow worms have a short, partially forked tongue which, unlike snakes, they can't stick out of a closed mouth.



Smukulja



Zidna gušterica



Man-made and deforestation created a mosaic of orchards and vineyards, remaining forests, hedges, and shrubs that are a habitat for many birds, but also a hiding place for mammals, insects, and other animals. Many species of birds from the surrounding habitats, such as meadows and forests, come to such diverse habitats. A loud but melodic song of common blackbird (Turdus merula) often echoes from the bushes, while vineyards full of fruit attract large flocks of starlings (Sturnus vulgaris). In sunny parts we often see common wall lizard (Lacerta muralis) and sand lizard (Lacerta agilis), European green lizard (Lacerta viridis), and occasional slow worm (Anguis fragilis). The abundance of insects and rodents also attracts snakes such as Ascalapian snake (Zamenis longissimus), grass snake (Natrix natrix), or smooth snake (Coronela austriaca).



Livadna gušterica



Zelembač



Čvorak



Kos

3 Suhi kontinentalni travnjaci

Continental dry grasslands



Krčenjem šuma uz brojne vinograde i voćnjake nastale su i travnjacke površine koje su se u prošlosti koristile za ispašu. Travnjaci smješteni na suhoj vapnenačkoj podlozi poznati su po iznimnoj raznolikosti ljekovitog bilja, ali i kao važni lokaliteti za kačune. Kačuni (lat. *Orchis*) su rod trajnica iz porodice kačunovki ili orchideja (*Orchidaceae*) koji se ističu specifičnom gradom i ljepotom cvjetova. Rastu iz podzemnih gomolja, a cvatu od ranog proljeća do kraja ljeta. Na suhim kontinentalnim travnjacima platerničkog područja i uz njihove rubove zabilježeno je 18 vrsta od kojih se posebno ističe NATURA 2000 vrsta jadranska kozonoška (*Himantoglossum adriaticum*). Uz orchideje brojne su medonosne vrste koje privlače raznolike kukce i leptire. Nažalost, zbog nestanka tradicionalne poljoprivrede i prestanka ispaše ovakvi ekosustavi nalaze se u opasnosti od nestajanja.



Crvena vratilježlja



Bijela naglavica



Trozubi kačun



Jeste li znali? Did you know?

U jednom tobolcu kačuna može se nalaziti i do 20000 sjemenki koje zbog specifične grade nemaju uskladštene tvari potrebne za rast poput ostalih biljaka. Zbog toga je za njihovo klijanje i rast nove biljke potrebna simbioza s raznim vrstama mikro gljiva.

One orchid seed capsule can contain up to 20000 seeds which, due to their specific structure, do not have the stored substances necessary for growth like other plants. Therefore, their germination and growth of a new plant requires a symbiosis with various types of micro fungi.



Crvena vratilježlja



Grimizni kačun



Jadranska kozonoška



Jajoliki čopotac



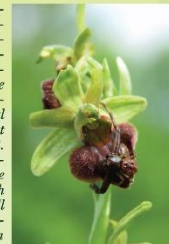
Kacigasti kačun



Mali kačun



Deforestation, along with numerous vineyards and orchards, also created grasslands that were used for grazing in the past. Grasslands located on a dry limestone base are known for their exceptional variety of medicinal plants, but also as important orchid sites. Orchids (lat. *Orchis*) are a genus of perennials from the Orchidaceae family that stand out with their specific and beautiful flowers. They grow from underground tubers and bloom from early spring to late summer. On the continental dry grasslands of the Platernica region and along their edges, 18 orchid species have been recorded. Among them, NATURA 2000 species, the Adriatic lizard orchid (*Himantoglossum adriaticum*) stand out. Along with orchids, there are numerous honey plants that attract a variety of insects and butterflies. Unfortunately, due to the disappearance of traditional agriculture and the cessation of grazing, such ecosystems are in danger of extinction.



Kokica paučica



Mrežasti vranjak



Mirisavi dvolist



Sitnolisna krušička



4 Šumske zajednice

Forest communities



Bez čovjekova utjecaja, na većini naših prostora danas bi umjesto plodnih usjeva rasle šume. Iako je velik dio šuma iskručen i pretvoren u oranice ili urbana područja, preostale šume našeg područja, zbog stoljetne tradicije i održivog gospodarenja nalaze u iznimno dobrom stanju. Na povišenim područjima i brzeuljima, poput južnih obronaka Požeške gore u sloju drveća uz hrast kitujak (*Quercus petraea*), obični grab (*Carpinus betulus*) i običnu bukvu (*Fagus sylvatica*) kao glavne vrste drveća pridolaze i klen (*Acer campestre*), divlja trešnja (*Prunus avium*) te lipe (*Tilia sp.*). Na osunčanim toplim padinama mogu se pronaći fragmenti šume hrasta medunca (*Quercus pubescens*). U sloju grmlja rastu ljeska (*Corylus avellana*), saviš (*Cornus sanguinea*), obična kurika (*Euonymus europaeus*), obična baska (*Sambucus nigra*), glog (*Crataegus monogyna*), trnina (*Prunus spinosa*), divlja ruža (*Rosa canina*)... Takve šume iznimno su bogate biljnim i životinjskim vrstama od kojih su mnoge zaštićene. Kako bi se očuvala bioraznolikost šuma potrebno je održivo gospodarenje koje obuhvaća uzgoj, zaštitu i korištenje šuma. Sječe se moraju provoditi kontrolirano i planski, a sakupljanje i ubiranje šumskih plodova prema propisanim pravilnicima.



Jeste li znali? Did you know?

Cilj gospodarenja šumama u Hrvatskoj je održivo i skladno korištenje svih funkcija šuma i trajno poboljšavanje njihova stanja.

The aim of forest management in the Croatia is the sustainable and harmonious use of all forest functions and the permanent improvement of their condition.

Šume se u Hrvatskoj prostiru na gotovo 2,5 milijuna hektara, što čini 42% kopnene površine

Forests in Croatia cover almost 2.5 million hectares, which is 42% of the land area.



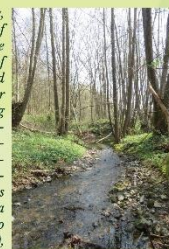
Divlja ruža



Trešnja



Without human influence, forests would grow in most of our areas instead of fertile crops. Although a large part of the forests have been cleared and turned into arable or urban areas, the remaining forests of our area are in excellent condition due to centuries-old traditions and sustainable management. In elevated areas and hills, such as the southern slopes of Požeška Gora in a layer of trees next to sessile oak (*Quercus petraea*), common hornbeam (*Carpinus betulus*) and common beech (*Fagus sylvatica*), as the main tree species, field maple (*Acer campestre*), wild cherry (*Prunus avium*) and linden (*Tilia sp.*) also appears. Fragments of the pubescent oak (*Quercus pubescens*) forest can be found on sunny slopes. In the layer of bushes grow hazel (*Corylus avellana*), common dogwood (*Cornus sanguinea*), European spindle tree (*Euonymus europaeus*), elder (*Sambucus nigra*), common hawthorn (*Crataegus monogyna*), blackthorn (*Prunus spinosa*), dog rose (*Rosa canina*)... Such forests are extremely rich in plant and animal species many of which are protected. To preserve forest biodiversity, sustainable management is needed, which includes the cultivation, protection, and use of forests. Care should be taken through a controlled and planned manner, and the collection and harvesting of forest fruits must be carried out in accordance with the prescribed regulations.



5 Epicentar Raznolikosti

Forest communities



U proljeće šumska staništa, posebice uz vodena tijela vrve od života te ondje pronalazimo velik broj vodozemaca poput smeđe šumske žabe (Rana dalmatina), smeđe krastače (Bufo bufo), te planinskog (Ichthyosaura alpestris) i velikog vodenjaka (Triturus cristatus). Svojom obonošću za kišnih dana pažnju privlači pjegavi daždevnjak (Salamandra salamandra). Za ljetnih vrućina u malim lokvicama uz šumske puteve često možemo naći žutog mušaka (Bombina variegata).



Divlja svinja

Osim vodozemaca u šumama nalazimo male sisavce poput šišmiša ranog večernjaka (Nyctalus noctula) koji sklonište pronalaze u dupljama suhih stabala, ali i velike sisavce poput jelena (Cervus elaphus), srna (Capreolus capreolus) i dvoglavih svinja (Sus scrofa).



Pjegavi daždevnjak



Jeste li znali? Did you know?

Žuti mušak i pjegavi daždevnjak imaju otrovne parotidne žlijezde, na čiju prisutnost upozoravaju svojom obojenošću.

Yellow-bellied toads and fire salamanders have poison glands in the warty skin. Potential predators are warned of their toxicity by the warning yellow colouration.

U proljeće smeđe krastače zbog parenja migriraju iz okolnih šuma do mjesta na kojima su se izlegle.

In the spring, brown toads migrate from the surrounding forests to the place where they hatched due to mating.

Većina vodozemaca se razmnožava u proljeće, ali vrlo malo vrsta brine o svojim mladima. Planinski vodenjak jedna je od iznimki, te omotava svoja jaja lišćem podvodnih biljaka.

Lots of amphibians reproduce in spring, but only a few actually care for their young. The Alpine newt is one of these exceptions. It wraps each egg in the leaves of underwater plants.



Planinski vodenjak



Rani večernjak



Smeđa krastača



In the spring, forest habitats, especially along water bodies, are teeming with life, and there we find a large number of amphibians such as agile frog (Rana dalmatina), common toad (Bufo bufo), alpine newt (Ichthyosaura alpestris) and Italian crested newt (Triturus cristatus). The fire salamander (Salamandra salamandra) attracts attention to its coloration on rainy days.



Srna

In the summer heat in small puddles along forest roads, we can often find a yellow-bellied toad (Bombina variegata). In addition to amphibians in the forests, we find small mammals such as the common noctule (Nyctalus noctula) that find shelter in the hollows of dry trees, but also large mammals such as deer (Cervus elaphus), roe deer (Capreolus capreolus) and wild boar (Sus scrofa).



Šumska smeđa žaba



Veliki vodenjak



Žuti mušak



Šumska lokva

6 Proljetnice

Early spring flowers



Zbog manjka svjetlosti u šumama tijekom vegetacijske sezone, mnoge biljke svoju priliku za rast i razvoj traže u rano proljeće, prije razvoja ostale vegetacije.



Bijela sumarica



Dvoilini procjepak

Iako nisu srodne, zajedničkim imenom ih nazivamo proljetnice, te su utkane u našu kulturu i poznate kao simbol buđenja i novog života. Gatozo su sve proljetnice trajnice koje se razvijaju iz lukovica i podzemnih gomolja. Najpoznatija od svih proljetnica je obična visibaba (Galanthus nivalis), a u stopu ju prate obični jaglac (Primula vulgaris), bijela sumarica (Anemone nemorosa), ljubičica (Viola sp.), jetrenka (Hepatica nobilis), mirisavi kukurijek (Helleborus odorus), durdice (Convallaria majalis) i poločnice (Myosotis sylvatica). Glavni uzrok ugroženosti proljetnica je sakupljanje u prevелиkim količinama, krcenje šuma i nestanak oprasivača.



Jetrenka



kukurijek



Jeste li znali? Did you know?

Legenda o visibabi kaže da je svoje ime dobila jer podsjeća na pogrbijenu stariću koja je usamljena živjela u kolibi i brinula o jednom cvijetu. Jednog hladnog siječanjskog jutra izašla je pred svoju kolibu, ali njezinog cvijeta više nije bilo, zatrpao ga je snijeg. Na mjestima gdje su na snijeg pale njezine suze, pojavili su se nježni cvjetići, pognuti poput nje.

The legend of the snowdrops says that it got its name because it reminds of a hunchbacked old woman who lived alone in a hut and took care of a flower. One cold January morning she went out in front of her hut, but her flowers were gone covered in snow. In the places where her tears fell on the snow, delicate flowers appeared bent like her.

Poruku "ne mogu živjeti bez tebe" suptilno šalje jaglacem, osim toga jaglac simbolizira i početak zaljubljenosti.

The message "I can't live without you" is subtly sent by primrose, in addition, the primrose symbolizes the beginning of love.

Poločnica je simbol trajnosti i odanosti pravim, duhovnim vrijednostima. Predstavlja nematerijalno blago i poniznost te čovjekovu temeljnu potrebu za vezivanjem i ljubavnom trajnošću.

The forget-me-not is a symbol of permanence and devotion to true spiritual values. It represents an intangible treasure, humility and man's fundamental need for bonding and loving permanence.

Ljubičica je simbol hrabrosti, skromnosti i tajne ljubavi. Intenzivan miris ljubičice natjerao je Afroditu da se zaljubi u šepavog i neuglednog boga kovača – Hephestusa. Zato simbolizira moć hrabrosti koja nam pomaže savladati prepreke i učiniti nemoguće.

Viola is a symbol of courage, modesty, and the secret love. The intense scent of violet made Aphrodite fall in love with the lame and inconspicuous blacksmith god – Hephaestus. It therefore symbolizes the power of courage that helps us overcome obstacles and do the impossible.

Krhke latice bijele sumarice lako se raznose vjetrom pa se zato simbolika ovog vjesnika vezuje uz prolaznost ljubavne strasti i života.

The fragile petals of the wood anemone are easily blown away by the wind, so the symbolism of this flower is associated with the transience of love, passion, and life.



Due to the lack of light in the forests during the growing season, many plants seek their opportunity for growth and development in early spring, before the development of other vegetation. Although they are not related, we collectively call them early spring flowers, and they are woven into our culture and known as a symbol of awakening and new life. Almost all spring perennials develop from bulbs and underground tubers. The most famous of all springs is the snowdrop (Galanthus nivalis), followed by the common



Mali zimzelen



Medvjedi luk

primrose (Primula vulgaris), wood anemone (Anemone nemorosa), violet (Viola sp.), common hepatica (Hepatica nobilis), fragrant hellebore (Helleborus odorus), lilies-of-the-valley (Convallaria majalis) and forget-me-not (Myosotis sylvatica). The main causes of early spring flowers endangerment are excessive collection, deforestation and disappearance of pollinators.



Pasji zub



Visibaba

7 Gljive

Mushrooms



U šumskim staništima živi najveći broj gljiva. Najvažnija karakteristika koja razlikuje gljive od biljnoga svijeta je nedostatak zelenog biljnog pigmenta klorofila, stoga potrebne organske tvari gljivice ne proizvode same već ih poput životinja uzimaju iz okoliša. Gljivice mogu biti paraziti koji crpe gotove nutrijente, saprofiti koji rastu na mrtvoj organskoj tvari, a neke vrste žive u simbiozi s korijenom biljaka koju nazivamo mikoriza. Stanične stijenke gljivica osim celuloze sadrže i hitin, važan sastojak vanjskog oklopa kukaca i gljavožaca. Šumska staništa bogata su brojnim gljivama od kojih su najpoznatije vrganji (*Boletus* sp.), blagva (*Amanita caesarea*), sunčanica (*Macrolepiota procera*), lišćarka (*Cantharellus cibarius*), paprena mlječnica (*Laclarius piperatus*), bukovača (*Pleurotus ostreatus*).



Jeste li znali? Did you know?

- U vrijeme rimske civilizacije gljivice su bile na visokoj cijeni pa su ih zvali hranom bogova.
In the time of Roman civilization, mushrooms were at a high price, so they were called the food of the gods.
- Spore nekih gljivica mogu mirovati desetljećima pa i stoljećima, te ostati plodne i nakon toliko vremena.
The spores of some fungi can rest for decades or even centuries, and remain fertile even after so long.
- Protein hitin koji se nalazi u gljivama smatra se najtvrdim prirodno stvorenim materijalom na Zemlji.
The protein chitin found in mushrooms is considered to be the hardest naturally created material on Earth.



The largest number of fungi live in forest habitats. The most important characteristic that distinguishes fungi from the plant world is the lack of the green plant pigment chlorophyll, so the necessary organic substances are not produced by the fungi themselves but are taken from the environment like animals. Fungi can be parasites that draw up ready-made nutrients, saprophytes that grow on dead organic matter, and some species live in symbiosis with the root of plants we call mycorrhiza. In addition to cellulose, the cell walls of fungi also contain chitin, an important component of the outer shell of insects and cephalopods. Forest habitats are rich in numerous fungi, the most famous of which are boletus (*Boletus* sp.), Caesar's mushroom (*Amanita caesarea*), parasol mushroom (*Macrolepiota procera*), chanterelle (*Cantharellus cibarius*), peppery milkcap (*Lactarius piperatus*), oyster mushroom (*Pleurotus ostreatus*).



8 Saproksilni kornjaši

Saproxyl beetles



Saproksilni kornjaši su kukci koji su svojim životnim ciklusom vezani uz živa, ali i mrtva ili umiruća stabla. Uključeni su u procese raspadanja drvene mase i imaju glavnu ulogu u dekompoziciji i reklamaciji nutrijenata u prirodnom ekosustavu. Poput ostalih kornjaša, saproksilni kornjaši prolaze proces potpune preobrazbe koji uključuje jaje, ličnacički stadij i kukuljicu i odrasli stadij (imago). Ličinke saproksilnih kornjaša usko su vezane uz mrtvu drvenu masu starih stabala i panjeva. Neke od najpoznatijih vrsta saproksilnih kornjaša našeg područja su jelenak (*Lucanus cervus*), hrastova strizibuba (*Cerambyx cerdo*) i zaigurno najljepša od svih, alpska cvilidreta (*Rosalia alpina*). Zbog nestanka povoljnih staništa, neki broj vrsta saproksilnih kornjaša je zakonski zaštićen, te se nalaze na popisu NATURA 2000 vrsta i na Crvenom popisu saproksilnih kornjaša Europe.

Vrbina strizibuba



Alpska cvilidreta



Jeste li znali? Did you know?

- Jelenci većinu svog života provode kao ličinke koje žive pod zemljom (4-6 godina). Kukuljice jelenaka nalaze se u tlu oko 3 mjeseca, dok odrasle jedinke žive samo nekoliko tjedana i hrane se nektarom i sokovima drveća.
Stag beetles spend most of their very long life cycle underground as a larva (4-6 years). The pupa of the stag beetle live in the soil for about 3 months, while adults only live for a few weeks, feeding on nectar and tree sap.
- Mušjaci koriste svoje divovske čeljusti kako bi se borili za ženke tijekom sezone parenja. Nastoje kontrolirati mrtva stabla ili panjeve prikladne za polijeganje jaja kako bi privukli ženke.
Males use their giant jaws to fight for access to females. Individual males try to control a dead tree or stump suitable for egg-laying, preventing other males from mating with the females arriving on the tree.



Jelenak



Saproxyl beetles are insects whose life cycle is associated with living, but also dead or dying trees. They are involved in the processes of wood decay and play a major role in the decomposition and reclamation of nutrients in natural ecosystems. Like other beetles, saproxyl beetles undergo a process of complete transformation that includes egg, larval stage, pupae, and adult stage (imago). The larvae of saproxyl beetles are closely related to the dead wood mass of old trees and stumps. Some of the most famous species of saproxyl beetles in our area are European stag beetle (*Lucanus cervus*), great capricorn beetle (*Cerambyx cerdo*) and certainly the most beautiful of all, Rosalia longicorn (*Rosalia alpina*). Due to the disappearance of favorable habitats, a large number of species of saproxyl beetles are legally protected, and are on the list of NATURA 2000 species and on the Red List of saproxyl beetles in Europe.



Hrastova strizibuba



Velika četveropjegava strizibuba



Vrbina strizibuba



9 Djetloške

Woodpeckers



Šumska staništa iznimno su važna za ptice iz skupine djetlića. Porodicu djetloški na našem području predstavljaju: crna žuna (*Dryocopus martius*), zelena žuna (*Picus viridis*) i siva žuna (*Picus canus*), te veliki djetlić (*Dendrocopos major*) i mali djetlić (*Dendrocopos minor*). Za ptice iz ove porodice karakterističan je izgled nogu prilagođen za penjanje po stablima, a dug i jak kljun ključan je za izradu duplji u stablima i potragu za hranom koja se nalazi ispod kore stabala. Osim siro čiste šumu od potkornjaka, djetloške za gnjezdenje dube duplje u stablima koje kasnije koriste i ostale životinje. Zbog prepoznatljivog glasanja djetloške vrlo često prije čujemo nego vidimo. Naime u proljeće šumama odzvanja njihovo karakteristično bubnjanje koje se razlikuje između vrsta, a služi za privlačenje partnera.



Mali djetlić



Jeste li znali? Did you know?

- Jezik djetlića dvostruko je duži od njihova kljuna kako bi mogli dosegnuti insekte unutar rupa koje dube.
Woodpeckers' tongues are usually about twice the length of their beak so that they can reach for insects inside the holes they peck out.
- Djetlići imaju snažno repno perje koje ih podupire dok su na stablu. Osim toga razvili su i dva stražnja nožna prsta koja im pomažu pri privlačenju na stabla.
Woodpeckers have strong tail feathers that support the bird as it holds itself on a tree trunk, and they also have two back toes to lean back on.
- Kljunovi djetlića pomažu u distribuciji udaraca kroz debelu lubanju prilikom udaranja o stabla. Ukoliko bi udarali glavom o stabla poput djetlića, ljudi bi osjećali jaki bol. Međutim djetlići ju uopće ne osjećaju!
Woodpecker beaks help distribute shock throughout the thick skull when pecking. Humans would have plenty of pain hitting their heads against a tree, but woodpeckers don't have any issues!



Zelena žuna



Siva žuna



Forest habitats are essential for birds from the woodpecker group. The woodpecker family in our area is represented by: black woodpecker (*Dryocopus martius*), green woodpecker (*Picus viridis*), and grey woodpecker (*Picus canus*), as well as the great woodpecker (*Dendrocopos major*) and the small woodpecker (*Dendrocopos minor*). Birds from this family are characterized by the appearance of their legs adapted for climbing trees, and a long and strong beak is crucial for making holes in trees and searching for food, that is, under the bark of trees. In addition to clearing the forest of bark beetles, woodpeckers nest in holes in trees that are later used by other animals. Due to the recognizable voice of the woodpecker, we often hear it before we see it. Namely, in the spring, the forests echo their characteristic drumming, which differs between species and serves to attract partners.



Veliki djetlić



Siva žuna



10 Zaštita šuma

Forest protection



Svaka karika iznimno raznolikih šumskih ekosustava igra važnu ulogu u njihovom očuvanju. Da bi se očuvala raznolikost šuma nije dovoljno samo pravilno gospodarenje drvnom masom već ih je potrebno zaštititi od ilegalnih odlagališta otpada, ali i invazivnih životinjskih i biljnih vrsta koje se često koriste kao ukrasne vrste u mnogim vrtovima. Velike količine odbačene plastike u okolišu nadu se u šumama. Pod direktnim utjecajem biotičkih i abiotičkih faktora dolazi do usitnjavanja čestica i nastajanja sitnih čestica plastike, odnosno mikroplastike. Tako usitnjena mikroplastika dospjeva u tlo i vodu, te ulazi u hranidbeni lanac i utječe na sve njegove karike. Uz plastiku mnogi drugi onečišćivači utječu na kvalitetu vode koja iz šuma dolazi u podzemlje i koristi se kao pitka voda, te na taj način, ilegalnim odlaganjem otpada neizravno utječemo na vlastito zdravlje.



Each link of extremely diverse forest ecosystems plays an important role in their conservation. To preserve the diversity of forests, it is not enough to properly manage the wood mass, but it is necessary to protect them from illegal landfills, but also invasive animal and plant species that are often used as ornamental species in many gardens. Large amounts of discarded plastic in the environment are found in forests.



Under the direct influence of biotic and abiotic factors, particles are crushed and small particles of plastic and microplastics are formed. Thus, the crushed microplastic reaches the soil and water; enters the food chain and affects all its links. In addition to plastics, many other pollutants affect the quality of water that comes underground from forests and is used as drinking water, and thus, by illegally disposing of waste, we indirectly affect our own health.



Da bi sačuvali predivan krajolik koji se pruža pred nama i svo njegovo bogatstvo, dovoljno je krenuti od malih stvari, odluka je na nama.

To preserve the beautiful landscape that stretches before us and all its richness, it is enough to start from small things, the decision is up to us.



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