

BIODIVERZITET STARE PLANINE



Биологичното разнообразие
на Старата планина

Biodiversity of Stara planina





Introduction

Biodiversity, as a term of a recent date, came into use in 1985. The concept of biodiversity (biodiversity) implies the diversity and variability of genes and the diversity of ecosystems and the living world on the planet.

The purpose of creating a catalog is to provide systematic basic data on representative plant and animal species of the area on Stara planina in one place.

Copyright photographs with a brief description of each prototype provide a better insight into the variability of flora and fauna. As it is richly illustrated, reviewed and summarized, it allows you to get to know and easily identify authentic wildlife. In addition to cognitive function, the aim of the catalog is to raise the level of awareness of the diversity of ecosystems and the vital role of the habitats of the species listed.

By presenting endangered and rare species on Stara planina in this catalog, we want to make the part of the biodiversity in the region uniquely accessible to the wider public.

The priority task of the catalog is the visual and verbal presentation of elements of biodiversity on Stara planina, in order to introduce the general diversity of the living world and nature.

This publication is the result of a synthesized observation and research presented in an authentic way. As such, it can be used for educational purposes and for the purpose of promoting and preserving forest ecosystems as the basis of a healthy environment.

We expect that the catalog, materialized in this way, will accomplish its purpose.

People and nature

It is a real privilege to live near Stara planina and to use all its benefits. This is best known to the local population as well as the wider environment.

There are many examples of the connection between man and nature, the life that includes nature as its indispensable part. In the case of our fellow citizen, Milan Djelic (42), many will recognize themselves. On the threshold of mature years, he discovered a fairytale on the slopes of Stara Planina - the village Dojkinci. He liked the river, the harmony of the countryside, nature, and he was enchanted by the environment. He bought a parcel by the river and built a house. With the support of his wife, he did what he himself says "the only correct step, he ecologically reanimated himself" and brought the family to the village. His idea was to allow children to grow up in symbiosis with nature, while strengthening the connections among family members with a stronger referral to one another. He succeeded in that. He managed to avoid the traps of the urban environment, the meaninglessness of social networks and virtual reality, and often parallel lives of some people. The newly-formed home in the village, where they are staying whenever they are free of ordinary obligations, offered children a different model of growing up that they gladly accepted. His home is an oasis of peace, creativity and good energy.

Vidoje Jovanovic (66) and his wife Sura (61) are new-old inhabitants of the village Rsovci on Stara planina. They spent their working lives in Pirot and started their first pension days in their home village. In recent years, they repaired the old house and converted it to a building for rent, categorized the household and offered accommodation capacities to guests who prefer ethno tourism. They have found an adequate way to strengthen the home budget while at the same time enjoying it. Traditional food is daily on the menu: kachamak, bread vurnjak, stuffed peppers and others. Rural atmosphere, pleasant atmosphere and hospitality are the reason for the return of guests to this household. Other villagers began to follow a positive example of these good hosts.

Many relevant institutions in the city took care of Stara Planina. The control of Stara planina has been given to the Forest management "Šumsko gazdinstvo" Pirot by the state enterprise JP "Srbijašume". One scope of work relates to the improvement of the state of existing forests and the increase of the forest fund, the provision of quality planting material, the protection of forest ecosystems (fire protection, illegal logging, improvement of hunting service), management of fishing waters, preservation and improvement of fauna. They successfully fulfill their obligations and their engagement and how visible they are.

The Pirot Tourist Organization has a significant role in the promotion and popularization of Stara planina. Within its regular activities, it carries out numerous activities that have (in) direct links with Stara planina. TO Pirot introduces the public with interesting destinations, caves, waterfalls, cultural heritage, cliffs, organizes excursions and rafting, fishing days, etc. It is a patron of numerous events promoting the old-fashioned values, such as the fair of old and traditional meals, hunting and fishing, beekeeping products, lambs, and others. Its contribution is primarily in the presentation of the village and the development of ethno tourism in rural households.

Many hunting, fishing associations, mountaineering societies and societies of nature lovers should be mentioned, whose role is visible in raising eco-awareness and implementing network marketing of Stara planina.

Local government in Pirot invests significantly in the development and preservation of Stara planina. It maintains the existing one and builds new infrastructure, provides lighting, collects waste, provides water supply, helps rural communities, financially and consecutively, carrying out many projects related to Stara planina.

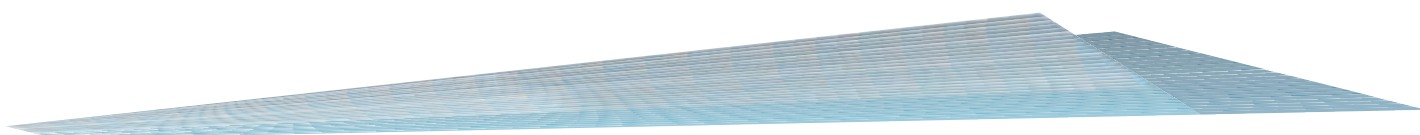
They said about the project

The project entitled "Joint cross-border initiatives for creation of eco friendly region", in the framework of which the catalog was created, is successfully implemented by the project partners: the City of Pirot, the Center for development support and the initiative "Novitas" from Pirot and the Institute of aquaculture from Montana, Bulgaria . Those responsible for the project implementation in the City of Pirot emphasized the importance of building an ecological mountain camp, amphitheater in the open air as well as the purchase of state-of-the-art equipment that will enable a better understanding of the flora and fauna of Stara planina. Representatives of "Novitas" underlined the importance of field research that preceded the creation of the brochure and the catalog. The publications themselves provide plenty of synthesized knowledge, better exchange of information and raising ecological awareness. Bulgarian partners stressed that the procurement of laboratory equipment and the construction of a modern facility in Montana will provide the conditions necessary for all stages of artificial re-production of fish.

Igor Petrović, Director of the Forest management "Šumsko gazdinstvo" Pirot and former manager of PP "Stara planina", says that research and monitoring of flora and fauna has led to raising the awareness about their significance. At the same time, printing this catalog is important to educate interested users and provide a better insight into the rare plants and protected species whose habitats are on Stara Planina.

Dragan Nikolić, a graduated geographer and a big nature lover, in the context of the project's impact, referred to the importance of an environmentally sound environment. Special emphasis was put on the preservation of habitats, especially forests, because forests have great importance for the population, not only because of the use of wood assortments, but also ecological function, sports and recreational, conservation of habitats and together with them biodiversity itself. He emphasized the need to enhance the promotion of natural beauties and fishing and waterfalls of Stara Planina.

The opinion of the project team after conducted field research is summarized through several conclusions: Stara planina abounds with the richness of biodiversity; individual plant and animal species have not been sufficiently explored and further systematic research is necessary; many species are highly endangered and under threat of extinction; many species exist only on the territory of Stara Planina; natural habitats of plant and animal species are relatively well preserved; natural air quality is good; water potential is satisfactory. The existing geo-biodiversity systems should be improved through the implementation of legislation regulating environmental protection. The area of Stara Planina should be included on the world's list of protected areas (Emerald, Natura 2000, UNESCO, Man and Biosphere). Biodiversity studies should be carried out continuously and persistently over a longer period of time to ensure that the results are valid and applicable.





Lutra lutra

Photo: Andrea Izzotti



Otter (Lutra lutra) - extremely protected species

Otter is a rare species that resides on Stara planina. Otter comes from the marten family. It reaches a length (including tail) from 120 to 160 cm, height up to 35 cm, and weighs an average of 7 to 15 kg. The period of mating is from February to September. It brings the young ones once a year, with an average of three young ones. It is a great swimmer and an even better hunter. It feeds on fish, crabs, insects, frogs and birds. Sometimes its diet also includes young rabbits and young martens. Habitat that suits it are pure and unpolluted fresh waters. It is widespread in rivers and streams on Stara planina. It fits the habitats of the temperate river and wetland forests. It can be found in the river Visočica, Toplodolska river, the river Temštica and Zavoj Lake.



Photo: Ondrej Prosicky



Lynx (Lynx lynx) - extremely protected species

Lynx is endangered and rare species in Serbia and so on Stara Planina. It reaches a body length of 91 to 130 cm, and its weight ranges from 18 to 25 kg. It hatches once a year with one to three cubs. It feeds on small mammals and birds. Its habitats are mixed forests and river valleys. The altitude of up to 1500m suits them most. In the area of Stara planina, this remarkable predator is recorded at different locations. Factors of endangerment are hunting, deforestation and simultaneous planting of forests with allochthonous species, reduction of feeding, invasive agriculture, uncontrolled construction, and others. However, the lynx population has been growing slowly in recent decades.



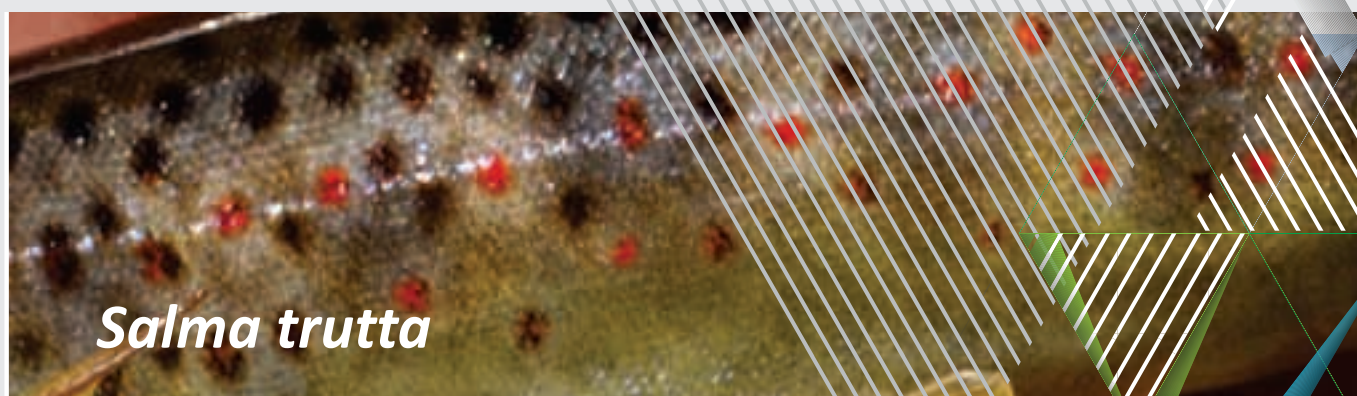
Vormela peregusna

Photo: Achim Prill



The marbled polecat (*Vormela peregusna*) - extremely protected species

It is in the permanent hunting regime. Habitats that are suitable for its living are areas of lower bush vegetation. Its body length, including a tail, is from 29 to 35 cm. Its height is up to 15 cm and weight is from 0.3 to 0.6 kg. It has young once a year, from 4 to 8 cubs. The male is larger and bigger than a female. It feeds on rodents and small mammals, birds and bird eggs, snakes, lizards and fish. In the area of Stara planina, it can be noticed in the vicinity of human settlements. Its endangerment is the result of sensitivity to environmental pollution, high dependence on food sources, reduction of the food base, high mortality rates of the young, uncontrolled hunting and many other factors



Salma trutta

Photo: Danko Jović



Stream trout (Salma trutta) - protected species,

Stream trout is synonymous with clean and cold mountain waters. Its body is elongated and cylindrical, covered with scales. The colour of its back is brownish while it is brighter on both sides. Its belly is pearl white. It has orange, red or black spots on its body, depending on the environment in which it lives. The trouts of clear, smaller waters with the pebbly bottom are brighter. In the rivers and streams on Stara planina, it reaches a length of up to 40cm and up to 1kg of weight. It is hatched in airy, cold water (up to 15 ° C) rich in oxygen (over 10 mg / l). One female can lay from 500 to 3000 eggs of roe. It is fed by planktons, insects, insect larvae, frogs, crabs and smaller fish. In the area of Stara planina it is mostly distributed on Golema Rijeka in the amount of 180 to 210 individuals / km, Visočica, Temštica, Jelovica and Dojkinačka River.



Rana temporaria

Photo: Danko Jović



The European Common frog (Rana temporaria)
- extremely protected species

The European common frog in Serbia is considered a rare species. Its prevalence is fragmented, in relation to high mountains (except for some populations in the north of our homeland). These are our biggest mountain frogs. The European Common frog's body is about 11 cm long, the female is larger and more robust than males. The reproductive period of this species is from March to June. Females lay 600 and even 4000 eggs in clusters. Their diet consists of worms, insects, spiders and molluscs. They are extremely sensitive to the destruction of habitats, drying up or plowing meadows. A special danger is also the incursion and pouring of mountain lakes into the fish younger, especially those which were not inhabited by fish fauna. On Stara Planina, this species is spotted on Babin zub, Žarkova čuka, Kopren



Ursus arctos

Photo: Piotr Krześlak



Brown bear(Ursus arctos) - extremely protected species

The bear belongs to the family of beasts and the heaviest and largest animal in Europe. Its weight varies depending on the habitat in which it lives and ranges from 130 to 300 kg. The male is bigger than a female, up to 250 cm long. Although it is acting awkwardly, it is very clever, able to walk on two legs, climb up to the tree, to swim. It's very strong. Full maturity is achieved at the age of 3 or 4. It has offspring every second year, 2 - 3 babies. It spends the winter in the sleep, in a pre-prepared lair which it settles before the snow to leave no trace. During hibernation, the body temperature is 35 ° C. It belongs to carnivores, but 95% of its diet is of plant origin. It is fed with herbaceous plants, carrots, berries, chestnuts, gherkins, honey, small mammals, fish, plums and domestic animals. Their habitats are mixed forests of the temperate zone.



Aquila chrysaetos

Photo: Piotr Krześlak



Golden Eagle (Aquila chrysaetos) - extremely protected species

The golden eagle is the largest bird of prey. It is from 70 to 90 cm long, with a wing span of about 2 m, weighing from 3.5 to 6.5 kg. The female is bigger than the male. According to their size, they make an imposing nest with a diameter of 1.5 m and a height of 1m on the cliffs, rarely in trees. They are dark brown in color, with a golden color on the lower part of the head and neck. It usually lays two eggs, where the weaker youngster rarely survives. It is mostly monogamous and has a lifetime of up to 50 years. Its vision is extraordinary, 8 times sharper than the human. It feeds on rabbits, mice, foxes, martens, carrion and, in the absence of food, attacks hawks, owls, livestock (sheep and goats). It inhabits the hilly and mountainous areas, with no people living there, in inaccessible gorges and cliffs.



Spermophilus citellus

Photo: Danko Jović



The European ground squirrel (*Spermophilus citellus*) **- extremely protected species**

The European ground squirrel is a kind of rodent from a squirrel family. The size of the adult is about 20 cm and the weight is from 200 to 400 grams. Its body is thin, a tail is short. They have light brown fur. Their limbs are developed and their claws are sharp. The reproductive cycle includes one to two litters during the year with 5 to 8 cubs. They are herbivores and they are also feeding on seeds, roots and sprouts of plants, but also with some types of hardwoods, caterpillars and locusts. Daily food consumption is around 80g. They hibernate during the winter period and their body temperature drops to 0 ° C. Their habitats are open areas, steppes, open forests, abandoned fields, stony regions, dry limestone meadow communities. They like open spaces, high mountain meadows. On Stara Planina, they are spotted on the mountain peak Kopren, at the site of Bratkova strana, Vrtibog etc. Their endangerment is conditioned by isolation of the population, destruction of habitat, healing of natural meadows and open areas, uncontrolled and illegal building, etc..



Salamandra salamandra

Photo: Danko Jović



The fire salamander (Salamandra salamandra)
- extremely protected species

The fire salamander is a widespread species on the territory of the Balkans. It is the largest reputed amphibian. It has a spinning body of 15 to 25 cm in length, black with distinct yellow spots of irregular shape. The tail is shorter than the hull. Extremities are less developed, so it is difficult and slow to move. Males are thinner and smaller than females. They live near the water, around the mountain streams in the dark beech forests. During the day, it is in a shelter in the cracks of trees, beneath the rocks and stumps. A female lies between 30 and 70 larvae in shallow streams with the sandy bottom, in which there is no fish. They feed on worms, snails, insects and larvae, cranberries and small amphibians. Their lifespan is from 14 to 20 years.

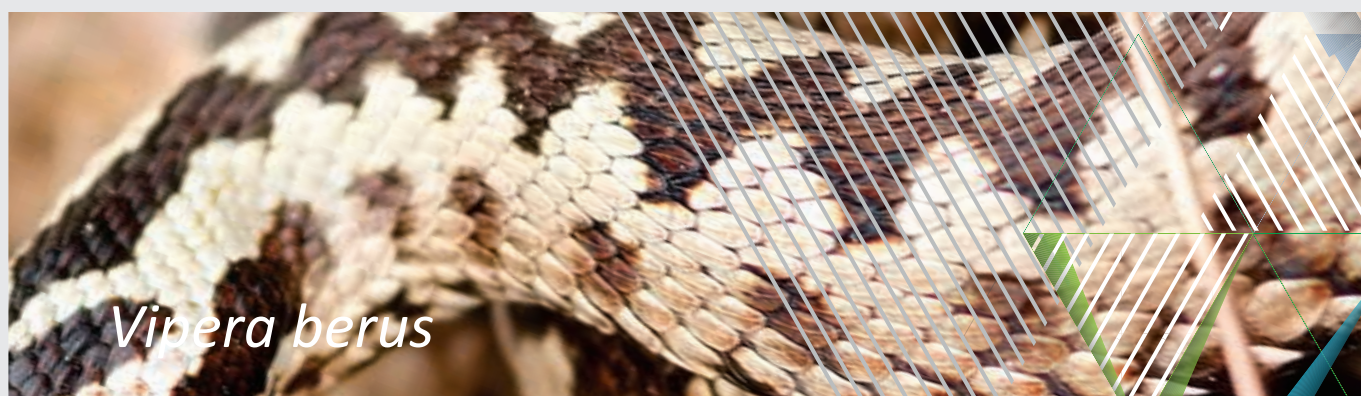


Photo: Danko Jović



Vipera berus

The common European adder (Vipera berus) - extremely protected species

The common European adder is the venomous snake from the genus of Vipera, to which horned viper belongs as well. The poison is injected with a poisonous tooth. The horned viper throws out a small amount of poison, but the poison is very strong. Its body length is about 70 cm on average. The female is bigger than the male. Apart from the size, the difference between the genders (sexual dimorphism) is also reflected in the color of the body - the females are reddish - brown and the males are gray. They both have a clear dark zigzag pattern along the body. Its litter is made of 3 to 8 live birds that come to the world at the end of the year. The cold part of the year of the common European adder spends at rest, in the winter sleep (hibernation). It feeds on small insects, voles, mice, young birds, lizards, frogs, small mammals. It is widespread in Serbia, and its habitats on Stara Planina are: Midžor, Babin Zub, Tri Kladenca, Žarkova Čuka.



Vipera ammodytes

Photo: Danko Jović



Horned viper (Vipera ammodytes) - protected species

Horned viper is a poisonous snake, very distinctive in appearance. Its body length is 50 to 70 cm, up to one meter wide. On the front of the head, there is a horn which makes it different from other snakes. Body color varies from the environment in which it is because it has an adaptive ability to assimilate to the environment in which they reside. It can be gray, ocher yellow to light brown. The bite is deadly due to the severity of the poison and the length of the teeth (up to 1 cm), by which it deepens the injection of the poison into the tissues and muscles. During the winter months, it is in the hibernation phase. The nutritional base of the popping is made up of small mammals, lizards, locusts, birds, lizards and other snakes. It can have 4 to 15 cubs. Its habitats are broad-leaved deciduous and evergreen forests, rocky slopes, and others.



Photo: Danko Jović



Viviparous Lizard (Zootaca vivipara) - extremely protected species

This lizard belongs to the reptile class. It has an elongated, coarse body (12 to 20 cm long) of short limbs and its tail is almost twice as long as the length of the body. Its body is brown or gray in shades. It is darker on the sides, with bright spots in a row, in the form of white stripes. Reproduction is performed annually with 3 to 11 cubs. It feeds on invertebrates, most often spiders and insects. It inhabits highland areas, swamps and fir forests, and prefers moist and colder habitats, highland meadows. It is resistant to cold but intolerant to high temperature and severe drought. It is strictly protected species in Serbia. On Stara planina, it can be seen on the slopes of the mountain peaks Midžor, Stražne čuke, Kopren, etc.



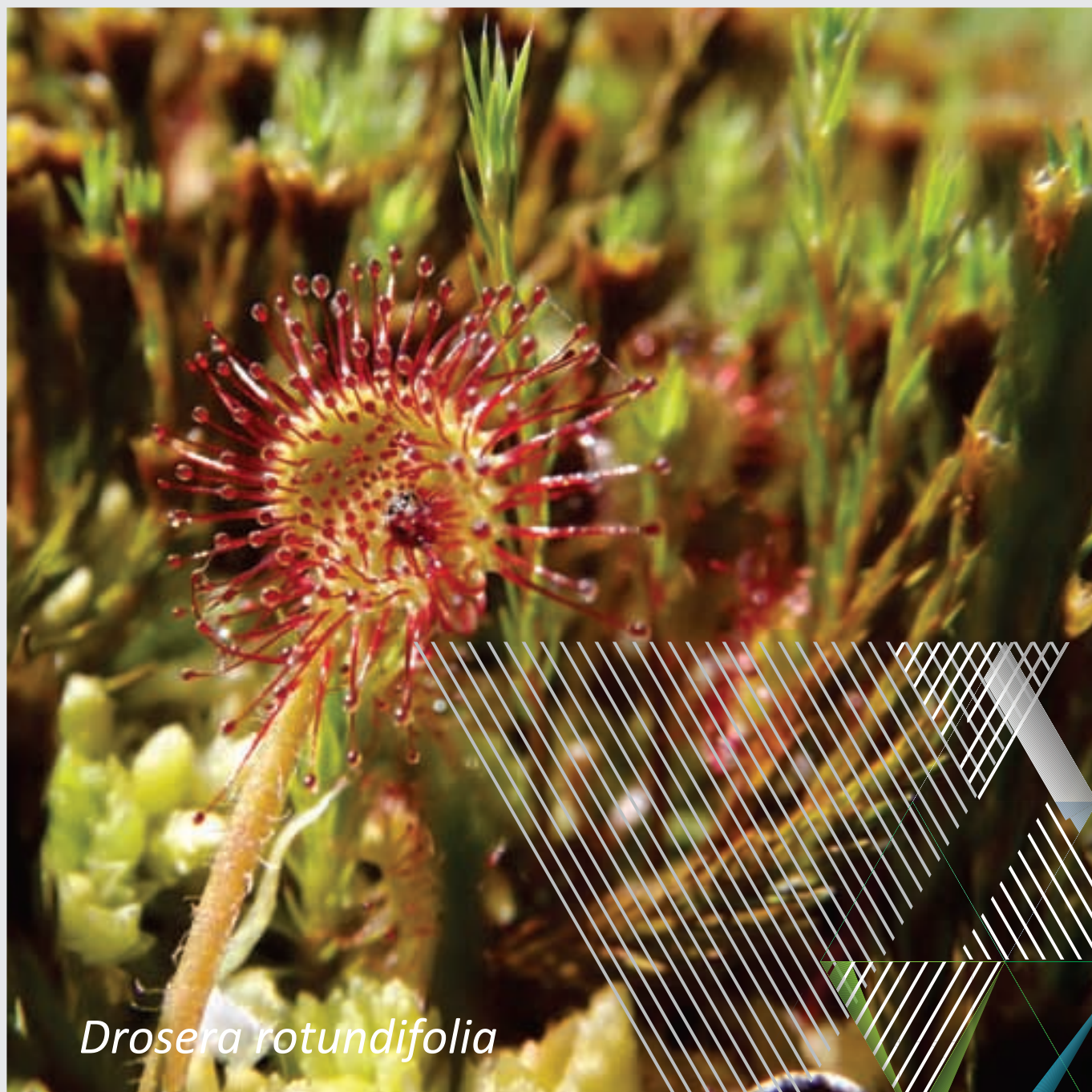
Ablepharus kitaibellii

Photo: Danko Jović



The European copper skink (Ablepharus kitaibellii)
- extremely protected species

This lizard has an elongated and cylindrical body, up to 13 cm in length. The tail is long, almost twice as long as the length of the body. Its extremities are short and its eyelids are immobile. The color of its body is tanned from brown to bronze. It is darker in color and along the back there are visible intermittent stripes. It is in hibernation from the end of October to March. The female lays between 2 and 5 eggs. It is eaten by small insects, spiders, small snails, centipede and other small invertebrates. It lives under stones and leaves, on dry sunny sides of the mountain. Its habitats are oak and chestnut forests, pastures and meadows, habitats of steppe type with low bushes. It is widespread in the lower parts of Stara planina..



Drosera rotundifolia

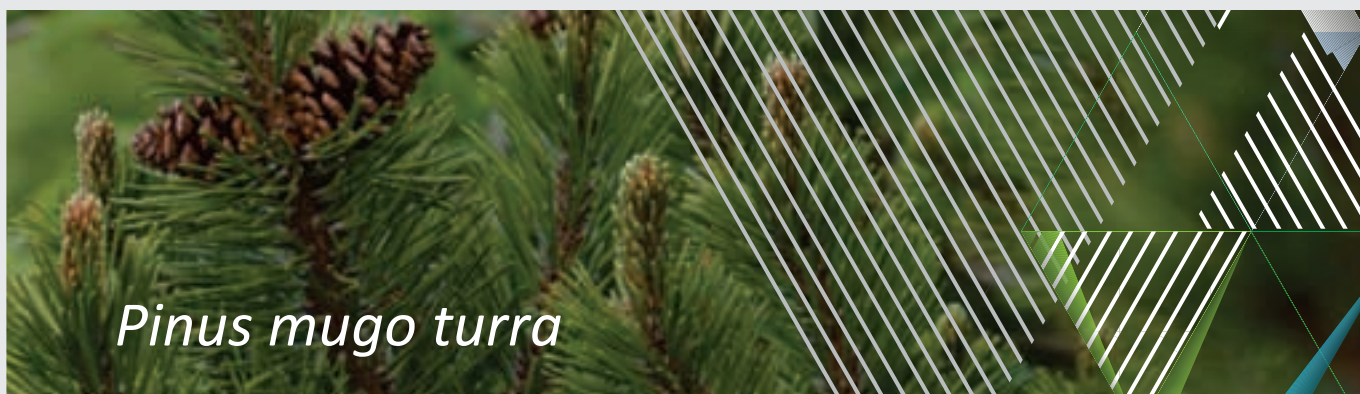
Photo: Danko Jović



The round-leaved sundew (Drosera rotundifolia)

- extremely protected species

The common name of this plant is sundew. It belongs to the family of carnivores because it hunts small insects and flies. If an insect is found on its leaf, it can not escape and becomes digested. Sundew is a perennial herbaceous plant. Its leaves are releasing herbal glue and are covered with reddish glandular hair. The prey is drawn to the sweet mucus, and when it touches the sheet, it clings and cannot escape. Sundew has the ability to move its tentacles, thereby plunking the middle towards the center. The flower has five petals and white color. Sundew is homogamous, because it also contains a stamen and a pistil. The leaves are on long stems, round and hairy. It reaches a height of 10 to 30 cm. It blooms in the period from May to August. Its habitats are seasonally wet regions, coastal streams, acid and humid soils, peat bogs. Destroying habitats, drying up and setting-up buildings, as well as picking or using pesticides - are the main reasons for its disappearance.



Pinus mugo turra

Photo: Danko Jović



The dwarf mountain pine (Pinus mugo turra)
- extremely protected species

The dwarf mountain pine is an evergreen little coniferous tree. Its root is branched through a lateral root network and occupies a large surface, up to 10m. This feature is important for preventing soil erosion. The height of this pine varies, from the sloping bush to the tree of 10m. Its tree is creeping and laid on the ground. Its branches are thick and pinched upward. The needles are 2 to 8 cm long, two in the branch, dark green and rigid, but without a thorn. The bark is brown and cracked on some parts. The cones are small, egg-shaped and when ripened, they become brown. It blooms in the period of June - July. It grows slowly, and its life lasts up to 300 years. It is spread over hostile and extreme habitats, rocky areas in the subalpine and alpine belt up to 2600 m above sea level.

