

MUNȚII RODNEI NATIONAL PARK

VISITING RULES:

- ⇒ Visiting the park is allowed only on the marked touristic trails;
- ⇒ The access into the **Pietrosu Mare Scientific Reserve** is possible only on Pietroasa - Iezer - Pietrosu Peak trail and allowed only with a written permit issued at the headquarters of the park administration (Located in Rodna, Bistrița-Năsăud County) or at the visiting point in Borșa (same building with the Forest District of Borșa);
- ⇒ Camping is allowed only in the specially designed places;
- ⇒ Waste disposal is allowed only in the specially designed places.

IT IS FORBIDDEN:

- ⇒ To destroy the markings, signs, indicators and other montane infrastructure;
- ⇒ To set fires and burn herbal and wooden vegetation;
- ⇒ To enter the areas of scientific interest without approval and unattended by park personnel;
- ⇒ The sonic pollution of any kind;
- ⇒ To enter the park with any motor vehicles (cars, motorcycles, ATVs, etc.);
- ⇒ To destroy and/or collect the flora and fauna.

**DO NOT START YOUR TRIP INTO THE MOUNTAINS
WITHOUT PROPER EQUIPMENT OR WHEN WEATHER
CONDITIONS ARE UNFAVOURABLE!**

**ALWAYS RESPECT THE RECOMMENDATIONS RECEIVED
FROM THE VISITOR POINTS OR FROM THE FIELD
RANGERS!**



This brochure was elaborated with the financial support of the European Union through the LIFE05 NAT/RO/000176 project "Priority alpine, subalpine and forest habitats in Romania"



Design and text: I. Duță and T. Stănciuciu - Faculty of Silviculture and Forest Engineering, Brașov



MUNȚII RODNEI NATIONAL PARK

Let's discover together some of the nature's beauties along the nature trail:





Borșa Ski Resort - Izvorul Bistriței Lake



GENERAL INFORMATION

The information points are represented in the field by wooden panels containing a short description of the subject as well as suggestive images. Each panel is briefly presented in this brochure. Please look around carefully to not pass by these panels without noticing them!

The nature trail starts from Borșa Ski Resort (alt. 800 m) and ends above Izvorul Bistriței Lake (= Știol Lake), in the middle of the dwarf pine scrub, at 1800 m altitude. It overlaps on the touristic route Borșa Ski Resort - Horses Waterfall (Cascada Cailor) - Știol Saddle - Izvorul Bistriței Lake (= Știol Lake). Follow the red triangle sign (), from Borșa Resort to Știol Saddle. From the saddle, the educative route follows the road to Știol Lake. From the lake, it continues again on the touristic route - follow the blue stripe sign (), up to the dwarf pine scrub.

The trail has a total length of approx. 7 km, of which:

- ⇒ 4.1 km from Borșa Ski Resort to Horses Waterfall;
- ⇒ 0.6 km from the fall to Știol Saddle;
- ⇒ 1.8 km from the saddle to Izvorul Bistriței Lake (= Știol Lake);
- ⇒ 0.5 km up to the dwarf pine scrub above the lake.

The time needed to complete the trail is of approx. 5 - 6 hours (round trip).

ATTENTION!

- ⇒ The bog woodland (panel no. 5) is outside of the touristic route Borșa Resort - Știol Lake. This ecosystem is located close to the sheepfold below Știol Saddle (on the right side, under the road which goes to the sheepfold). To visit this ecosystem, please leave the Știol Saddle and go towards the sheepfold. Afterwards, return on the touristic route.
- ⇒ To ease the ascending and to save some time, you can start by the skilift from Borșa Ski Resort, or by car from Prislop Pass up to the entrance in the park (Știol Saddle). This way, you can shorten the route if the time available does not allow you to complete the entire trail and also on the most difficult part of the route (the steepest one, from Horses Waterfall up to Știol Saddle), you would be descending and not climbing.
- ⇒ This brochure with the presentation of the nature trail is available on the park's website (<http://www.parcrodna.ro>) or at the visitor centers.

Point 9. The dwarf pine scrub - an impenetrable jungle but also an efficient shield against erosion

In the subalpine area, the dwarf pine is a common presence being able to create dense scrubs covering large areas (tens and even hundreds of hectares). The particular shape of this plant is well adapted to these harsh climate conditions: its branches start from the ground and lay on the soil, only their tips rising up towards the light. This special curved shape gives the dwarf pine an increased elasticity and endurance against the pressure of snow and strong winds from these heights. By interpenetrating these curved branches, the dwarf pine scrub becomes a real dense jungle. This thick scrub prevents the creation of avalanches during winter and regulate the water flow coming from the snow melting and heavy rains. In these high areas, they are the most efficient shield against soil erosion which, once started, is very hard to stop due to the steep slopes and the abundant precipitations. Therefore, the dwarf pine scrub is a very important part of the subalpine environment.



Let's not pollute the dwarf pine scrub with our waste! Don't step outside of the marked trails to not disturb the inhabitants of this interesting ecosystem of the subalpine area!

Here our nature trail ends. Thank you for your patience and interest! We hope you have learned today new things from the open book of nature!

To discover other beauties of Muntii Rodnei National Park, we recommend you to also visit the nature trail Valea Vinului - Saca Mountain!

Point 7. Wooden vegetation - an effective shield against erosion and landslides



Due to their steepness, the montane slopes are very vulnerable to erosion and landslides. When the vegetation layer is missing, the water from heavy rains or snow melting washes away the soil and any small crack easily becomes a huge ravine. All the materials are transported down to the valleys. On their way they rapidly accumulate in large amounts and produce disastrous floods at the bottom of the mountain.

Here, where land is fixed by alpine bushes of dwarf pines, green alder, dwarf willows and sparse and stunted spruce trees, we see a totally different story. To efficiently gather the food and also to confer stability to the plants, their roots extend both around and in depth, exploiting every centimeter of soil and infiltrating in any crack of the rock. The root networks of the neighboring trees and shrubs interpenetrate each other, creating a very dense net which

holds together the soil, scree and rocks. Moreover, during heavy snows of the winter, these scrubs prevent the creation of avalanches, fixing the snow and forcing it to melt slowly, in time.

Remember: the scrubs in the subalpine area are an efficient shield against the erosion and landslide. This way they protect our homes and act like a filter that keeps the rivers clean!

Point 8. The glacial cuvette and the Știol Lake - mirror to the sky

In the heights of the Carpathians we can still meet a live evidence of the glaciers that ruled over these lands thousands and thousands of years ago: the **glacial lakes**. They were born during the warming of the climate which produced the melting of the last glaciers, captive in the deep amphitheatre-shaped valleys in the alpine area, the so-called **glacial cuvettes**.

Like giant mirrors directed towards the sky, the glacial lakes are true oasis in the heights of the mountains. Their crystal and cold waters are crossed with an amazing speed and mastery by the trout. At their shore, all living creatures come in the morning and evenings to settle their thirst and to refresh during the hot summer days. **The Știol Lake** is one of these beauties of the Romanian Carpathians.

Here is the spring of Bistrița river!



Do not pollute the crystal water of Lake Știol! Let's keep the water of Bistrița river clean right from its origins!

Point 1. The natural disturbance - key factor in the dynamics of natural ecosystems

The **biotic** and **abiotic** processes and factors are continuously shaping the forest. Here, we can notice the effects of a **biotic disturbance - the insect attack**. Everyone should know that the insect species producing these disturbances are always present in our forests. However, most of the time, the effects of their activity are hard to notice. They become visible when the population of such insects grows rapidly and affects many trees in the same time. In montane forests, the most common species damaging the tree leaves, is the Nun Moth (*Lymantria monacha*) which produces **defoliation** while is in the stage of caterpillar. Because it attacks healthy trees, it is considered a **primary pest**. The most common bark beetles are the European spruce bark beetle (*Ips typographus*) and the Six-spined spruce bark beetle (*Pityogenes chalcographus*). Both are causing damages between the bark and the wood of the trees. The first species prefers large size parts of the tree (i.e. the damage is produced on the trunk, under the crown) while the second one prefers thin parts (i.e. the damage is produced within the crown - it affects the tree top and branches). These bark beetles are considered **secondary pests** (= they attack weakened trees). However, in a case of an outbreak, they may attack also healthy trees (i.e. become **primary pests**).

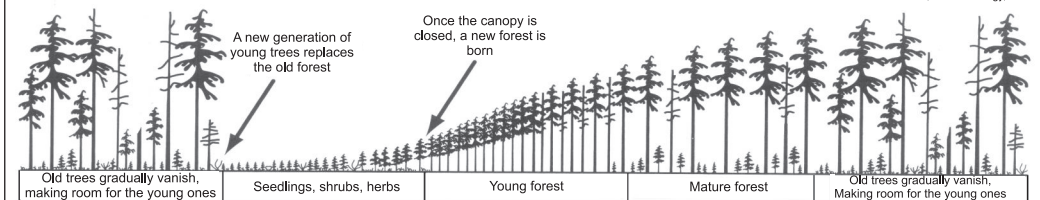


Remember: these insect species and their effects are a normal presence in the forests dynamics!

Point 2. The generation exchange in the forests dynamics

Trees, like all other organisms, are born, grow, get old, give birth to others and then die. This evolution of each individual is a law of nature, unchanged and valid for all living creatures. Therefore, the forest, as a community of trees, has a similar evolution. Here, we can notice the transition between **the mature forest**, which reached the stage of regeneration, and the **young forest**, which starts to take over the land. Some of the mature spruce trees have been extracted in order to favor the installation of a new generation of trees. The seedlings installed over the time, grew up and now become more vigorous preparing to replace the old forest. At this moment, the layer of old trees can be removed, and the young regeneration will become a new forest, continuing the natural cycle of this ecosystem, represented in the drawing below.

Processed after Kimmins, Forest Ecology, 2004



Remember: the generation exchange is an inevitable step and a natural stage in the life of any ecosystem. Forest management mimics this evolution of forests!

Point 3. The Horses' Waterfall - wonder of nature

The legend says that the meadows on Piatra Rea Mountain were grazed in the past by studs of horses. From spring until late autumn, those places were the horses' heaven. Only the bear would trouble their tranquility. However, the beast had no chance to catch horses in open space. Its only chance was to force them towards the steep slopes of the mountain, where they had no choice except to throw themselves in the abyss and to become a sure prey. On a dark night with a heavy summer rain the bear tried again. The horses were close together frightened by the lightning that crossed the sky and the howling of the thunders. Surprised by the bear's attack, they rushed towards the valley hoping to escape. However, in the dark night they took the wrong way and all of them fell down on a ravine. People say that, that night the beast got about 15-16 horses. The event remained in the memory of the local community and all places were named after it: the waterfall is **The Horses' Waterfall**, the mountain is **The Horses' Mountain**, the glacier circle is **The Horses' Bridge** and the small stream is **The Horses' Spring**... **Everything belongs now to the horses!**



www.grigorescu.ro

Let's enjoy together the beauty of the Horses' Waterfall without polluting its crystal water!

Point 4. The spruce forest - always green and mysterious

Always green and dark, the spruce forests create a unique environment. The trees' crowns create a dense canopy, almost impossible to be penetrated by the sun, resulting in a cool and shady environment. The falling needles form a thick litter, slowly decomposing and acidifying the soil and thus preventing other species of plants to install. Often on the shaded paths of these forests, we could meet the bear footprints, in the fall we can hear the roar of the red deer in the openings, while in the winter the forests vibrate of the wolves' howling. The restless tree doctors - the mountain woodpecker and the black woodpecker, carefully check for insect larva hidden under the bark or inside the trunks. With their sinuous fly and joyful trill, the crested tit and the goldcrest are in a restless search for insects and seeds.



Let's show respect to all these beauties of the spruce forest! Don't pollute it with your waste, screams and other noises that don't belong here in this open book of nature!

Point 5. The peat bogs - true archives of nature's evolution

The acid peat bogs from high altitudes in Romania are popularly called "tinoave" or "molhaşuri". The existence of these ecosystems is dependent on three main elements: permanent excessive humidity, acid bedrocks and cold environments. High acidity conditions prevent the decomposition of organic matter which is accumulating in the bogs. Therefore, they become true archives of the history of vegetation and fauna of the area, preserving over the millenniums the dead organisms



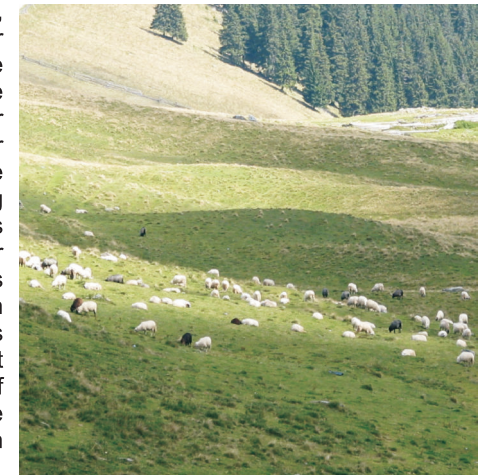
buried in the peat. A very illustrative example is the analysis of the pollen preserved in the peat layer over the time, which gives an image of the vegetation dynamics in the area.

Due to their unique features, these peat bogs with sparse wood vegetation, are considered as priority habitats of community interest. According to the European Union's habitats interpretation manual they are named "91D0* Bog woodlands".

Let's admire this bog woodland without destroying the moss layer and flowers and without leaving any waste behind!

Point 6. The mountain meadow - an endless green carpet under the sky

The mountain meadow is charming us each season of the year. In early spring, we can see the capercaillies eating the fresh grass springing through the melting snow or the wild boars digging for tasty bulbs. Later, in the summer, the shepherds bring here their flocks of sheep. Every day they wonder on the mountain paths with their sheep, continuing a tradition of ages inherited from their ancestors. At dawn, the surroundings vibrate of flute songs, jingling bells and dogs' barking. In the autumn, when the grass slowly turns yellow under the colder winds, the shepherds leave with their flocks and the mountain again belongs only to the wild. Now the stags begin to gather for their mating ritual. In the cold mornings or at dusk, the valleys resound of the roars of the bulls with their impressive antlers. In the winter, everything is covered in white snow and the mountain is again wrapped in silence. The frozen forest raises its branches to the sky longing for the summer sun heat while the meadow sleeps under the thick blanket of snow waiting for the spring to come. Only the howling of the wolves crosses the frozen mountain and scares the animals of the forest.



Let's admire all these beauties offered by the mountain meadows each season without disturbing them!