



Viru bog



ENVIRONMENTAL BOARD



RMK



NATURA 2000



Lahemaa
Rahvuspark



KIK



Printed on 100% recycled paper Cyclus
with inks based on natural resins and oils.
©Ecoprint 2010

Management of Lahemaa National Park:
Environmental Board
45435 Palmse
Tel +372 329 5535
www.keskkonnaamet.ee
www.lahemaa.ee

Visitor Management of National Park:
State Forest Management Centre
45435 Palmse
Tel +372 329 5555
www.rm.ee

Text by: Kaia Kauts
Design: Hele Hanson-Penu
Photos: Arne Kaasik, Sven Začek,
Kaia Kauts ja Kerli Kõue
©Environmental Board 2010

NB! If you see any activity that may harm the environment or appears to be illegal, please call the Environmental Inspectorate at the toll-free short number 1313

In a bog or a raised bog, peaky **bog pines** that look more like bushes catch your eye first. In a pine bog, these trees can grow up to 5 metres tall, because the amount of nutrients and the water regime are considerably more favourable there. The rough bark of bog pines changes relatively slowly and, therefore, several species of lichens grow there. In a pine bog, you may also come across bog bilberry that is similar to bilberry.

You will quickly smell the strong odour that is characteristic to evergreen **marsh rosemary**, which gives many people a headache. In addition to its fragrance, the plant can be recognised by its narrow leaves that are covered with reddish felt from below. In spring, large white flowers on stem tops decorate the marsh rosemary.

Marsh andromeda is an evergreen dwarf bush. Its leathery leaves have a bluish-green surface on top and are covered with a white layer of wax from below. Its flowers are cup-shaped and gathered in sixes on the stem-tops, the colour varies from pinkish red to white.

Cloudberry is a branching 2-shell herbaceous plant. It has oval dark-green leaves. The fruit is called a berry, although it is actually a cane fruit. A cloudberry is reddish when it is unripe and golden-yellow when ripe. The yield varies greatly by years, because fructification is sensitive to night frosts and also to other unfavourable weather conditions.

When looking at the bog soil carefully, you will notice round-leaved as well as long-leaved **sundew**. They are

VIEW FROM THE TOWER



CRANE

both insectivores. The leaves of sundew are covered with sticky slime for catching insects and for digestion there are up to 6 mm long hairs along the edges of the leaves. When compared to the round-leaved sundew, the leaves of the long-leaved sundew are considerably longer and more oblong. The latter can catch up to one centimetre long insects. Colour wise, both species are reddish purple.

In autumn, bog turfs are covered with a blanket of red sourish berries that are connected to each other as if by a horsehair. As strange as it may seem, **cranberry** is actually a dwarf bush – its stalks that remind us of lianas are herbaceous in the first year and then lignify. Dark-green

leaves that are fastened to the stalk intermittently are small and oval.

Dwarf birch may not even be noticed at first glance amongst other low-growing shrubs – it does not look like its treelike relatives at all. It is up to half a meter tall on average, but there are also taller ones. The leaves of the dwarf birch, with a diameter of one centimetre, look like small spangles.

BIRDS

The bog is inhabited by birds that prefer quietude, peace, and a damp environment.

The golden eagle, whose favourite preys are hares, black grouses, ducks, crows, etc, is a skilful hunter. Its 2-meter wingspan enables the golden eagle to fly slowly and close to the ground. The home territory of the golden eagle ranges from 50 to 100 km², in the limits of which there are several nests – these are used according to need.

In autumn, you can meet in the swamps **common cranes** with ash-grey plumage, for which pool bogs offer safe lodging during the autumn migration. The characteristic features of the bird are its black pinions and throat, and a bushy hanging tail, and old birds also have a red crown patch on the head. Common cranes inhabit swamp clearings, coastal lakes, reed fields, brush meadows, and wetlands behind beaver dams.

Of the Passeriformes, tree pipit and chaffinch are heavily represented in the bog. Herring gulls, ducks, and pochards

AUTUMN IN VIRU BOG



A MORNING IN SEPTEMBER

take advantage of the existence of bog pools – they nest on bog islands.

ANIMALS

Since treeless bogs offer little food and shelter, you may instead meet animals at the border areas and ridges, where there are more opportunities for remaining inconspicuous. The bear and wolf go to hunt in the bog, as does the lynx on occasion. The raccoon dog looks for berries, mice, and bird nests in swamps. Wild boar can be seen on ridges during farrowing. In winter, you may see a moose, which leaves behind deep resting beds in the snow.

HIKING TRAIL

There are many different possibilities for covering the study trail – you just have to decide on the distance you want to cover.

The Viru bog study trail starts from the first kilometre of the road leading from Tallinn-Narva Hwy to Loksa and ends by the Vana-Narva Hwy. The 3.4 km long hiking trail covering the bog runs mostly on a boardwalk. The trail is easily accessible and indicated with white-green-white markings on trees.

The 5.5 km long circular study trail is also marked, and runs on a boardwalk and along the sand dune ridges surrounding the north-west edge of Viru bog (trail section indicated with blue marking on trees) back to the parking lot.

By the trail, there are resting and observation platforms, and an observation tower in the middle of the trail, along with information boards and signposts facilitating movement.



VIRU BOG



A MORNING IN JULY

Swamps cover 22.3% and bogs with a higher level of development cover 7.7% of the area of Estonia. The generation of swamps can widely be divided into two: 1) generation of a swamp from a water body; 2) accumulation of water in an initially dry spot, as a result of which a swamp forms.

Swamps are over-moist areas where plants do not decompose easily, due to the abundance of water and lack of oxygen, instead stratifying as peat. Swamps are divided into three classes according to their development stages: fen, transition mire, and bog. Bog is the highest and most permanent stage of the development of a swamp, where the swelling peat surface is so thick that the roots of plants no longer reach the groundwater. Therefore, bog vegetation is dependant on precipitation.

Viru bog is located in a former lake, which formed after the continental ice melted and glacial lakes receded, and the mud sediments of this lake can still be found in the bottom of the swamp. Lake overgrowth took place about 5000 years ago, and a bog started to develop, the expansion of which was limited by the surrounding dune walls. Since the average growth of peat in a year is 1 mm and the thickness of the peat layer is about 3 m, Viru bog is, according to simple calculations, approximately 3000 years old. Viru bog is relatively small in area (235 ha), but, in spite of that, you will see here everything that is characteristic to a raised bog. Thick peat layer, vegetation low in species, and bog pools and hollows are represented here.

In the recent past, peat dust was produced by milling in the Viru bog, but due to the exhaustion of resources different methods are being considered today for the rebogging of the milling peat field. The main reason for this process is the fact that when peat decomposes, exhausted deposits start to emit large quantities of carbon dioxide that causes climate change.

Bog hollow is a wet depression that periodically fills with water and consists of wet peat. When the bog expands, a free-water bog pool may form a bog hollow. Water bodies characteristic to bogs develop provided that the bog is at least 3000 years old, its diameter is at least 1 km, and it has a shelving surface – this way, all precipitation water does not drain away and accumulates into **bog pools**. Bog pool water is grimly brownish because of humid acids. Bog water is acidic, contains plenty of organic and little of mineral substances, thanks to which it is one of the purest waters in nature. It is almost impossible to discover algae or water plants in bog pools; likewise, due to the lack of mineral substances it is a hostile habitat for organisms that need lime for bones or shells.

VEGETATION

The hiking trail here covers different communities. On the ground below **dry boreal forests**, you will find mosses common in Estonia: red-stemmed feather moss and stair-



SUNDEW



GREAT SUNDEW

step moss. Ground vegetation is relatively sparse: there is heather, cowberry, bilberry, and common cow-wheat, and, in the autumn, various edible mushrooms. There are no other bushes or trees besides pines.

Heath forests are a habitat for lichens. While a heath forest is usually very similar to a dry boreal forest, it is also characterised by the occurrence of purple-flowered heather, fragrant wild thyme, and light reindeer lichen in the ground vegetation. Several species of reindeer lichen grow here, which differ from one another by the colour and ramification of their shrub-like thallus. In colloquial language it is often called reindeer moss, because it contains carbohydrates and is a suitable food for reindeer and, as a last resort, also for humans.

Bog pines, along with marsh rosemary, northern bilberry, bilberry, and heather, grow on oblong bog beds, but on treeless bogs you will instead see crowberry, blackberry, heather, and cottongrass. On bog hollows grow marsh Andromeda, sundew, cranberry, and Rannoch-rush.

Peat moss is the most important plant in the bog – it can grow in conditions of precipitation and lack of mineral substances, store water and turn it acidic. Peat moss can absorb water in excess of 20 times its own weight. This is possible due to the special water collection cells and the peculiar water division system of certain sprigs, stems and leaves. Peat mosses are characterised by reddish or whitish colour and sprigs located in bunches. In Estonia, 37 species of this genus are known.

