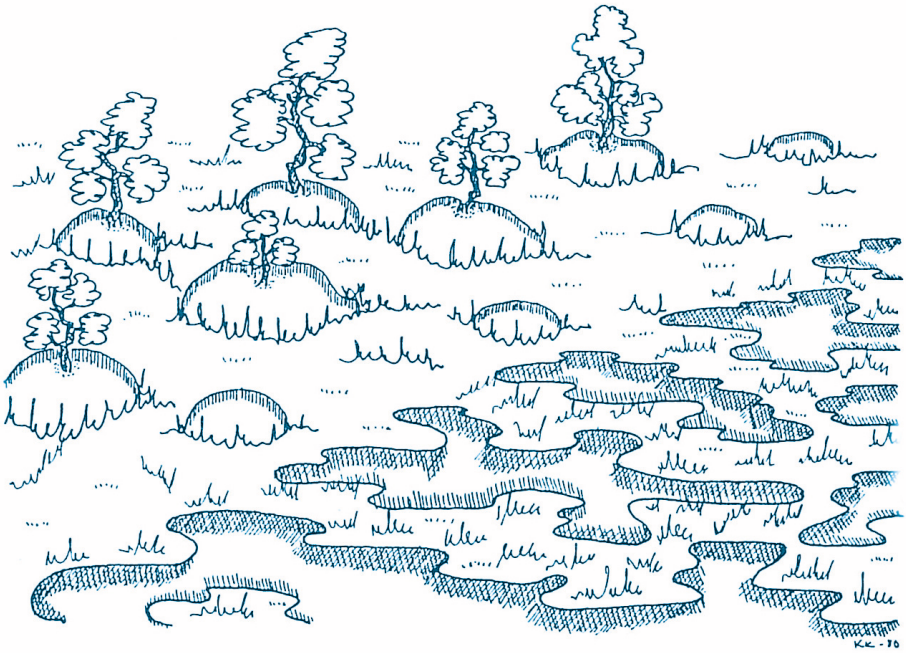
ENGLISH

# RYTISUO NATURE TRAIL

## Oulanka National Park



This booklet is intended for visitors to Oulanka National Park's Rytisuo nature trail. It contains the text and illustrations on the information boards along the way. Keep the booklet after your visit so that you can later revise what you learned along the nature trail!

The trail introduces you to the history of Oulanka National Park, old forms of land use, and the area's ecosystems, flora and fauna –animals and plants.

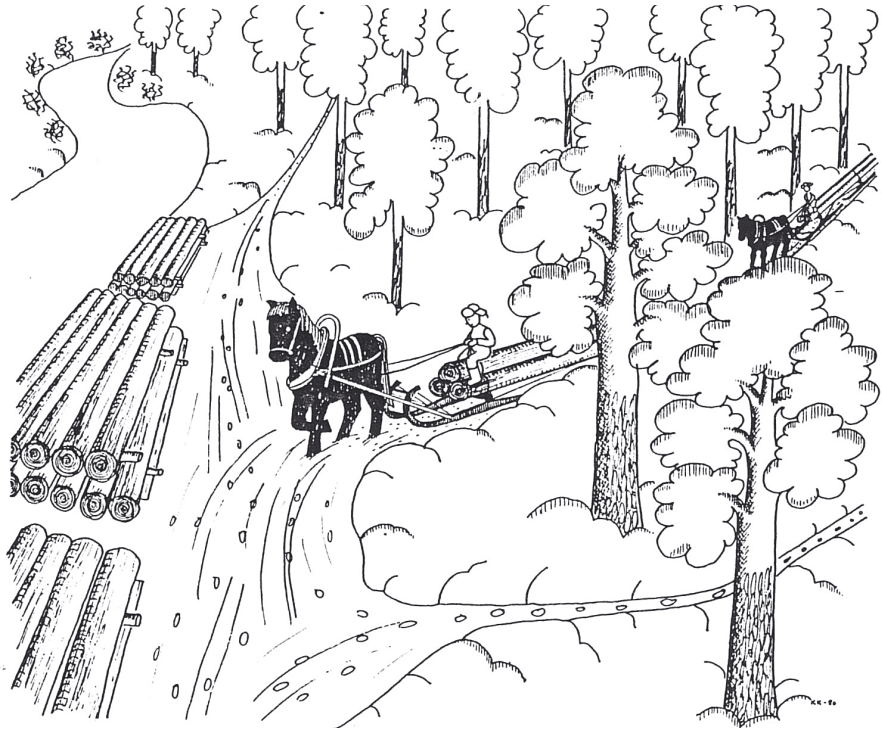
## RYTISUO NATURE TRAIL

The Rytisuo nature trail is 5 km long. During dry weather trainers or hiking boots are adequate; in wet weather rubber boots are recommended. The trail is waymarked with a cone symbol and wooden signs. There are numbered information boards along the way to which the information given in this guide refers.

**nro**

# FOREST AT PUUKKORINNE

1



## Forestry

A lot of logging took place in the Oulanka National Park region in the late 1800s and the early decades of the 1900s. Trees were felled here at Puukkorinne in 1910-1915. Tall stumps now covered in moss indicate that logging took place in thick winter snow.

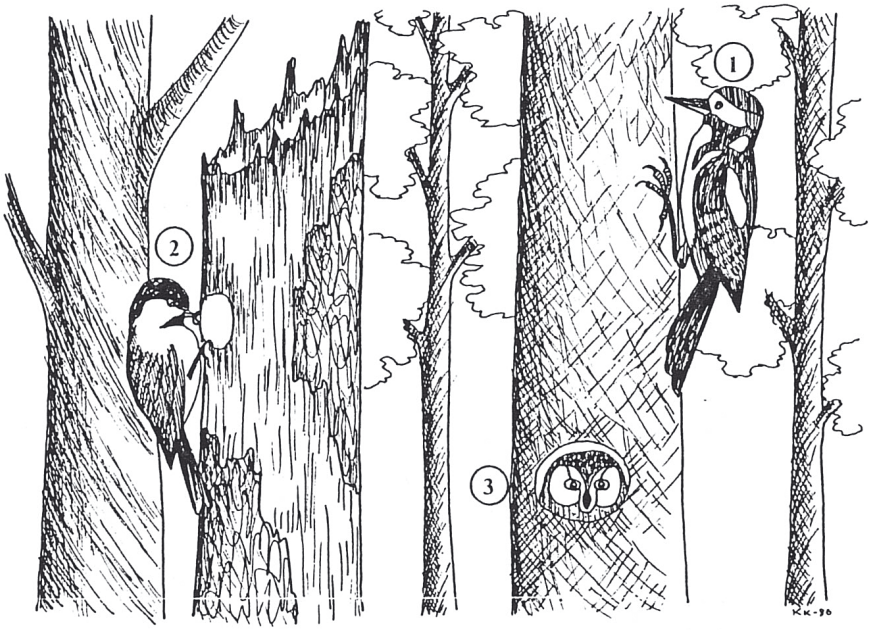
## Forest fires

Forest fires form a part of the succession of natural forests. The latest natural fire raged on the eastern bank of the River Oulankajoki in the late 1800 to early 1900 period. Such fires have left scars on the tree trunks, blackened stumps, and layers of charcoal in the soil. The work of fire is evident all along the trail.

# 2 HOLE NESTING BIRDS AND NATURAL FORESTS

Natural (unmanaged) forests offer plenty of homes to hole nesting bird species. Like other woodpeckers, (1) the great spotted woodpecker *(Dendrocopos major)* is capable of hacking a cavity even into hard wood. By contrast, (2) the willow *(Parus montanus)* tit is only able to whittle pieces out of rotting wood. Nevertheless, willow tits make themselves a new nest hole every year. Old woodpecker holes are competed for by other forest species, including (3) the pygmy owl *(Glaucidium passerinum)*, pied flycatcher *(Ficedula hypoleuca)*, redstart *(Phoenicurus phoenicurus)* and flying squirrel *(Pteromys volans)*.

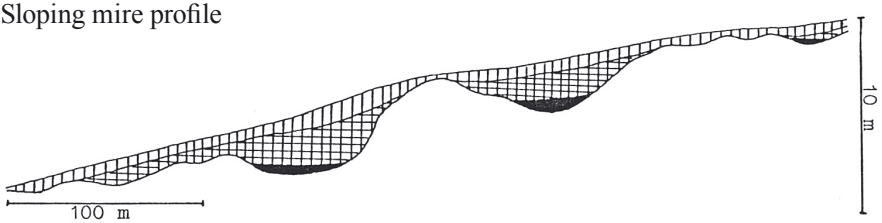
The surrounding forest has been left undisturbed for over 70 years. There are clear indications that it is in a natural state. The trees are of varying ages, being a mixture of seedlings, saplings, and old specimens. There are also dead standing trees, as well as fallen trunks in various stages of decay. Several tree species are present, including broadleaved trees.



# SLOPING MIRE

3

Sloping mire profile



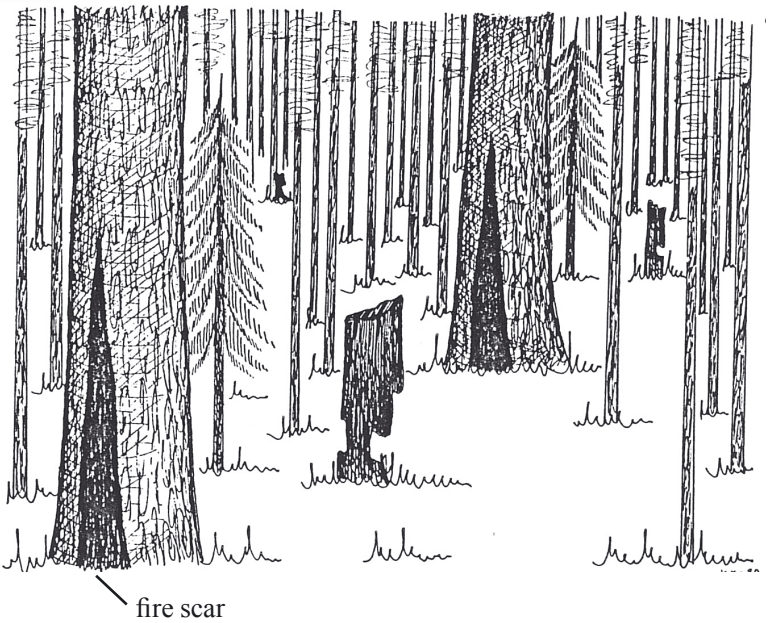

sedge peat

peat moss peat

mud, ooze

Nutritious water trickles down this slope from the Puukkosuo mire located higher up. The route taken by the water can be distinguished from its surroundings by the luxuriant vegetation. Paludification (peat formation) has given rise to many surface features of mires, like hummocks, depressions, and lawns, which lie between the two. The different moisture conditions of these determine their flora. Since hummocks are the highest places they support plants and even sizeable trees associated with drier conditions. Depressions, which are permanently wet places, are only favoured by species adapted to wet habitats. Species thriving in changeable conditions occupy the areas between these two extremes.

# 4 DENSE PINE STAND




Lightning sets dry pine woods alight more easily than shady spruce forest. Ground fire does not destroy old pine stands, even though it gnaws hungrily at their thick-barked bases. Roots extending deep into the ground are not affected. If the fire climbs up into the crowns, it can rapidly spread from tree to tree, destroying a younger stand entirely. However, even after a serious fire, some larger pines will be left to reseed the forest.

Giant pines extending above the rest have been spared both forest fires and logging. They have been protected against fire by their thick bark. Loggers have ignored them due to a growth fault or too many branches.

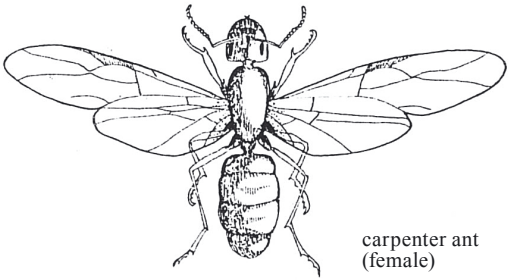
A dense pine stand is the outcome of a favourable growing season. New growth on pines is very much favoured by European elk, which may settle down in the vicinity of a growing stand for a long time, thereby causing considerable damage.

# TREE SPLIT BY

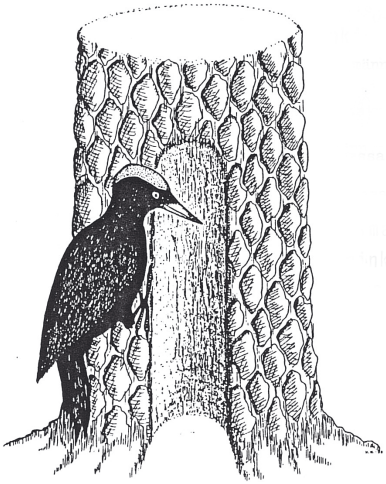
5

The large tree in the foreground was struck by lightning in the summer of 2002. For years carpenter ants had been weakening the tree by creating long tunnels in the wood beneath the bark for their nest.

Carpenter ant *(Camponotus herculeanus)* nests are located in heartwood. Year by year they gradually move upwards to a height of up to 10 metres. The presence of these ants inside a tree is often revealed by holes hacked into the base by a black woodpecker. Trees with carpenter ant nests inside them are susceptible to storm damage.

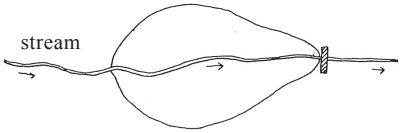


carpenter ant (female)



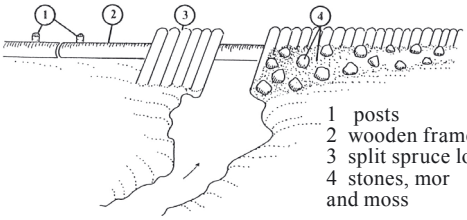
Carpenter ants attract further damage by the black woodpecker *(Dryocopus martius)*, our largest species of woodpecker. This coal black giant among woodpeckers typically tears the bark off trees inhabited by the large ants, starting at the base of a trunk.

# 6 FLOODED MEADOW AND DAM




In the past, water was made to flood a peatland meadow by damming, this being a common form of wild meadow management in Kuusamo. Consequently, the associated word 'paise' occurs rather commonly in Kuusamo place names.

The peatland meadow in the foreground used to be flooded by damming the Rytipuro stream. There used to be a mire here through which the stream flowed, making the location ideal for creating a productive meadow for winter animal fodder. The stream was dammed and the meadow cleared sometime around the 1880s.




1 posts
2 wooden frame
3 split spruce logs
4 stones, mor and moss

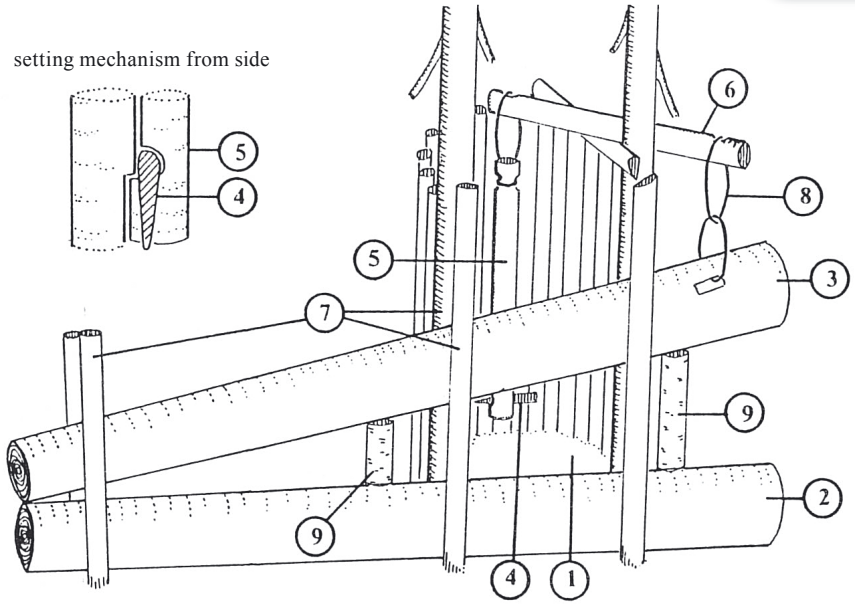
The dam would be closed in May-June, causing flooding of the mire. The water both encouraged the growth of sedges and drowned the Sphagnum mosses. Sedge hay can be used to nourish cattle.

In July-August the dam would be opened to enable the sedges to be cut. The process was repeated every second year.

As with other remote meadows along the nature trail, farms located along the shores of Lake Kallunkijärvi had the right to cut hay on this periodically flooded meadow. Hay making continued here up to the late 1940 – early 1950 period, disappearing with the introduction of intensive agriculture in managed fields. Like other constructions of traditional design, the dam here was erected by World Wide Fund for Nature volunteers in August 1979.

# OLD BEAR TRAP

7

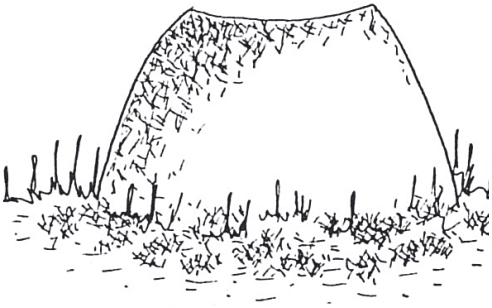



1 frame
2 lower log
3 drop log
4 bait peg
5 bait log (trigger)
6 rocker
7 support
8 loops
9 supports preventing trap from accidentally going

A wooden trap was the most common way of catching a bear when there was no snow on the ground. This bear trap was constructed immediately after the Second World War. Horse meat was used for bait. Despite being used for several summers, the trap caught no bears.

The principle is that, as the bear attempts to pull off the meat, it triggers the sensitive mechanism, releasing a heavy log which drops on to the beast's neck and kills it. Now the trap will not work because the log has been permanently fixed in place.

# 8 ANT NEST



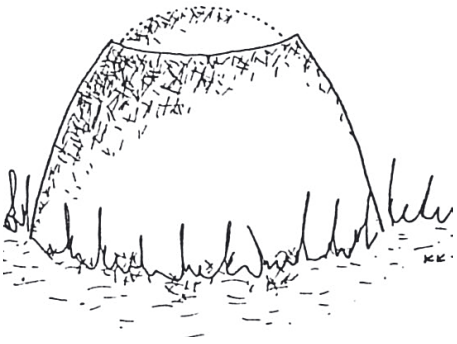
Ant nest torn open by bear

Wood ant *(Formica rufa)* nests are a familiar sight to all who hike in the forest. The mound-shaped nest is composed of sticks and bits of twigs topped by a thick layer of conifer needles.

At their largest, these nests can be two metres high and may extend for a metre into the ground. Inside the nest there are tunnels connecting various parts of the nest, such as stores and nurseries. The nest may be occupied by tens of thousands of ants.

In this region ant nests are often damaged in the spring by bears trying to get at the ant larvae and pupae. With its front paws, a bear will tear off the entire top of the nest. Despite this, the nest's occupants quickly repair the damage.

Ant nests can be used for navigation. In a fairly open spot, the south-facing side is long and gently sloping, whereas the north-facing, shady side tends to be steep. In this way the ants benefit from the heating effect of the sun.

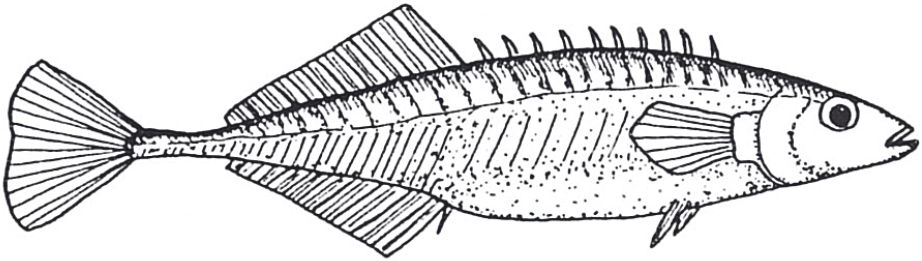


Ant nest damaged by bear, one year later

# WORLD'S LARGEST 10-SPINED STICKLEBACKS IN RYTILAMPI POOL

9

Rytilampi is a clearwater, alkaline pool with sparse vegetation and low productivity. The pool also has few aquatic animals, its only fish species being the tiny (4 – 6 cm long) 10-spined stickleback *(Pungitus pungitus).*



This low diversity can be partly explained by Rytilammi's isolation: the pool became cut off from the River Oulankajoki as long as 9,000 years ago. The pool's only connection with the river is its narrow drainage stream, which includes a cascade called Rytiköngäs. Fish are unable to ascend the stream beyond the cascade. Thanks to the absence of predators over the millennia, the sticklebacks here now have only a rudimentary ventral spine. On the other hand, the fish have increased in size. The pool's biggest recorded specimen was 11 cm long, whereas the normal size is only 4-6 cm. The largest individual recorded elsewhere (in America) was 8.5 cm long.

Known as giantism, this phenomenon is the consequence of natural selection: when choosing a partner, female sticklebacks favour large males as the most effective breeders. Large fish are also preferred by predators, which therefore normally control prey size in nature.

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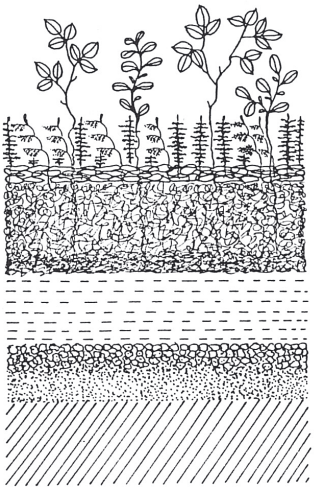
# ”THICK MOSS FOREST” AND HANGING MOSS

## Frisk moskog av väggmossa-blåbärstyp (HMT)



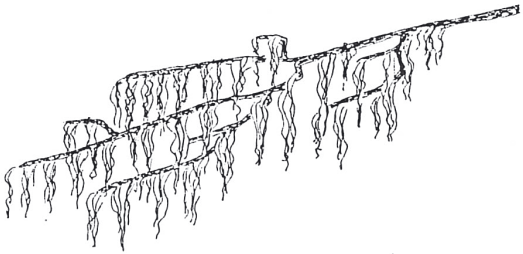

HMT forest, loosely described as “thick moss forest”, is a rather common type in the boreal forest zone – taiga. It is characterised by a thick, dense layer of moss, composed principally of glittering feather moss (Hylocomium splendens), growing on raw humus. As the forest ages, the number of tree species declines. Spruce increasingly dominates over aspen, Scots pine and birch.

This kind of forest is poorly productive, becoming regenerated very slowly, most of the regeneration taking place in gaps where large trees have fallen.

## Witch’s hair lichens (Alectoria)

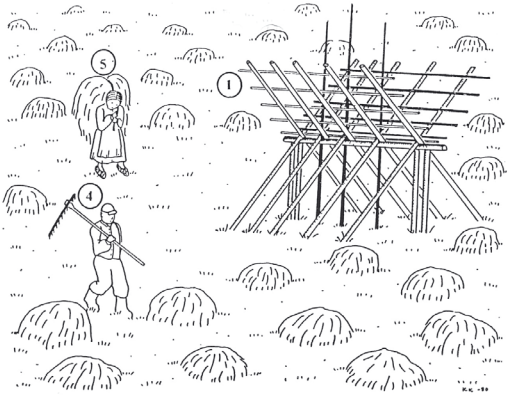
Alectoria species (witch’s hair, goat’s beard, “tree moss”) closely resemble Usnea lichens (old man’s beard) in appearance. They lack, however, both the tough central cord and distinctly fatter main thallus branches. Thus, Alectoria species appear more beard-like, and are more fragile, than Usnea species.
Lichens hanging from trees in the spruce forests of Koillismaa are typically Alectoria. Usnea species tend to be concentrated further south. However, both have disappeared over large areas due to air pollution.

Alectoria species form a favourite food of reindeer during winter, so that at one time spruce trees were felled in the late winter period to ensure emergency food supplies for these animals.



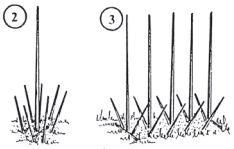
# PEATLAND MEADOW

11



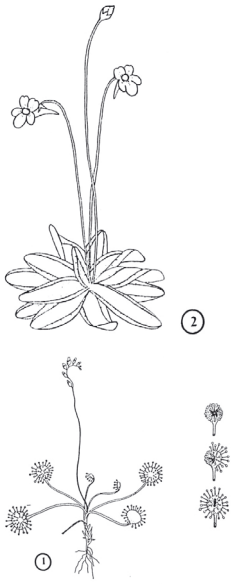

This remote meadow, where the people of Kallunkijärvi had the right to cut hay, was in use from the 1880s to the Second World War. There was no point in erecting barns on poorly productive peatland meadows, so the hay was stacked in ricks. These were of three main designs, as illustrated (1,2,3). Hay cut by the menfolk was raked together by the women. The dry hay was carried to the ricks on special rakes (4) or in bundles (5). It was hauled to the farms during the winter by reindeer or horse.

Under the watchful eye of a local expert, World Wide Fund for Nature volunteers replaced the rotten hay rick with this new one in the summer of 1979.




## Carnivorous plants

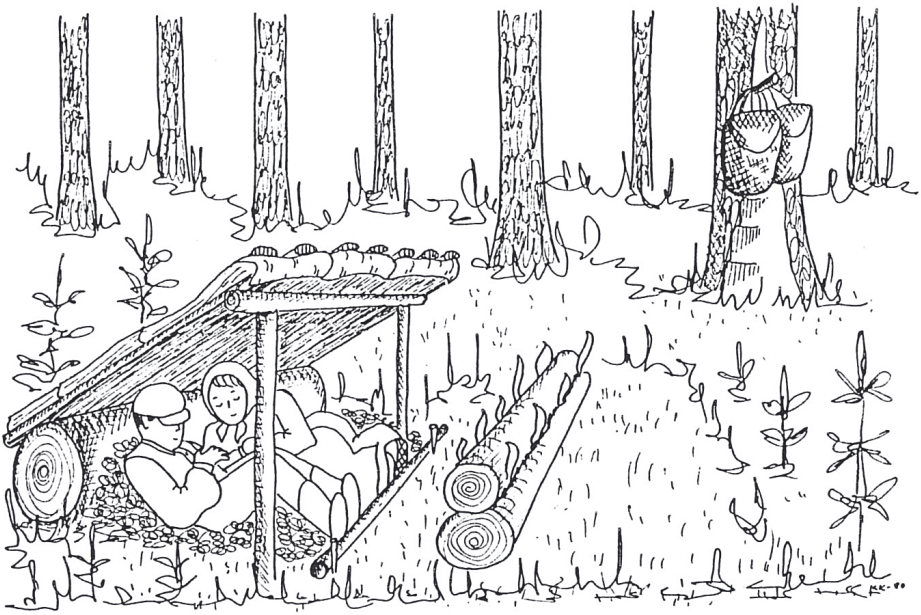
Five kinds of carnivorous plants are found in the mires of Kuusamo: common sundew (Drosera rotundifolia), great sundew (Drosera anglica), common butterwort (Pinguicula vulgaris), alpine butterwort (Pinguicula alpina), and villous butterwort (Pinguicula villosa).




These plants obtain vital proteins and nitrogen compounds from the bodies of the insects they catch. The prey caught by a sticky substance, which in the butterworts is secreted by the leaf surfaces and in the sundews by glandular hairs sprouting from the leaves. Carnivorous plants are not very good predators. Insects become trapped on them only by chance; they are not cunningly attracted to the plants. Consequently, there are few victims and it takes the plant around two weeks to digest each one.

In times past, butterwort leaves were used to curdle milk. The sour milk produced could be stored. It could also be made in the winter by simply adding a drop of the sour milk to fresh milk, in the same way as some modern soured whole milk (Finnish viili) products are manufactured. For this reason, butterwort is also referred to in Finnish folklore as the sour milk plant. Common sundew provides essential ingredients for a cough medicine. So much so, that nowadays the plant is used commercially to manufacture a remedy for common flu.

# 12 LEAN-TO SHELTER



During the hay making season people slept near their remote meadows in either nearby houses or lean-to's.

The log at the back was notched each year. The notches show that the shelter has been in use since the 1920s. The birch bark roof of this restored lean-to is original.

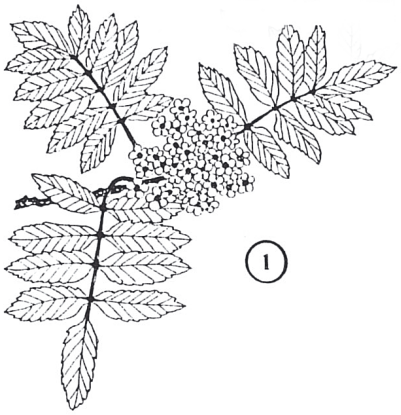
A fire lit between two logs (illustrated), or a robust camp fire, provided warmth. There is a long wooden peg set in the large pine on which rucksacks could be hung out of reach of wild animals.

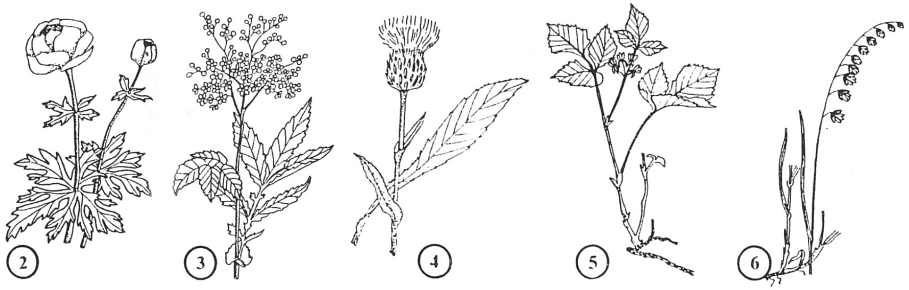
# RYTIKÖNGÄS CASCADE

13

Lush vegetation abounds in the gully through which the Rytipuro stream flows. Its flora is composed of species adapted to the cool, moist microclimate characterising situations with flowing water and shady conditions.

Bird cherry *(Prunus padus)* and (1) rowan *(Sorbus aucuparia)* form a dense shrub layer over grasses and herbaceous plants. (2) Yellow-flowered globeflowers *(Trollius europaeus)* blossom in early spring, distracting attention from the common meadow-rue *(Thalictrum flavum)*. In late summer it is the turn of (3) the meadow sweet *(Filipendula ulmaria)*, (4) melancholy thistle *(Cirsium heterophyllum)* and golden rod *(Solidago virgaurea)*. Also commonly found in herb-rich wet forest habitats are (5) stone bramble (Rubus saxatilis), purple moor-grass *(Molinia caerulea)* and mountain (nodding) (6) melick *(Melica nutans)*.



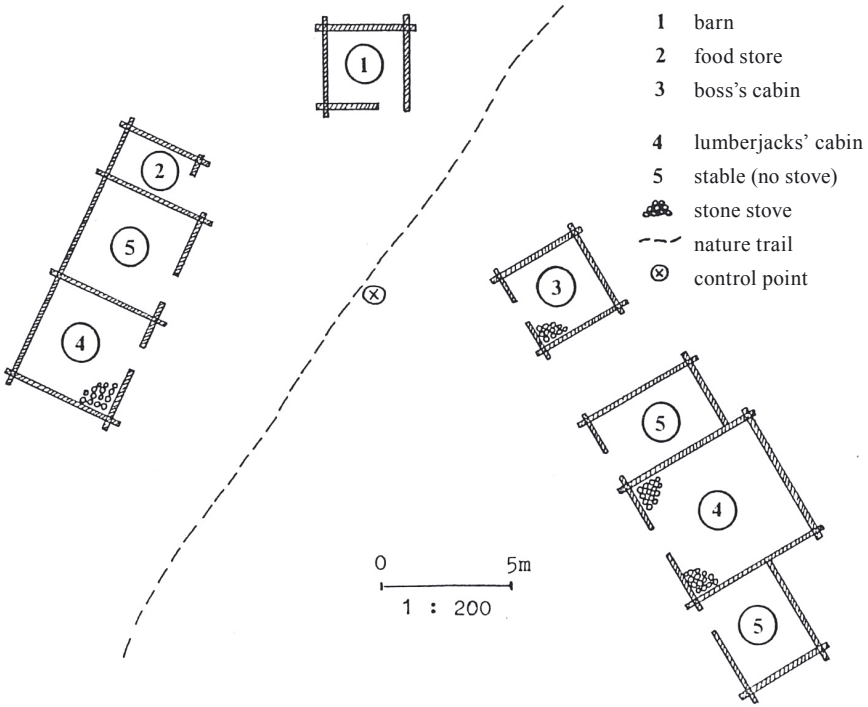




Water from Rytilampi pool flows down Rytipuro stream into the River Oulankajoki. The word köngäs comes from the Saami word keävngis, meaning a large waterfall. Rytipuro's cascade has effectively cut off the pool for the last 9,000 years, preventing fish from passing between the Oulankajoki and Rytilampi.

# 14 LUMBERJACK CABIN

Lumberjack cabins were put up in the Oulanka area during the 1910-20 period. The Swedish timber procuring agency Berggren Ab, among others, purchased timber which was then floated into Russia to sawmills in the White Sea region. They were used for a while by lumberjacks arriving at the logging camps from far away. The cabins' brief use came to an end with the closure of the eastern border in the 1920s. You can look for several tumbledown lumberjack cabins within the national park.

A cluster of outbuildings, now reduced to their log frames, surrounded each cabin. Heating was provided by primitive interior stone stoves or outdoor ones. The lumberjacks slept on wooden bunks. The hay barn has been built since the lumberjacks left.



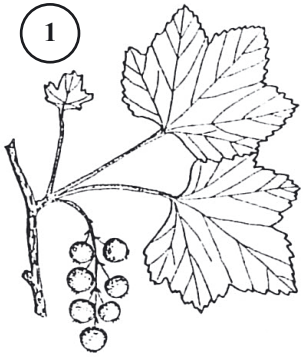
# RUNSUNIITTY MEADOW

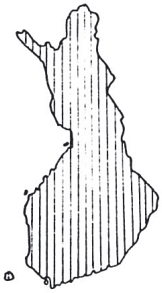
15

This meadow was made by clearing a fertile herb-rich part of the forest around 1890. Up until Second World War it formed a hay field for the people of Kallunkijärvi. Recently, the meadow has been restored and even the hay barn has been renovated.

The word runsu which occurs in the meadow's name dates from the old hay meadow culture and means 'rubbish', 'waste', or 'hay leavings'.

Near the barn stands a spruce tree with a typically north-eastern shape. It is a northern subspecies *(Picea abies spp. obovata)* of the spruce. The spruce of southern Finland spreads out more at the base and its bigger cones have more pointed scales. Against the barn wall you can see (1) wild red currant *(Ribes spicatum)*. (2) Wild strawberry *(Fragaria vesca)*, which is not particularly common this far north, frequently colonised new meadows like this.



distribution of wild red currant

distribution of wild strawberry

# 16 KIUTAVAARA HILL

This spot overlooks Talvilampi pool. Heathland dominated by Scots pine separates the pool from the River Oulankajoki. On the river's opposite shore rises Kiutavaara, a picturesque hill.

Composed of hard quartz, the hill is a remnant of the great Karelidic mountain range that used to be here billions of years ago. The hill now rises 200 m above its surroundings. Kiuta , the first part of the hill's name, comes from the Saami word giuuhta, meaning a deep canyon-like river valley.

Flowing through its lovely canyon, the river follows a fracture in the bedrock which the powerful continental glacier expanded. When the ice melted a thick deposit of sand and gravel was left which the river continues to erode and transport away.

# PAN PARKS

*• The Rytisuo Nature Trail is a PAN Parks-sponsored trail in the Oulanka National Park. PAN Parks has supported the restoration and building of the trail.*

*• PAN (Protected Area Network) Parks is a European network of protected wilderness areas.*

*• For more information on PAN Parks, please visit the website at www.panparks.org.*

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Located in the uplands of Kuusamo and Salla, Oulanka National Park was established in 1956, then enlarged in 1982 and again in 1989. A popular hiking route called The Bear's Trail passes through the park.

In recognition of its valuable ecosystems and the high standard of its visitor services, Oulanka National Park was awarded a PAN Parks certificate in 2002.

METSÄHALLITUS

PAN Parks founded by WWF | Molecaten

*Metsähallitus*
*Natural Heritage Services, Ostrobothnia-Kainuu, Kuusamo*

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