

Hukkavuori [Wolf Mountain] nature trail



Photo: Sini Hammarén

Hukkavuori nature trail in Northern Ruokolahti leads hikers to a typical South-Finnish wilderness. Here you will see how a forest and its surroundings evolve over time and get to know some forest animals and plants. You will also see signs of forestry, which is and has always been important to Finland.

The trail is lovingly built and maintained by Matti Päivinen, an old local man who loves his forests.

① PARKKIPAikka JA KOTA

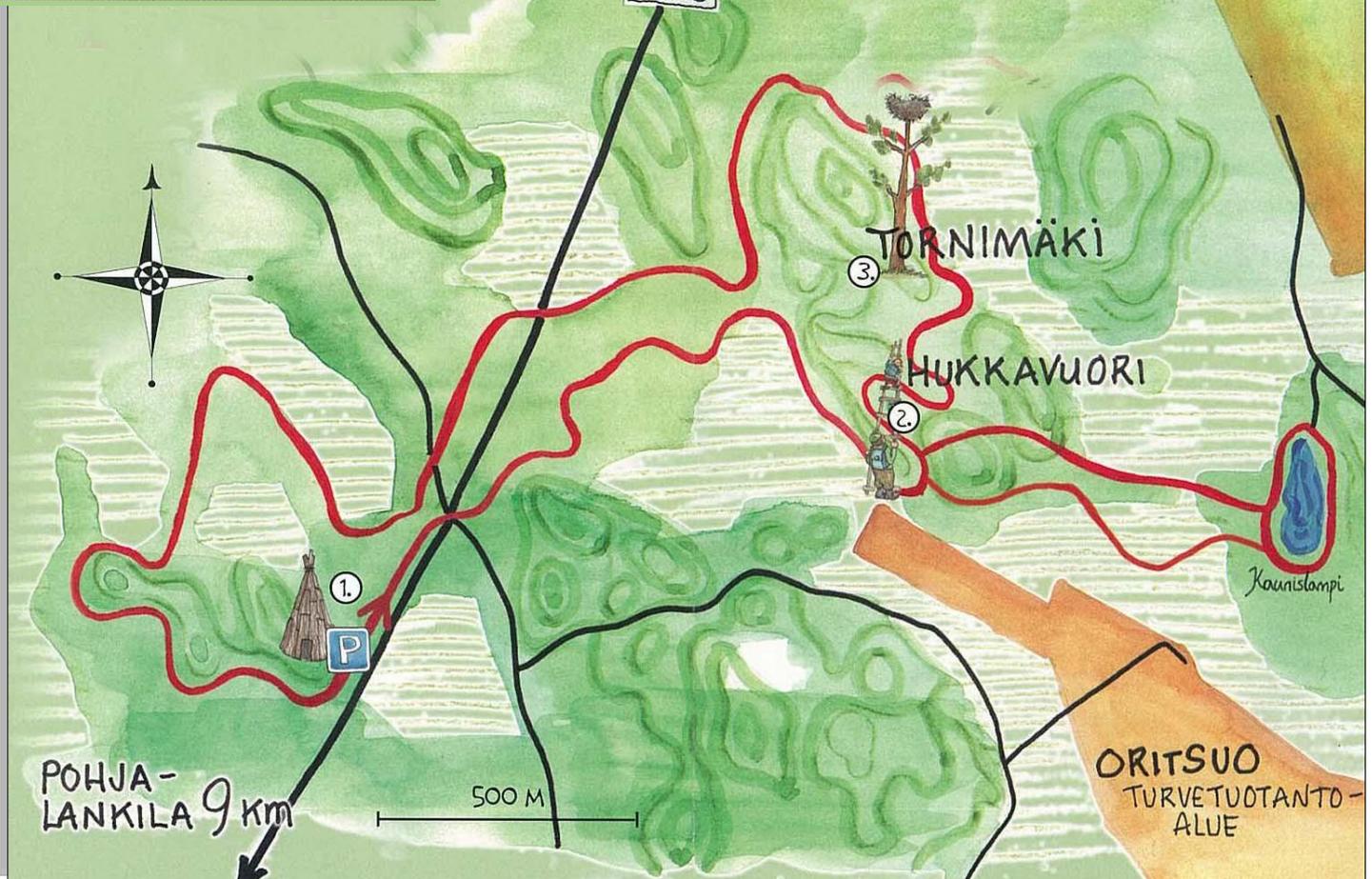
② JAAKOPIN PORTAAT

③ KALASÄÄSKEN PESÄPUU

SÄRKILAJHTI
PUNKAHARJU

Karttapiirros: Heli Pukki

4063



Please follow these safety and courtesy regulations:

- Don't smoke or discard cigarette butts here – forest fire risk. Thanks
- Do not litter please – leave only footprints and take only berries, mushrooms and memories
- Park in the designated area (1) and avoid roadsides as roads are used by large vehicles
- Be careful, respect nature and you'll be fine – enjoy

On top of general advice, this booklet contains the texts of all 15 information boards that can be found around the trails, and a little extra quiz to ponder on after each. Answers on back cover.

PLEASE RETURN THIS BOOKLET IN THE BOX FOR OTHERS TO USE TOO. THANKS & KIITOS.

Welcome to Hukkavuori

Hukkavuori means Wolf Mountain, but don't worry, wolves are not often seen here. More importantly, and contrary to folklore, wolves do not attack people.

We are situated in Northern Ruokolahti in Southern Carelia, at address: Särkilahdentie 3000-3030, 56440 Ruokolahti, Finland. Coordinates: (WGS84): 61°31'22.8" N, 29°03'10.8" E (= 61.523, 29.053 in degree decimals).

Hukkavuori trail offers the openminded hiker a multitude of fascinating experiences and food for thought, as well as fresh air, beautiful views and good health. There are 2 km, 5 km and 10 km trails to choose from – from easy to demanding – the longest and steepest taking 3-4 hours. All are marked adequately. Pick the one/s best suited for you.

The trail is well marked and there are 15 Information boards along it. Parts of the trail requires agility and good fitness. Small children need to be supervised on the cliff edges and "on the stairs of Jacob" (2)

The Eastermost parts of the trails, namely Torninmäki, the Hukkavuori Pathway, Viitapolku and the Kaunitlampi trail, are marked with a black triangle, meaning demanding. The other parts of the trails are a smooth & easy going.

DIFFICULTY LEVELS:

	Easy trail (smooth terrain) Простой маршрут
	Medium level trail Маршрут средней сложности
	Difficult trail (demanding terrain) Сложный маршрут (ландшафт)

It is advisable to use proper **hiking shoes**, as some of the terrain is a tad steep. At the top of Hukkavuori there is a **resting place and a hut**, but no water outlet. It is **NOT allowed or legal to make fire at the top**. **At the start of the trail there's a hut (1) where you can grill** sausages etc, feel free to use the firewood provided – wisely and sparingly please. Fill your **water bottles from the natural spring** found by the first info board, about 100 m from the start. The water is pure, clean, clear and tastier than Evian or Voss, try it! Welcome to Hukkavuori, enjoy.

1. A NATURAL SPRING

A natural spring forms in a place where ground water is high enough to rise and stay above ground surface. Natural springs often have no or very little trees around them, because permanent ground wetness inhibits tree growth.

The Finnish Forest Act imposes restrictions on use of a few, often quite small, valuable natural environments. Pristine natural springs and streams and their immediate surroundings are such valuable environments. Logging and environmental care work can still be done near these sites, but cautiously, so that the characteristics of the habitats remain. The immediate neighborhood of natural springs have to be left completely untouched, but around it environmental care work, such as careful tree thinning can and should be done. They are performed so that the microclimate, humidity conditions and vegetation stay effectively unchanged.

Some other "especially valuable natural environments" protected by the Finnish Forrest Act are:

- rare swamp types (bog, peatland, mire...) – a large bog classification system was coined in Finland
- isolated forest islands on untrenched swamps
- some small ponds
- small groves
- ravines, gorges, canyons and gulches
- precipices

1. Who owns most of the forests in Finland?

- a) The State of Finland*
- b) forest companies*
- c) private forest owners*

2. A SWAMPY DELL

A pristine forest-lined & small-scale swampy dell adds to the landscape diversity and biodiversity of the forest environment. Paludification (formation of a peatland from a forest area) is a slow process. For it to happen, favourable climate conditions and general flatness of the land are a requisite.

Forest paludification begins when rainwater collects below ground level or when the groundwater level rises. Over time swamp vegetation (*Sphagnum*, *Carex*, swamp grasses etc) arise and start to thrive and thus outcompete former species. This again accelerates the paludification process.

Peatlands are characterized, and consist of, peat mosses, also called sphagnum mosses after their scientific names (*Sphagnum spp*). Peat mosses grow and sprout new green upward, simultaneously decomposing and turning brown near the roots. They grow about 1 cm / year and at the same time the ground layer produces 1 mm new peat. This is a continuous process in which more peat is produced than what is currently used in Finland, one of the swamp-richest countries in the world. Peat is used to make energy, and it currently (2018) makes about 7 % of Finland's energy and electricity.

In a sense peat is a renewable resource, but being such a slow and often irreversible process – many wetlands have been lost forever – and now that natural values are better understood, swamps and other peatlands are starting to get better protection.

2. How many times their own weight can peat (sphagnum) mosses retain water?

- a) 5
- b) 10
- c) 25

3. ANT EGG HARVESTING

During the low-income war years in the 1940's and even increasingly in the 50's, especially here in Carelia, ant eggs were harvested for food and for extra tax-free income. Ant eggs were also used to make protein powder and sent to Germany to be used in medicine industry. Still today ant eggs are used for human consumption in many countries.

How do you harvest ant eggs then?

A part of an ant hill is dug out, placed into a canvas bag and spread on a large, flat rock. Ants that come with the eggs then hurry to tend to their eggs, which is after all their main job. They carry them under shadowy branches that are purposefully laid nearby. When the ants have carried the first egg batch under the brushes, a new part of an ant hill or a new hill is brought. At the end of the day the eggs are collected from under the branches and taken into a sauna or a drying barn and left to dry.

In the old days a days harvest could be 20 kg of fresh eggs, or 5 kg dried. The dry eggs were then put into paper bags and taken to a shop that would buy them. In the 1940's and 50's dried ant eggs fetched an equivalent of a little over 1 € / kg.

Ant egg harvesting is still done and even taught at Finnish Forestry Schools today in small scale. Not everyone is allowed to do it though, you need to have landowners permission. The price for dried ant eggs is currently around € 8-16,- / kg.

3. In which way can ants be beneficial to trees?

- a) *they collect small items and in doing so clean the forest*
- b) *they eat tree-eating insects*
- c) *they make useful paths to other animals*

4. A COLUMNAR JUNIPER

Normally junipers (*Juniperus communis*) are short and bushy, but sometimes they grow to grander treelike dimensions. Treelike or columnar junipers are rare and all of them are protected by the Environmental Protection Act. The three red stripes on this specimen signifies this.

The global distribution of juniper is exceptional, being the most widely distributed Gymnosperm (Botany, plant whose seeds are not in an ovary, most of which are conifers) species worldwide. Other gymnospermic plants after all include all pines, cypresses and spruces. Juniper's secret to success is its good adaptiveness – you can find them in harsh, dry and rocky surroundings as well as on wet islands and in lush groves.

Juniper doesn't have commercial value in Finland, other than its use in small scale woodworks. Juniper resists rot and decay very well and also smells pleasant, so it's a good material for cups and spoons etc. In its own right, the lowly juniper is an important tree to Finns, and has cultural value on its own. It after all possesses the same characteristics as Finnish people: toughness and perseverance.

4. What's in common with juniper, Douglas fir and Lebanese cedar?

- a) same distribution range*
- b) all are conifers*
- c) nothing*

5. HISTORY OF THIS FOREST

These Tornimäki (Tower hill) slopes and forests belong to a large forest company, Tornator Oy, which is the 3rd largest forest owner in Finland. The previous forest was clear-felled in 1972 and to replace it, pine saplings with a rootball were planted in 1974. The rootball pine saplings, first of their kind in Finland, were grown at the now extinct Enso Oy tree nursery in nearby Imatra.

Pine info in year 2000:

- Basal area of trees: 20 m² / hectare
- Median height: 12 m
- Median diameter: 15 cm
- On average 1270 pines / hectare
- Tree age in 2000: 26 years (2018: 44 years)

5. Which coniferous tree is not an evergreen?

- a) larch*
- b) juniper*
- c) Swiss pine*

6. THE OSPREY

The magnificent osprey (*Pandion haliaetus*) is an exceptional bird of prey, because it preys on and eats only fish. Adult ospreys weigh 2 kg and have a wingspan of 152-167 cm. It can kill and lift fish up to half its weight out of the water. The fishing dive and the accompanying splash is a grand sight and worth the wait, so if you see an osprey above water, wait.

The osprey is a good indicator of environmental health, as it requires clean nature and clean lakes to stay and nest in an area.

Ospreys build large nests out of sticks high up in tall pine trees. They use the same nest for years and years, fixing and building it bigger every year. These nests-with-a-view are located on hilltops, in isolated pines on swamps or islands – all of which grant good view over its surroundings. Ospreys luckily also use man-made and fortified nests frequently, because sturdy enough natural and well situated pine trees are becoming rare. Their large nests can grow to be over a meter tall and a meter wide over the years, so they are heavy.

There is an old, still used osprey nest (3) in a pine on top of the Tornimäki hill, a bit further down the trail. The nest is protected by law, and between April 15th and August 31st you may not approach the tree at all.

More information on ospreys in English: <http://www.saaksisaatio.fi/en/home>

6. If you kill any protected species, there is a price to pay – a value defined in the Nature Conservation Act (2002). What is the numerical value of an osprey?

- a) 454 €
- b) 1684 €
- c) 4710 €

7. A NESTING CAVE

But what animal nests in this cave? It's too small for a bear, so not that. Is it fox? Or maybe badger? Even if you know how to read animal tracks and signs, they may not always give you an obvious answer when it comes to their nesting caves.

A Red fox nest entrance is often narrow or oval and there are bones and feathers around it. You can usually smell a strong pungent scent coming from their kills and the fox itself.

A badger on the other hand keeps its nest entrance tidy. The entrance is usually round and larger than in a foxes nest. A badger nest is also often covered by nettles.

So this nest cave belongs to the badger. For their nest site the badger prefers sandy or bouldery hillsides riddled with natural caves. like this one. The ground must also be easily diggable. In front of the cave entrance you can see an impression, where the badgers have lain during the day. Badgers use a few paths and routes they know well to and from their cave, so there are often clear and visible paths near a badger's nest.

Come night time, badgers set out to forage for food. They waddle peacefully along looking for worms, insects, rodents and carrions. Come Autumn, badgers move increasingly toward a vegetarian diet. Most of the body fat needed for their half-year-long hibernation actually comes from berries and grains, not meat. Come October-November, Finnish badgers weigh up to twice what they did when they emerged from their nests in April. In southern Europe badgers do not need to hibernate.

7. What does "hibernation" mean?

- a) *to fatten up for the cold season*
- b) *to sleep right through winter*
- c) *to reproduce, i.e. to make more badgers*

8. THE ICE AGE

Hukkavuori rock consists of granite and veined gneiss. Granite is the National rock-type of Finland, being by far the most common, very durable, tough and also beautiful. The red-brown humps on granite rock formations are granite minerals. About 10 000 years ago when the last ice ended, having lasted over 100 000 years, the receding ice masses formed and left long lasting markings in Finnish bedrock. The 3-kilometer-thick ice cracked, molded and moved massive rocks and carried vast quantities of land masses around.

Some of the erratic glacial blocks (individual boulders) carried by the receding ice are the size of houses, weighing thousands and thousands of tonnes. The origin of these erratic blocks puzzled people for centuries. In the old times it was believed that giants or goblins had thrown them around in anger. All kinds of myths and beliefs were tied to these big, weird boulders, until around 1860's scientists discovered that the culprit was a very large giant indeed, namely the ice age.

The 2-3 km-thick ice masses pressed on Earth's crust with such force and for such a long time, that the crust was pushed down 800 m towards the center of the Earth. After the ice receded and melted, the Earth crust began to bounce back and has already risen about 700 meters. The upward movement of the Earth crust still continues, being fastest on the Western Finland shoreline (at Merenkurkku), where it still rises from the sea at a pace of 8 mm / year. It is going to take at least 10 000 years for the last 100 m to have bounced back.

If you climb on top of the nearby glacial boulder, you'll see the osprey nest (see Board 6.)

8. What is a lichen, such as the Beard lichen hanging on nearby trees?

- a) *funghi (mushroom)*
- b) *algae or cyanobacteria*
- c) *a symbiotic relationship of both a) and b)*

9. HIGH DEMAND FOR NESTING HOLES

Decades ago a Black woodpecker (*Dryocopus martius*) drilled a hole in this old pine tree. After that the hole has housed both the Boreal owl (*Aegolius fureneus*) and the Common goldeneye (*Bucephala clangula*). Suitable holes are scarce and sometimes fought over.

The Boreal owl, like many other species, need a pre-existing hole to nest in, like the one made by a woodpecker. The Boreal owl searches and prefers holes in deciduous forests around pine forests, but if it doesn't find one, it can also nest in a pine tree. It happily also accepts a man-made birds nest. This cute pearly-dotted bird of pray may come to look at what you are doing in the forest, especially if you happen to be making interesting knocking or tapping sounds.

Also the goldeneye, another Finnish favourite, uses old Black woodpecker nests, even when they are far from water bodies where goldeneyes feed. Man-made goldeneye nests are most often put near water as it is thought that the goldeneye prefers a home with a lake view. Research however shows that female goldeneyes check out as many nest hole options deep in the woods as near water, because suitable holes are scarce. So wherever you hang your nest, it will probably get occupants. But near water it is more weasel-safe and gives the young goldeneye hatchlings easier access to water.

9. You are now at the top of Hukkavuori. How much higher than sea level are you?

- a) 100 m
- b) 150 m
- c) 200 m

10. THE BIG TORSANSALO FOREST FIRE

This pitchy (contains tar) pine tree stump shows signs of an old forest fire.

The area burned down in the big 1897 forest fire, which burned down thousands of hectares of forest.

It was a dry and hot summer in 1897. A mentally disabled boy, Pietari Laurikainen, had bought matches in the nearby Pohja-Lankila grocery store. On his walk home he amused himself by striking fire to the matches and throwing them one by one on both sides of the road. The forest caught fire, spread like wildfire does and burned for several days. No-one could do anything to put the fire out. Pietari was not held accountable for his actions. He had fretted later only that he had wasted two good boxes of matches for nothing.

In the centuries past, forest fires have burned in all of Finland's forests – sometimes as a slow and light ground fire, sometimes as a raging, all-burning and fast treetop fire. In dry forest types fires are more frequent than in moist forest types, where several centuries can pass between fires.

Forest fire is not only a bad thing, it is also necessary to keep biodiversity high. Without heat or charred wood, dozens of beetles and other forest species cannot live in an area. Fire juvenates the woods and is a requirement for many forest species and thus adds to biodiversity. A fire makes the forest more valuable biologically – everything can and should not be measured in money alone.

Source for the 1897 fire: Siitonen, S. (ed.) 1985: Ruokolahti, kotiseutulukemisto III, Ruokolahti-Seura ry

10. Biodiversity means?

- a) *more species*
- b) *more trees*
- c) *less value of an area*

11. A PINE WITH THICK SHIELDLIKE BARK

This pine tree (*Pinus sylvestris*) is over 200 years old, and in old pines the bark starts to be thick and shieldlike. It not only looks like a shield, it also protects the tree from fire like a shield. As a reminder of an old forest fire, you can see a burned out hole on the side of this pine. There is also a star, which is an ENSO Oy forestry sign. This tree was marked with the star in 1950.

The pines on this slope are abnormally lumpy due to unknown growth factors, such as a genetic mutation or a virus. Curly-grained and burry trees are other such indications of changes in normal growth.

11. What is the volume of this tree (calculated when felling & selling a tree)?

- a) $0,7 \text{ m}^3$
- b) $1,3 \text{ m}^3$
- c) $1,9 \text{ m}^3$

12. RED FOXES' NEST

In folklore and in old tales the Red fox (*Vulpes vulpes*), or fox, is known as a sly and clever animal, that easily deceives even bigger and stronger animals. The tales are accurate in the sense that the Red fox is better adapted to human interactions and a changing environment than for example the Brown bear or the wolverine. Foxes also have good memory and sharp senses and they are fast.

Fox is mainly nocturnal and carnivorous (meat eating), but it settles for berries too if meat is scarce. The preferred prey include moles, voles, birds, rabbits and hedgehogs. Red fox is one of the most widely distributed mammals in Europe and easily recognized by its distinctive red fur and the white tail tip. In history the fox has been important and valued for its warm and beautiful red fur.

In the depths of its home cave, the female fox gives birth to 3-8 young at the end of April. All summer the young stay very near their home cave to stay safe. A fox nest most always has more than one entrance, here it can be found further down the hill. This fox nest has not been in use for some years now.

12. Which of these does NOT hibernate (sleep through the whole winter)?:

- a) *badger*
- b) *brown bear*
- c) *red fox*

13. RAVENS' NEST

Raven's (*Corvus corax*) reputation used to be as black as its plumage. It was persecuted and killed because it was thought to bring along death, but also as a nest, egg or livestock robber. Ravens, being one of the smartest animals there are (including large apes and dolphins!), then receded to deep forest far away from humans for decades. They preferred habitats like this here – rocky back-of-beyond forests with high trees to keep a lookout from. Also hilly Lapland in Northern Finland offers everything they need. Nowadays the raven is protected south of Lapland reindeer areas, and it has become more common even in populated areas and in the south.

Ravens beak is large and strong, and used to eat small mammals and birds, frogs, insects and seeds. The raven has a lifespan of over 20 years.

This nest has been used by the same raven couple for many many years. Every spring they return and start cleaning the nest from bad old sticks and debris. Below the rocks you'll see a pile of discarded nest material.

13. Ravens do not...?:

- a) *use tools*
- b) *think about the future*
- c) *threaten humans in any way*

14. THE TREECREEPER

The Eurasian treecreeper (*Certhia familiaris*) is a special little bird. It averages only 13 cm and 8 grams, but watching it jerkily climb up and around pine trees hunting insects will put a smile on anyone's face. Its beak is thin and curved to better get to the insects hiding under tree bark.

The treecreeper is found in forests in all of Finland, except in the far north, where there are no suitable trees. It is not uncommon but not common either, so it's always nice to see one, let alone get one to build a nest nearby. The nest is special too, usually a crack or crevice between thick pine bark and the tree stem. Felling old forests has been bad to biodiversity, one example being the treecreeper, as thick bark and suitable nests are getting scarce. Luckily this little bird accepts simple man made nests too. They consist of two boards that make a triangle when hung against the tree stem, plus roof and bottom. A small notch is made on both sides for safe access and retreat.

Treecreepers lay their eggs in April when the forests are often still under thick snow cover. The first brood leaves the nest in late May, giving strong treecreepers time for another. Roughly 25% of Finnish treecreepers make two broods a year.

14. Roughly how many legs does a millipede have?

- a) 200
- b) 600
- c) 1000

15. FIELDS FOR GAME ANIMALS

Hunting has provided much needed protein at poorer times and is a popular past time in Finland to this day. To make habitats more acceptable to some game species, birds and mammals, some fields and clearings are kept and cultivated to this end.

The aim is to grow food they like and help animals survive through harsh northern winters better, which in turn adds to biodiversity. Biodiversity has dropped due to efficient forestry and other human activity. Ideally these fields provide shelter and nourishment to many other animal species too.

Tasty perennials, such as cabbage, swede and rapeseed are used, together with oat for forest fowl and barley for water fowl. Autumn rye is especially good, as it's accepted by both birds and mammals. The field can either be harvested and fed to the animals during winter, or left unharvested. Some species, like hares, happily dig for food through snow on their own.

It is also advisable to put a mineral lick for ungulates near such fields. The benefits are twofold: elk and other ungulates get much needed minerals and trace elements and they stay away from roads, where they lick the ground and in doing so, become dangerous to traffic. When planning and starting a new field for game animals, you should take into account it's size, location, nearby roads, forest type and species cultivated on other fields nearby.

15. What is the National Animal of Finland?

- a) *lynx*
- b) *elk*
- c) *brown bear*

Correct answers:

1. c)
2. c)
3. b)
4. b)
5. a)
6. b)
7. b)
8. a)
9. b)
10. a)
11. b)
12. c)
13. c)
14. a)
15. c)



Photo: Sini Hammarén

Matti Päivinen, treeman Onni and Onni's treedog Piku welcome you to Hukkavuori