METLA

FINNISH FOREST RESEARCH INSTITUTE

KARKALI NATURE PARK

ENGLISH | SWEDISH | FINNISH

WELCOME TO KARKALI

The Karkali Nature Park is situated at the end of a beautiful promontory that extends into Lake Lohjanjärvi in the municipality of Karjalohja in the province of Southern Finland. The hundred hectare Nature Park was founded for the purpose of nature protection, research and education. Metla is responsible for the use and taking care of Karkali, ensuring that the area is in effective protection and research use.

MOVING AROUND THE NATURE PARK

Karkali, unlike other Finnish nature parks, is open to visitors. However, in order to preserve the area in an undisturbed state as possible, visitors are requested to obey the following rules:

1. Observe the nature only from the paths. Movement beyond the paths requires written permission from Metla.
2. The following activities are forbidden:
   - picking flowers, berries and mushrooms
   - disturbing animals, hunting and fishing
   - making fires, camping, dropping litter and other damage to the nature
3. Swimming and coming ashore (other than at the beach reserved for this purpose).

If needed, further details about the regulations regarding Karkali Nature Park are available from Metla.

AQUAINTANCE WITH THE PLANTS ALONG KARKALI'S PATHS

The route of the path through Karkali takes you to the end of the promontory and introduces you to the flora and history of the Nature Park. The longest route is 6 km, which will easily take 3 to 4 hours to complete. Stout shoes suitable for walking in damp and stony places are recommended.

The woodland grove flora changes from spring, summer to autumn. Species with different flowering times encourage the visitor to return often during the growing season.

The alert visitor will notice many plants that are not mentioned in this leaflet, not to mention birds, insects and mushrooms. Flora and other natural history guides are a useful companion to the visitor.

FROM TENANT FARM TO PROTECTED RESEARCH FOREST

The Karkali promontory has been inhabited from the mid 15th century. Over the centuries human activity has strongly affected Karkali's nature. The diversity of the flora has increased through the escaping of cultivated plants from farm gardens and as a consequence of pasturing the meadows. The use of fire to clear the land and pasturing kept the forests open and dominated by broad-leaved trees.

In 1881 Professor, and later Archbishop, Gustaf Johansson bought the Karkali house and estate and the promontory became a lively summer residence for the archbishops' family and friends. Paths were cleared through the forests on the promontory for summer outings and picnics, and for hazel nut collecting.

Archbishop Gustaf Johansson (1844-1930)

During the archbishop´s time, shifting cultivation using fire to clear the land was given up and replaced by the cultivation of permanent fields. Some of the meadows were abandoned and have since reverted to forest. The pasturing of cattle in the forest and timber harvesting were carried out until the 1950s.

A cowherder from one hundred years ago

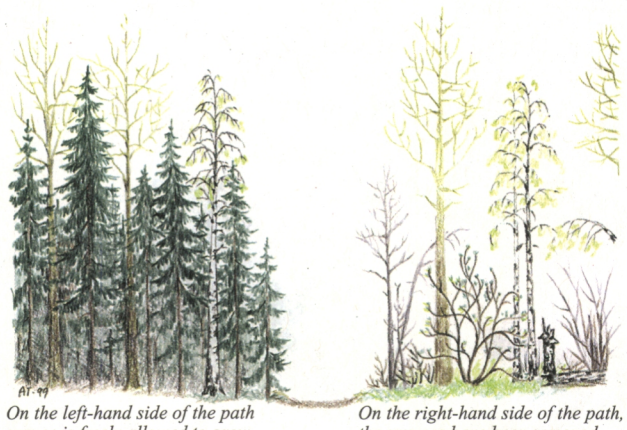
As a result of changes in land ownership in the early 1960s extensive plans for holiday home building were made. However, public protests thwarted these plans and the area became a nature conservation area. The law and statutes concerning the Karkali Nature Park came into force in 1964.

1 Vegetation studies at Karkali

Most of the cultivable land was cleared and taken into cultivation over a period of centuries. At this particular spot, a meadow was cleared and later cultivated. Eventually, the field was abandoned and reverted back to forest. In the shelter of the stately stand of aspen at this site, the grove flora has returned. Only the growth of spruce, which can be controlled, threatens the diversity of the grove flora.

The development of the vegetation and the effect of management has been monitored at 30 permanent plots since 1968. The plots were established on former fields, meadows and land burnt-over for cultivation that were abandoned in the 1920s.

Spruce has been carefully removed from some of the plots. This has kept the species diversity and benefited especially the more demanding grove bush, moss and grass species. On some of the plots the spruces have been left to grow undisturbed. Under the gloomy coolness of the spruce stand, shade-tolerant species, mainly wood sorrel (*Oxalis acetosella*) and some mosses, have thrived. Other species are scant. Following the path you can see how the growth of spruce and its management have affected the vegetation.



On the left-hand side of the path spruce is freely allowed to grow

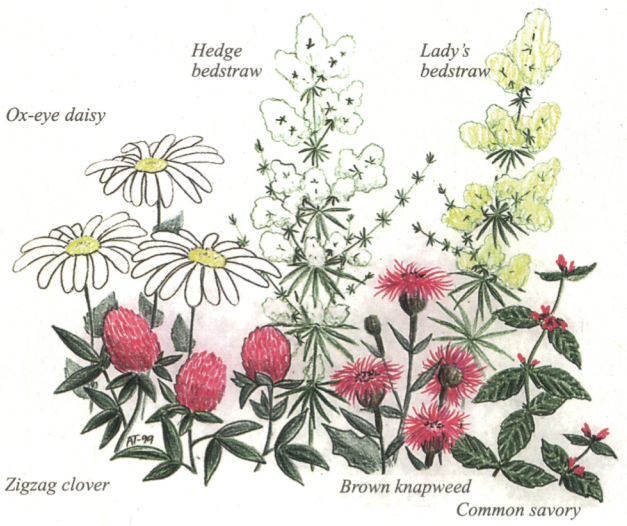
On the right-hand side of the path, the spruces have been removed

2 A spring

The spring, which is surrounded by stones, served as the well for the nearby tenant farm a hundred years ago and probably quenched the thirst of botanists as well as that of the archbishop. Water flows to the quagmire where Golden Saxifrage (*Chryosplenium alternifolium*) shines out during May. Later, in summertime, the site is taken over by Meadowsweet (*Filipendula ulmaria*) together with the large ferns, Lady fern (*Athyrium filix-femina*) and Narrow Buckler fern (*Dryopteris carthusiana*).

3 Ruins of the Lepola tenant farm

The last tenant farmer on the Karkali promontory, Fredriksson, lived in the Lepola tenant farm until the 1910s. Only the pile of stones in the spruce stand, the discernible remains of the oven, mark the site of the settlement.



Zigzag clover

Brown knapweed

Common savory

4 Former green of the Tuomihieta tenant farm

During mid-summer, the blooming and grassy meadows and the buzzing of bumble bees reminds one of the days of the tenant farmer, scything and grazing the cattle. The purpose of the meadows was to provide over-winter foodstuff for the farm animals but at the same time they enriched the flora and diversity of insect species.

To maintain the floral profusion, the green is still mown each year. This treatment ensures the abundance of flowering plants, for example: Zigzag clover (*Trifolium medium*), Ox-eye daisy (*Leucanthemum vulgare*), Brown knapweed (*Centaurea jacea*), Common savory (*Satureja vulgaris*), Lady's bedstraw (*Galium verum*) and Hedge bedstraw (*Galium album*), and many other cultivated Campanion species.

5 Ruins of the abandoned Kukinhuone tenant farm

The tenant farm here was already in ruins in the 19th century. There is mention about the meadow and ornamental plants to be found in the surroundings of the farm ruins, plants such as Ox-eye daisy and Marigold, from a hundred years ago. Over time, the place has been completely taken over by the forest.

6 Dog's mercury

In the hollows of the grove, Dog's Mercury (*Mercurialis perennis*) occurs widely. This demanding spring flower, typical of oak woodland in Europe, is only found in the richest groves along the coast of southern Finland.

7 A charcoal pit

On the left-hand side of the path a rounded raised terrace covered with spruce can be discerned. It is the site of an old charcoal making pit. The sale of charcoal was an important source of income to the local peasants and tenant farmers. From the 17th century until the beginning of the 20th century the small factories at Lohja and the ironworks at Mustio, Billnäs, Fiskars and Antskog all needed charcoal.

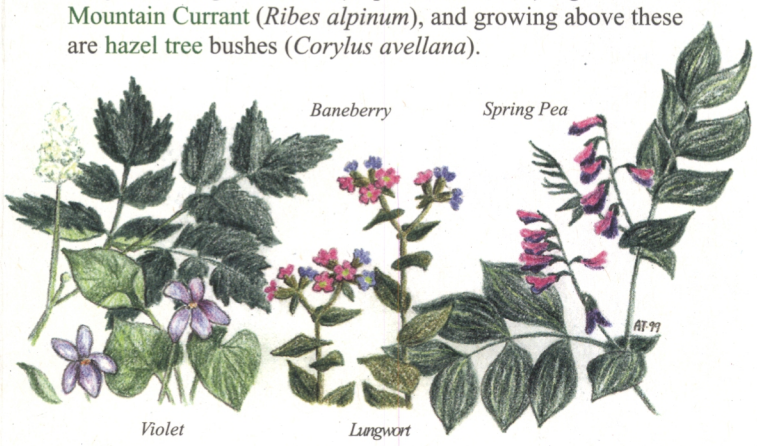
Map: Ulla Raunio & Sirpa Kuupakko, Metla

8 Site of the archbishop's summer house

In 1902 Archbishop Johansson had a summer house built on the end of the Lohja promontory. From the house it was possible to admire a view of Karjalohja's church across the lake. Now trees block the view of the church and only the foundation stones of the pavilion remain. On the hill, splendid oaks (*Quercus robur*) and small-leaved limes (*Tilia cordata*) provide a habitat for rare insects, plants and mushrooms which do not thrive in Finnish coniferous forests.

9 Karkali's luxuriant hazel groves

The species abundant grove at this site has taken over from an old meadow. The site was already marked as a meadow on a map of Karjalohja dated 1785. Mowing and grazing was carried out here until the begining of the 20th century. In springtime the ground is covered by Wood and Yellow Anemones (*Anemone nemorosa* and *A. ranunculoides*), Dog's Mercury, Lungwort, Spring pea, and Baneberry (*Actaea spicata*), and towards summer it is covered by Violet (*Viola mirabilis*), Ground Elder (*Aegopodium podagraria*) and Wood Milet (*Milium effusum*). In the shrub layer thrives the early flowering Mezereon (*Daphne mezereum*) together with Mountain Currant (*Ribes alpinum*), and growing above these are hazel tree bushes (*Corylus avellana*).



10 Viewing point

From the edge of the rocky crest you can see down onto the grove. Hazel forms a tight canopy above the grove. At the base of the crest large lime trees grow. On the dry rocky areas the succulents Biting Stone Crop and Orpine (*Sedum acre* and *S. telephium*) together with Herb Robert (*Geranium robertianum*), Wild Pansy (*Viola tricolor*) and Sticky Catchfly (*Lychnis viscaria*) have spread from the old dwelling nearby. On the damper rocky areas, Greater Celandine (*Chelidonium majus*) is to be found.

11 Common alder grove

In the damp alder grove (Common alder, *Alnus glutinosa*) along the shore flourishes common Meadow-rue (*Thalictrum flavum*), Bittersweet (*Solanum dulcamara*), Black Currant (*Ribes nigrum*) and Yelow Iris (*Iris pseudacorus*) for example. A sharp eye can also spot European Ash (*Fraxinus excelsior*) trees.

12 The water plants of Lake Lohjanjärvi

Closest to the shore grow tight beds of Slender Tufted Sedge (*Carex acuta*). Emerging from the water are spear shaped blades of Arrowhead (*Sagittaria sagittifolia*). Amphibious Bistort (*Polygonum amphibium*) floats in rafts and the submerged plants, Various-Leaved Pondweed (*Potamogeton gramineus*) and Canadian Waterweed (*Elodea canadensis*), which – along with Reed Sweetgrass (*Glyceria maxima*) – have escaped from garden ponds, are also to be seen. The rushes with pale pink flowers are Flowering Rush (*Butomus umbellatus*). Thick Reed (*Phragmites australis*) beds are seen furthest out from the shore.

13 Plants anlong the stream bank

Hepatica (*Hepatica nobilis*) together with Wood and Yellow anemones colour the luxuriant stream bank in the springtime. Among them also thrive Bulbous Corydalis (*Corydalis solida*), the Yellow Star of Bethlehem (*Gagea lutea*) and Spring Pea.

Bulbous Corydalis

Yellow Star of Bethlehem

14 A spring

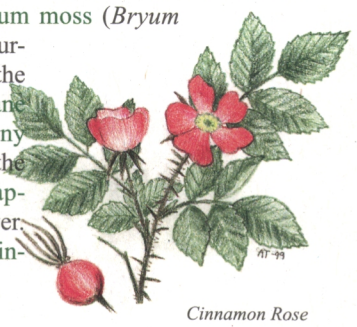
Near the spring during springtime the Golden-Yellow buttercup (*Ranunculus cassubicus*) flowers. Among the alders along the shore, the rare Water Chickweed (*Myosoton aquiticum*) can be found. In the shore fringe Orange Balsam (*Impatiens capensis*) has spread from the garden of a summer house to become common around the shores of Lake Lohjajärvi.

15 Beach for swimming and landing ashore

The picnic table by the shore is a suitable place to open your rucksack for a snack. You can also swim and come ashore by boat at this beach. Nearby, growing extensively, is Common cotoneaster (*Cotoneaster integerrimus*).

16 The weeping rocks

Above the rocks are seepage springs supporting alder trees. The seepage from these springs keeps the rocks below damp and moist. These permanently damp rocks form a special habitat and explains why the vegetation here is also unusual. The purple-brown Bryum moss (*Bryum alpinum*) grows abundantly. During July-August, tall grasses, the yellow flowered Irish Fleabane (*Inula salicina*) and Agrimony (*Agrimonia eupatoria*), and the purple flowered Brown Knapweed (*Centaurea jacea*) flower. On the rocks also grows the Cinnamon Rose (*Rosa majalis*).



Cinnamon Rose

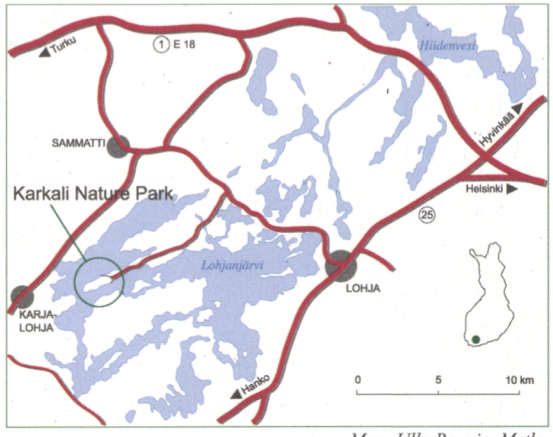
Original texts: Timo Koponen

FINNISH FOREST RESEARCH INSTITUTE, METLA

Metla was established as a research institute under the auspices of the Ministry of Agriculture and Forestry in 1917. According to its mission statement, Metla strives to solve forest-related problems through research.

Applied research work is done at the research centres of Helsinki and Vantaa and at eight regional research stations. As a means of ensuring the continuity of long-term research undertakings, Metla has at its disposal and management about 150 000 hectares of research forests. Of these research forests, nearly 70 000 hectares are conservation areas and 4 500 hectares are demonstration forests serving forestry education.

HOW TO FIND KARKALI



Map: Ulla Raunio, Metla

METLA

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Tel. (09) 857 051, Fax: (09) 8570 5569

Karkali's Park supervisor's tel. (019) 366 604

Viestintätoimisto Katajakammari / Vantaan tutkimusmetsät 2000

THE WOODLAND GROVE'S SECRET IS IN THE SOIL

The south-western coastal zone in which oak grows and the southern patches of woodland grove bring a feel of central European broad-leaved woodlands to our coniferous forest dominated country. The Lohjanjärvi area of woodland groves, which includes the Karkali Nature Park, is clearly part of the narrow zone of oak woodlands that is to be found along the south coast of Finland. Because of the presence of limestone in the bedrock, the area of Lohjanjärvi is particularly fertile and the flora diverse. The variable topography and number of springs in the Lohjanjärvi surroundings increase in their own way the species richness of the Karkali Nature Park. The Nature Park's well drained soils support about 380 species of vascular plants and 210 species of mosses.

Red Helleborine (Cephalanthera rubra)

A HABITAT FOR THREATENED SPECIES

The wide variety of plants at Karkali includes many threatened rarities. The old hardwood and aspen woodlands, spruce stands, bushes, meadows and shore offer habitats also for numerous insects and small animals together with mushrooms and lichens. The rarest of them occur only at Karkali in Finland.

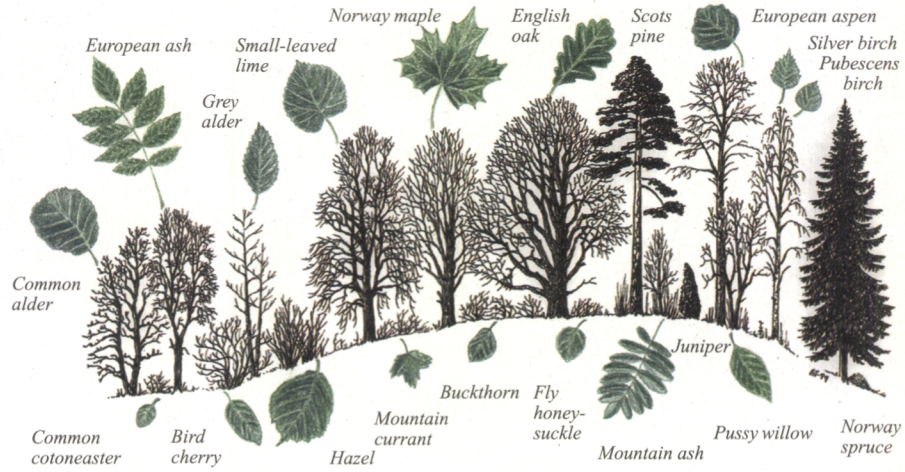
The exceptionally luxuriant flora at Karkali can also be seen reflected in the numbers of bird species and individuals. According to counts, there are about one thousand bird pairs and forty nesting species at Karkali. Woodland grove species are particularly abundant.

Hippolais icterina

Henrik Gummerus -98

VEGETATION LAYERS AND PLANT COMMUNITIES

Woodland grove flora utilise the habitat effectively in each layer of vegetation. At Karkali, the tree layer is usually formed by forest trees and hardwood trees, the bush layer is formed of low deciduous tree species together with grove shrub species, and the field layer is formed from demanding herbs and grasses.



The resources of the soil are sufficient to support several communities during the course of the summer. The most impressive community occurs before the leaves of the trees have come out, when there is a colourful and splendid display of spring flowers blooming. The early spring bloom dies down when the trees and bushes come into leaf and begin to cast their shadows and the lush summer communities come into dominance.

RESEACRH AND CARING FOR THE GROVE WOODLANDS AT KARKALI

There is a long tradition of research at Karkali. The rarities in the flora and fauna of the Karkali promontory were already known to naturalists in the 19th century. Nowadays, the development of Karkali's flora is monitored on permanent plots that were marked out soon after the establishment of the Nature Park. The plan for the care and use of the Nature Park has been according to well defined principles. The most important means of taking care has been through the removal of spruce, which shade and acidify the soil, from the best groves, and by regularly mowing open the meadows. The protection of threatened species is ensured through a detailed preservation plan.