The most magnificent in Estonia is the Käsmu Boulder Field with its area of 400 hectares, located on the Käsmu Peninsula and designating the former coastline. It has come into being during the past 4,000 years as a result of coastal erosion and the pressure of sea ice. The rocks and boulders, already covered with moss, are in places stuck to or even piled on each other. Although a boulder field consists of mostly smaller rocks, some larger gigantic boulders also occur. The largest erratic boulder in the Käsmu boulder field is Matsikivi which lies at the Käsmu nature and cultural history trail, starting at the chapel. The same trail will also take you to Vana-Jüri Erratic Boulder at the tip of the cape. The six boulders of rapakivi granite, lying nearby on the coast, are also called the Vana-Jüri Rocks. There are rocks called Meremunk (Sea Monk) and Metsamunk (Forest Monk) within the boulder field. The oblong Meremunk has the shape of an irregular quadrangle and steep sides. The rock is cracked and its western side is broken, presumably caused by a lightning stroke. Metsamunk is steep-sided and spherical. Another well-known group of rocks is the Kloostrikivid (Convent Rocks), also called as the Palmse Boulder Field, in the forest near the Palmse Manor House. The group consists of 13 larger and a number of smaller rocks of rapakivi granite. The sharp-edged rocks probably originate from one gigantic boulder which broke into pieces. A legend says that the rocks are devils who used to go and peep at the nuns at the Palmse convent. After the nunnery had been closed in the 15<sup>th</sup> century, the devils stayed waiting for the nuns until they petrified. Another story says that the rocks are nuns punished by Heavenly Father for their sins.

Landlord and President of the Baltic Society of Natural Sciences. Gregor von Helmersen, a member of the Imperial Academy of Sciences, was particularly enthused about the erratic boulders and he publised the descriptions and drawings on some of them in the monography dedicated to Northwestern Russia's large erratic boulders. In his speech to the Society of Naturalists in Tartu in 1879, he called manor and land owners to protect all the erratic boulders with the girth of more than three metres. This appeal can be considered as the first initiative in the Russian Empire to protect inorganic world.

When you see damage done to the nature or visiting objects, inform the Environmental Inspectorate by phone 1313.



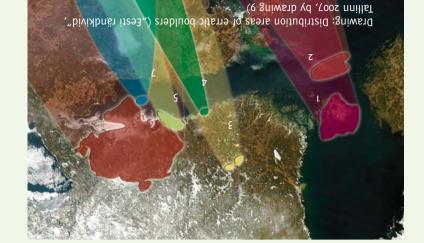
for survival to the peasants at the time of the Great Famine in the late 17<sup>th</sup> century. When the famine was over, the peasants, expressing their gratitude, cleaned the manor's fields from rocks and heaped them up. Two heaps out of eight have preserved. Several gigantic rocks of Lahemaa were already known by the famous naturalists of the 19th century, who visited the region and examined the boulders at the invitation of Alexander von Pahlen, the Palmse



position of these boulders. existence of granite and rapakivi granite in the chemical com-Finland and the surroundings of Viipuri. This is proved by the the huge rocks have been carried to Lahemaa from Southeast its journey, spreading them around at its melting stage. Most of from the earth of the Baltic Shield and carried them along on mountains and Finland slowly towards the south, tore off rocks years ago, the continental ice sheet moved from Scandinavia's glaciation to the researchers of the 19<sup>th</sup> century. About 12,500 gave inspiration and evidence on the idea of the continental also plenty of boulder fields. The large erratic boulders already or the diameter of more than ten metres, really huge. There are some of them being, with the circumference of over 25 metres The Lahemaa National Park is extremely rich in erratic boulders,

which starts near the village of Virve on the Juminda Peninsula. (House Rock) is located at the Majakivi-Pikanõmme Study Trail, family. Estonia's fourth largest erratic boulder called Majakivi went and knocked on the rock, and a new baby was born in the Viinistu Art Museum. When the children wanted a sibling, they from behind Mustkivi Rock, which lies on the coast opposite the the village's children were brought from behind this boulder or as the "Baby Rock" by the local people. The legend says that all fishing net sheds in the village of Altja. The rock was also known The easternmost boulder, Altja Big Rock, lies in the sea near the the land of the Toomani Farm Museum in the village of Muuksi. erratic boulder is Tsitre Rock - an old cupmarked boulder on tsomnty and six in Lääne-Viru County. Lahemaa's westernmost fields have been taken under protection. 21 of them lie in Harju significant huge boulders, out of which 27 boulders or boulder The Lahemaa National Park encompasses more than 50

spear, however, hit the rock which was called Spear Rock after that. Pärispea and he threw his spear from Juminda Cape at them. But the Rock) is located. Once Kalevipoeg saw enemies coming to Cape cape in the western part of the Pärispea Peninsula, Odakivi (Spear rich wooded grassland in Kasispea Village. At the tip of a small shaped as a cracked, sharp-edged pyramid, which lies in a juniperits name. Lahemaa's symbol of its kind is Jaani-Tooma Big Rock, terns) lies, where once lots of terns were nesting, which clarifies villages of Viinistu and Turbuneeme the colourful Tiirukivi (Rock of target and the rock landed in Viinistu. On the coast between the from Finland to Pärispea, but as it often happened, he missed the Village, however, tell us that Kalevipoeg wanted to throw the rock The legends about Jaani-Mardi Big Rock in the middle of Viinistu thrown here from Finland by Kalevipoeg, the Estonian national hero. boulders. The mighty Purekari Erratic Boulder is said to have been at the end of the Pärispea Peninsula is densely dotted with erratic word "joom", meaning the bay. Estonia's northernmost cape Purekari translated as "Rock of drinking", it actually derives from the dialect Launiidu Rock are situated. Although the name "Joomakivi" may be in Lahemaa. On the coast of the land bay, Joomakivi Rock and coastal meadows to the north, is the area richest in erratic boulders The neighbourhood of Viinistu, especially the flat land bays and



Istnenitoo ni nebulder, the highest erratic boulder in continental

6. Rapakivi granite of Viipuri, 7. Quartz-porphyry of Suursaar porphyrite of Tammela, 4. Helsingite, 5. Uralite porphyrite of Pellinge, of Åland islands, 2. Red quartz-porphyry of Baltic Sea, 3. Uralite Distribution areas of the leading erratic boulders: 1. Rapakivi granite





pays are sandy.

of the Käsmu Peninsula.

had escaped from him.

Lahemaa are rocky but the mouths of rivers flowing into the

is why the northern coast and capes of the peninsulas of

the water swept off the finer material between them. That

interaction of the sea and land: the sea heaped rocks up and

Lahemaa, dense boulder fields occur, which characterize the

in the rock as if in wax. That is how the rock got its name.

But the rock was so soft that the witch's nail traces remained

rock back into her apron, the rock grew even faster and bigger.

and heavier, and finally fell down. When Epp tried to put the

to carry a rock in her apron. Once the rock became heavier

to the legend, Epp the Witch lived in Võhma Village. She used huge erratic boulder in Palmse - Vahakivi (Wax Rock). According

at the lane to the forest warden of Uueküla, there is the only

pine stand south of the Madlilepa lagoon on the northern coast

days. The oval Madlilepa Erratic Boulder lies in a dry and sandy

landward side of Lemeti rock mark the water level of those

in Tallinn in 1912. The numbers of years 1846 and 1968 on the

planned to be the base for the monument to Peter I, erected

the Käsmu Maritime Museum. It is said that the rock was

lore, its real name is Härjakivi (0x's Rock) and the proper

Community Centre, Kullahansu Rock lies. According to the folk

Kalevipoeg tried to throw this rock from Finland at Satan who

Estonia, is located in Tammispea Village. According to a legend,

In a grassland 300 metres from the road near the Kolgaküla

Kullahansu Rock lies two kilometres afar.

The prism-shaped Lemeti Rock is located on the coast near

400 metres to the south-west of the Palmse-Ilumäe Road,

On both the present-day coast and the coast slopes of

In a hayfield not far from the Palmse Manor, two huge rock piles called the Näljakangrud (Heaps of Hunger) lie. The Lord of the Palmse Manor is said to have given grain

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## LAHEMAA National Park **ERRATIC BOULDERS**

Lahemaa protected erratic boulders Name	Rural municipality, county	Circum- ference in metres	Length in metres	Width in metres	Height in metres	Type of rock
Jaani-Mardi Big Rock	Kuusalu, Harju	34.5	13.2	9.2	5.7	Augen granite gneiss
Jaani-Tooma Big Rock	Kuusalu, Harju	34.7	12.7	7.4	7.6	Rapakivi granite
Majakivi	Kuusalu, Harju	40.9	15.1	11.0	7.0	Migmatite granite
Altja Big Rock	Vihula, Lääne-Viru	22.6	4.4	4.8	4.1	Rapakivi granite
Joomakivi	Kuusalu, Harju	18.6	7.1	4.5	4.4	Rapakivi granite
Karu Rock	Kuusalu, Harju	19	7.1	3.6	4	Rapakivi granite
Kiviheinamaa Kärga Rock	Kuusalu, Harju	24	7,6	7.6	5.2	Rapakivi granite
Kullahansu Rock	Kuusalu, Harju	23.4	8.3	6.7	2	Rapakivi granite
Launiidu Rock	Kuusalu, Harju	25	6.2	6.2	3.6	Rapakivi granite
Mustkivi	Kuusalu, Harju	26.7	8.1	5.9	3.3	Migmatite granite
Madlipea Erratic Boulder	Vihula, Lääne-Viru	20.6	7.8	4.7	2.6	Rapakivi granite
Matsikivi	Vihula, Lääne-Viru	24.7	7.8	7.1	4.8	Migmatite granite
Meremunk	Vihula, Lääne-Viru	18.5	7.1	4.7	4.4	Migmatite granite
Metsamunk	Vihula, Lääne-Viru	20.9	7.7	5.3	3.6	Migmatite granite
0jakivi	Vihula, Lääne-Viru	29.6	11.6	10.9	6.0	Rapakivi granite
Mohni Island's Erratic Boulder	Kuusalu, Harju		7	6	5.2	Rapakivi granite
Odakivi	Kuusalu, Harju	21.8	8.3	4.6	4.6	Rapakivi granite
Painuva Erratic Boulder	Kuusalu, Harju	34.4	9.8	9.1	5.3	Rapakivi granite
Pikametsa Big Rock	Kuusalu, Harju	20.2	8.2	6.6	4.2	Rapakivi granite
Tammispea Erratic Boulder	Kuusalu, Harju	27.7	11	5.4	7.7	Rapakivi granite
Taneli Rock	Kuusalu, Harju	20.7	6.6	5.6	3.8	Rapakivi granite
Tiirukivi	Kuusalu, Harju	22.6	8.2	7.4	5.7	Migmatite granite
Vahakivi	Vihula, Lääne-Viru	24.3	9.5	6	4.5	Granite
Purekari Erratic Boulder	Kuusalu, Harju	22.1	7.8	6.7	5.2	Granite
Saadumetsa Big Rock	Vihula, Lääne	21.8	5.8	5.6	5	Rapakivi granite
Vana-Jüri Erratic Boulder	Vihula, Lääne	20.6	7.2	5.2	5.5	Rapakivi granite
Lemeti Rock	Vihula, Lääne	22	8	4.25	5.25	
Turbuneeme Rock 1	Kuusalu, Harju	18.6	5.9	4.5	2.2	Migmatite granite
Turbuneeme Rock 2	Kuusalu, Harju	16.6	5.9	5	2.2	Migmatite granite
Tsitre Rock	Kuusalu, Harju	14.7	4.9	3.9	2.2	Rapakivi granite
Nõmmeveski Erratic Boulder	Kuusalu, Harju					
Kloostrikivid, group of 13 boulders	Vihula, Lääne-Viru	22.8*	8.7*	5.9*	3.3*	Rapakivi granite
* measurements of the largest rock						







