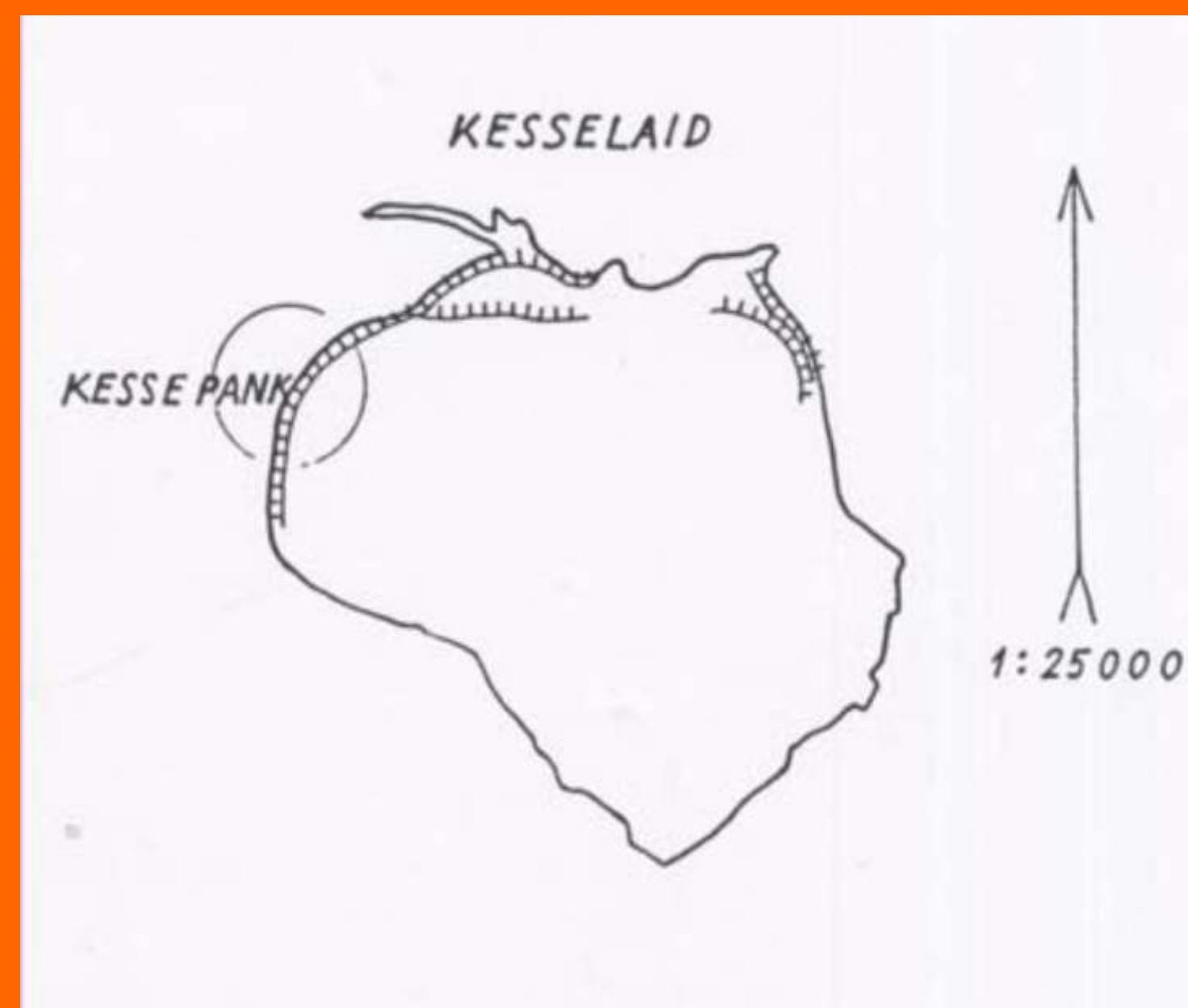




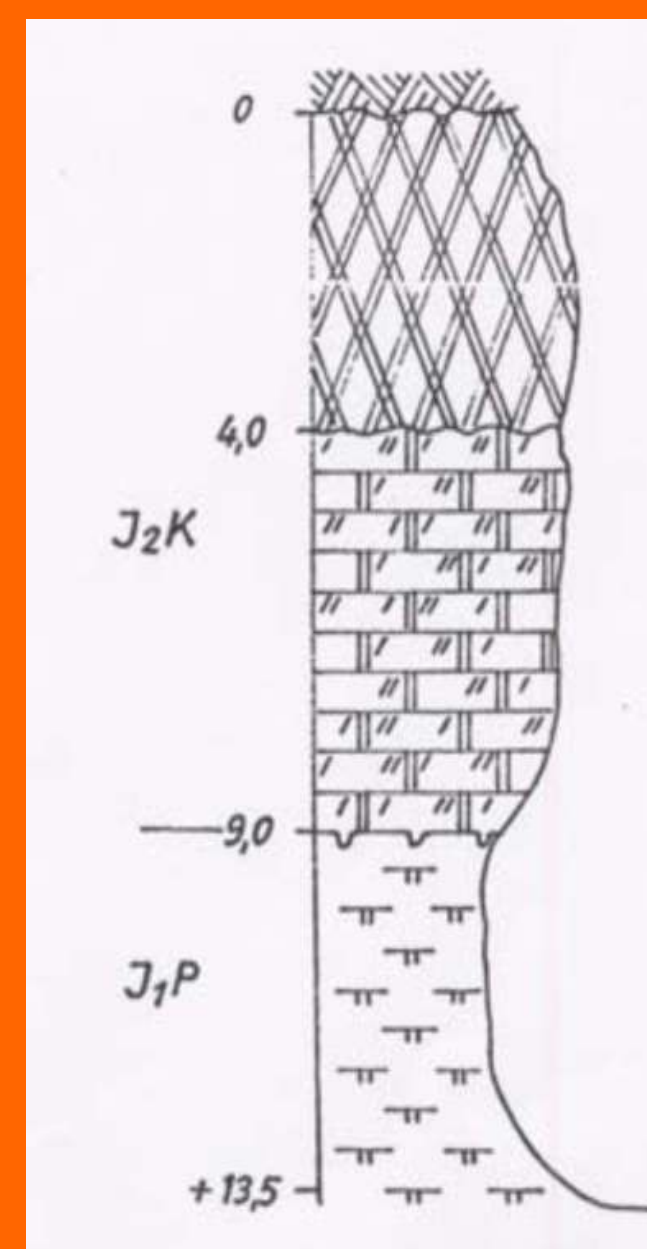
Pankrannik
Coastal cliffs

Foto: Aado Kespaik
Photo: Aado Kespaik



J2K – Jaagarahu lademe Kesselaiu kihistik
J1P – Jaani lademe Paramaja kihistik

Koostas: Krista Täht-Kok



J2K – the Kesselaid member of the Jaagarahu stage
J1P – the Paramaja member of the Jaani stage

Compiled by Krista Täht-Kok



Leppemärgid
 Huvipunktid / Place of Interest
 Tellemisplatsid / Camping area
 Oled siin! / You are here
 Mälgurada / Nature trail
 Kaitseala villagil / Boundary of nature protection area
 Hoiuala villagil / Boundary of Embled conservation area (Natura 2000 site)
 Aluskart: Eesti põhi kaart, Maa- ja metsamajandus

Geoloogia, pankrannik

Geoloogid on Kesselaidu kirjeldanud ühe suure kaljuvoorena. Kesse pank piirab saare looderannikut 600 m pikkuselt ja kerkib kuni 8,5m merepinnast. See pank moodustab osa Siluri vanusega kivimitesse lõikunud Gotlandi - Lääne-Eesti klindist. Siluri klint ei moodusta nii pikki ja kõrgeid astanguid kui Balti klint. See on aga samuti väga pikk ulatudes Gotlandi saare looderannikult üle Saaremaa põhjaranniku, Kesselaiu ja Muhu saare kuni Kesk-Eestis paikneva Linnamaa külani. Siluri klindi kogupikkuseks on umbes 500 kilomeetrit.

Panga ülaosa taandub kolme astanguna, neist kaks kõrgemat, 11 m ja 13 m kõrgusel merepinnast, on Litorinamere rannaastangud. Vastav Läänemere arengustaadium oli umbes 4000-7500 aastat tagasi. Saare põhjaosas kaardub pangajärsak ida suunas maa poole. Kesse pangal on hästi jälgitav saare geoloogiline ajalugu. Siin paljanduvad alamsiluri settekivimid, mis moodustusid siin umbes 450 miljonit aastat tagasi laiunud troopilise mere selgrootute lubikodadest. Panga põhjapoolsemas osas on näha vanemaid, Jaagarahu lademe plaatjaid dolomiite, mis sisaldavad rohkesti suuri tumepruune püriidimugulaid. Nende all lasuvad Jaani lademe Paramaja kihistu domeriidid (suure savisisaldusega). Panga pealmises osas paljandub kuni 5 m ulatuses biohermne ehk rahkjas dolomiit, mis katab kogu saart ja annab sellele praeguse pinnaprofiili.

Geoloogilised kihid paiknevad siin eripäraselt: need ei asetse rõhtsalt ega ka Eestis tavapärase kerge kaldega, vaid üle seitsmekraadise nurga all. Ka Läänemere eri staadiumide rannajooni saab siin jälgida kogu saare ulatuses. Tavaliselt on need säilinud vaid lühemate osadena.

Meri murrutab osaliselt ka praegu Siluri ajastu Jaagarahu lademe plaatjaid dolomiite.

Kesselaiu pank ja selle lähikonna huvitava geoloogilise ehitusega maa-ala võeti umbes 60 hektari ulatuses looduskaitse alla juba 1938. aastal. Siis keelati asutada pangale paemurdusid, kuhjata kive ja klibu, püstitada ehitisi ja muul viisil paiga ilmet muuta.

Geology. Coastal Cliffs

Geologists have described Kesselaid as one large cliff drumlin. Kesse cliff runs for 600 metres along the north-western coast of the islet, in places mounting as high as 8.5 m above the sea level. The cliff is part of the Gotland-West-Estonian Glint that penetrated into rock as old as the Silurian Glint. However, the Silurian Glint does not form such vast and high terraces as the Baltic Glint but it is also very long, ranging from the north-western coast of Gotland and across the northern coast of Saaremaa, Kesselaid and Muhu Island up to Linnamaa Village in Central-Estonia. The total length of the Silurian Glint is approximately 500 km.

The upper part of the cliff retreats in three terraces, the two higher ones (11 m and 13 m above sea level) of which originate from the Lithorine coastal terraces about 4000-7500 years ago. In the North the cliff curves eastwards towards the land. Kesse cliff exhibits the geologic history of the islet: the Ordovician sedimentary rocks of are made of shells and tests of the invertebrates inhabiting the tropical sea lying here approximately 450 million years ago. In the northern part of the cliff one can see even older rock, the plate-like dolomites of the Jaagarahu stage abundantly containing big dark-brown pyrite nodules. Underneath these dolomites lie the domerites of the Paramaja formation of the Jaani stage rich in clay. In the upper layer of the cliff there is a 5-metre outcrop of biohermic dolomite that covers the whole island giving Kesselaid its present relief.

Geologic beds lie here in quite an unusual way: they are not positioned horizontally or with a slight slant, as is traditional for Estonia, but under a more than 7-degree angle. The different stages of the development of the coastline of the Baltic Sea can also be observed everywhere along Kesselaid coast. In most places coastline stages are retained in short sections only.

Even now the sea keeps abrading the plate-like dolomites of the Silurian Jaagarahu stage.

Kesse cliff and its geologically attractive neighbouring area (approx. 60 hectares) were taken under protection in 1938. The opening of dolomite quarries was banned; it was not allowed to pile up stones and shingle, to erect buildings or to alter the appearance of the island in any other way.