

Photo Story

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The Hailuoto island: antropogenically transformed, but still interesting

Photos and text by Mykyta Peregrym^{1,2*}, Oksana Futorna^{2,3} & Viktoriya Berezovska^{2,4}

¹ Department of Landscape Gardening and Ecology, Luhansk Taras Shevchenko National University, Hohol' Str., 90, Myrhorod, Poltava region, 37600, Ukraine; mykyta.peregrym@oulu.fi

² Ecology and Genetics Research Unit, University of Oulu, P.O. Box 3000, 90014 Oulu, Finland

³ Educational and Scientific Institute of High Technologies, Taras Shevchenko National University of Kyiv, Hlushkova Avenue, 4g, Kyiv, 03022, Ukraine.

⁴ Department of Phycology, Lichenology and Bryology, M.G. Kholodny Institute of Botany of the National Academy of Sciences of Ukraine, Tereshchenkivska Str., 2, 01601, Kyiv, Ukraine

*Corresponding author: mykyta.peregrym@oulu.fi

Inspired by the captivating photo story published in the last year December issue of *Palaeartic Grasslands* (Dengler & Dembiczy, 2022), we have decided to continue talking about islands of the Baltic Sea. In today's narrative, our focus turns to Hailuoto, the expansive gem of the Bothnian Bay, belonging to Finland, spanning 200.53 km². We were able to visit this unique territory three times in summer 2023, because of our fellowships in the University of Oulu within a special support of Ukrainian researchers in the time of the Russian invasion in Ukraine from the [Biodiverse Anthropocenes research programme](#).

Hailuoto is located approximately 53 km opposite one of the largest cities of Finland, Oulu, which also names the capital of Northern Scandinavia. It is possible to reach by local public buses or private vehicles crossing the water area by free ferry. While the island took shape as a singular landmass only in the last century, numerous smaller islands that now form part of it emerged from the sea approximately 1850 - 1950 years ago, owing to the continual land elevation resulting from post-glacial rebound. Notably, Hailuoto's land area continues to expand, with projections suggesting an eventual connection with the mainland.

Despite its flat terrain, with its highest point reaching 31 meters above sea level, Hailuoto boasts an array of diverse habitats, including sandy shores, coastal meadows, pine forests, inland dunes, dry pine barrens, sphagnum bogs, and lakes, among others. With a modest population of about 950 inhabitants, the island maintains an incredibly low population density of 4.73 people/km². However, Hailuoto is attractive a place for tourists, especially during the summer months, because of its long sand beaches and natural wonders, though there are some interesting phenomena in other seasons too, for example, the autumn migration of swans or accumulating thousands of "egg-shaped" sea ice on the shore.

While a comprehensive inventory of vascular plants specific to Hailuoto is yet to be compiled, there are 281 species known for the northernmost islands of Gulf of Bothnia for a whole, not including several hybrids of *Alnus* Mill., *Carex* L., *Equisetum* L., *Galium* L., *Rubus* L. and *Salix* L. genera, previously noted here. According to data gathered from iNaturalist (<https://www.inaturalist.org>), Hailuoto is confirmed to host 140 species of vascular plants. On October 16, 2023 the most popular plants were *Lathyrus japonicus* Willd. with 43 observations, *Honckenya peploides* (L.) Ehrh. (25 observations), *Leymus arenarius* (L.) Hochst. (20 observations), and



Marjaniemi Lighthouse. Read more: [wikipedia.org](https://en.wikipedia.org/wiki/Marjaniemi_Lighthouse).

Empetrum nigrum L. (18 observations). Other species have been recorded with seven observations or fewer.

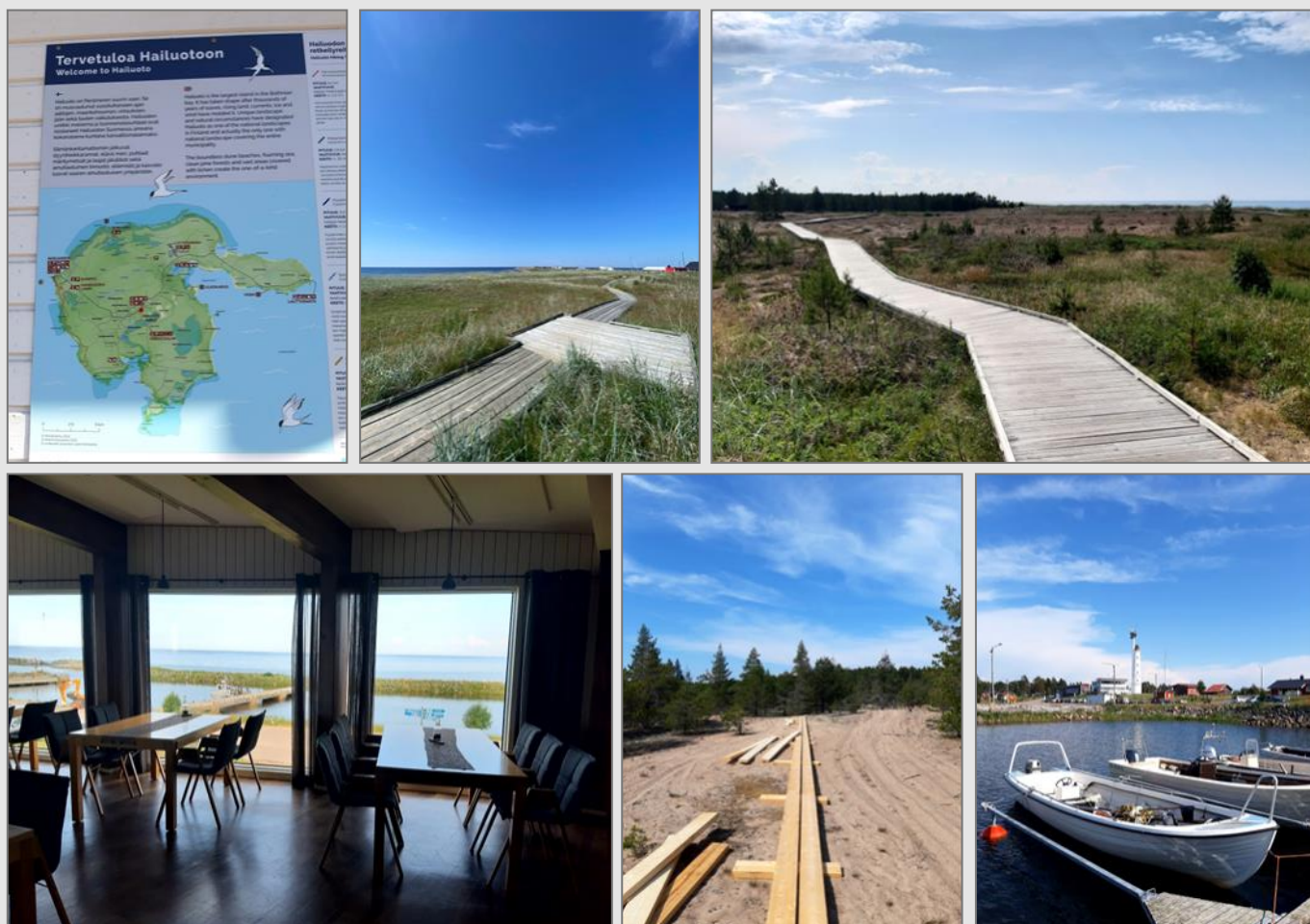
A swift survey of Hailuoto through Google Maps satellite imagery reveals extensive tracts of managed forests, some of which have been recently cleared. As a result, one gets the impression that nature here has been completely transformed and nothing interesting may be found there. However, this is not absolutely true, because many small plots of different kinds of natural and semi-natural vegetation remain in their relevantly unchanged state. We

saw this during our three one-day trips on June 29, July 11 and August 18, 2023, when we visited eastern, southern and northern parts of the island respectively.

Hailuoto is home to five Nature 2000 areas, spanning a total of 7068 hectares. Four of these areas are protected under both Birds and Habitats Directives (FI1100201, FI1100202, FI1100203, FI1100204), and one territory - only under the Habitats Directive (FI1100206). These areas boast an array of unique habitats, including Baltic esker islands with sandy, rocky and shingle beach vegeta-



Typical buildings in the middle of natural ecosystems, which are mainly used for recreation in summer and weekends.



The elements of the recreation and education infrastructure.

tion and sublittoral vegetation; Boreal Baltic coastal meadows; Boreal Baltic sandy beaches with perennial vegetation; annual vegetation of drift lines; coastal lagoons; decalcified fixed dunes with *Empetrum nigrum*; dry sand heaths with *Calluna* and *Empetrum nigrum*; embryonic shifting dunes; European dry heaths; Fennoscandian wooded pastures; fixed coastal dunes with herbaceous vegetation ("grey dunes"); humid dune slacks; shifting dunes along the shoreline with *Ammophila arenaria* (L.) Link ("white dunes"); wooded dunes of the Atlantic, Continental and Boreal region; as well as some protected forests, bogs, mires and fens. Birds are absolutely dominated among target species (*Grus grus* (Linnaeus, 1758), *Falco subbuteo* Linnaeus, 1758, *Sterna hirundo* Linnaeus, 1758, *Anser fabalis* (Latham, 1787), *Limosa limosa* (Linnaeus, 1758), *Limosa lapponica* (Linnaeus, 1758) and others), but also there are two such species of plants (*Alisma wahlenbergii* (Holmb.) Juz. in V.L. Komarov and *Hippuris tetraphylla* L. f.). Also, Hailuoto is designated as an Important Bird Area within "[Oulu region wetlands](#)" site, and as Ramsar site "[Bird Wetlands of Hailuoto Island](#)".

For a more profound understanding of Hailuoto's natural history, we recommend acquainting oneself with the works of Vartiainen (1980), Vilpa & Alasaarela (1983), Hicks (1988), Hulme (1994), and Hellemaa (1998). As well, we think that Hailuoto might be a very interesting place for future EDGG field workshops or even for a mid-excursion during an Eurasian Grassland Conference, especially taking into account the fact that such events of our working network have never been held in the Nordic countries.



Hailuoto has practically abandoned livestock farming, but horses are kept in small numbers

Further Reading:

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- Vilpa, E. & Alasaarela, E. 1983. Hailuoto: Kuvauksia luonnosta ja kulttuurista. *Oulu: Oulun seudun biologian ja maantieteen opettajat*. 64 pp.



Small areas of meadows, especially near settlements, are systematically mown, because grazing is absent on the island.



Dunes and heaths, very rare and threatened habitats in Finland, were restored in some places by clearing away trees and bushes, cutting the rootstock of common reeds and other species.



Littoral habitats of the Hailuoto island.



Coastal dunes mostly with *Leymus arenarius* communities.



Pine, birch and willow saplings are slowly spreading on coastal dunes.



Heaths of Hailuoto.



Inland dunes mostly covered by *Empetrum nigrum* L., *Arctostaphylos uva-ursi* (L.) Spreng., *Vaccinium vitis-idaea* L. and lichens.



A typical pine forest with domination of *Vaccinium vitis-idaea* L. and *V. myrtillus* L.



Diverse meadows.



A few examples of Hailuoto's bogs, mires and fens.



Lathyrus japonicus Willd., the most impressive plant of the coastal dunes in June.



Honckenya peploides (L.) Ehrh., a small spreading plant, forming patches on sand beaches and coastal dunes.



Silene uniflora Roth.



Cornus suecica L., a rhizomatous herbaceous perennial of heaths and forests.



Eriophorum angustifolium Honck. and its community.



Linnaea borealis L.



Some edible berries of Hailuoto: *Empetrum nigrum* L., *Vaccinium myrtillus* L., *V. vitis-idaea* L., *V. uliginosum* L., *Rubus arcticus* L. and *R. chamaemorus* L.