

Icelandic Researchers Discover Origin of New Birch Forest



Some 22 years ago, Icelandic scientists were amazed to discover birch tree seedlings growing on the barren Skeiðarársandur sand plain. The budding forest had sprung up naturally, without any human efforts, despite the dry and seemingly inhospitable environment. Now scientists have determined where the seeds came from.

Glacial flood sediment may have supported growth

At 1,300 square kilometres (502 square miles), Skeiðarársandur is the largest sand plain in the world. It stretches from the base of Vatnajökull, Iceland's largest glacier, all the way to the ocean.

The first birch trees on the plain were spotted around 1998, two years after a glacial outburst flood caused by the Grímsvötn volcano had flooded Skeiðarársandur. The sediment deposited by the flood may have been a crucial factor in the success of the area's new birch trees. The forest is now on course to become the largest natural birch forest in Iceland in a handful of years.

Genetic material reveals source of seeds

"We have compared genetic material from birch on Skeiðarársandur and birch in three birch forests nearby and now have its paternity test results, if you will," Kristinn Pétur Magnússon, Professor of Genetics at the University of Akureyri, explained to RÚV reporters

recently. It was Kristinn's job to determine the origin of the seeds that had unexpectedly thrived on the sand plain.

Scientists compared the genetic material of the birch on Skeiðarársandur to that of birch in Bæjarstaðaskógur, Núpstaðaskógur, and the forest on Skaftafellsheiði heath. "It's clear that this birch comes from Bæjarstaðarskógur, which is not a bad inheritance, because that old birch forest is particularly beautiful," Kristinn stated.

At the time of settlement, somewhere between 25-40% of Iceland's land area was covered by birch forest. Today forests cover less than 2% of Iceland, largely due to settlers' clearing of land for firewood and livestock grazing. According to Kristinn, "the most remarkable thing about this project is that birch can plant itself in this way [...] This shows and proves that if we give these forests that are disappearing today a little room to propagate, then they should be able to do so."

Source: <https://www.icelandreview.com/nature-travel/icelandic-researchers-discover-origin-of-new-birch-forest/>