

Researchers in the Largest Forest of the World

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Over there, in front of my eyes, bathing in the morning sun, is the glittering Jenisei and the city of Krasnoyarsk in the river valley. I have arrived in the middle part of the world's largest conifer forest area, or taiga. Finland is located on its western side, about 3500 km from here!

Scenery is here greatly similar to Finland, with all the small hills and the Scots pine forests. The whole forest area belongs to the same vegetation zone, or biome. I am a bit excited, except of seeing our friend and host **Eugene A. Vaganov**, but also of thinking to see the mighty Jenisei!

Someone has said that the shortest distance between two persons is a smile. As I face my host at the Krasnoyarsk airport, I can again feel his friendly smile and his Asian-style warmth.

Visiting the Russian "Metla"

We are visiting VN Sukachev Institute of Forest, having been invited by its Director, Professor and Member of the Russian Academy of Sciences, Academician **Eugene A. Vaganov**. The purpose of our visit is to get familiar with the research of the institute and negotiate with him for joint research topics. Metla and VN Sukachev Institute of Forest have not earlier had any specific connections. Our visit is thus even historical!

Metla's mini delegation is comprised of two persons: Research Director, Professor **Kari Mielikäinen** and Senior Researcher **Mauri Timonen**. Our visit is a return visit for Vaganov's last spring's (2005) visit to Metla, Finnish Lapland and Rovaniemi. He, together with **Malcolm K. Hughes**, Professor of Dendrochronology from the university of Arizona, was initiating a joint Russian-US-Finnish research cooperation in forestry and climate change topics.

Vaganov has arranged for us several meetings with professors and researchers of his institute. He wishes us to learn about their ongoing work and some of their key projects in the institute. Because of the tight schedule, we start our tour without delay.

The tour reveals not only several new but also many joint research topics between the institute and Metla. We are also impressed with his researchers' high scientific level, experience in international cooperation and good command of English.

Research expedition to Siberian forests.

We head to Pogorelsky Bor, a field station of the institute about 40 km from Krasnoyarsk. Vaganov's **Galina**-wife, physicist-engineer, has joined us. While our master and mistress stay in the field station in order to prepare our sturgeon lunch, Field Station Director **Dr. Tamara Ivanova**, introduces us the local arboretum.

Whilst soup still boiling, Vaganov explains us the purpose of the two 40 m high close-by towers that have been erected at about 200 m distance from each other. The small reflective surfaces attached to steel wires, which have been stretched between the towers, work in conjunction with satellites. Comparing the reflections received by a satellite help in learning to interpret properly different terrain targets, like agricultural fields, peatlands etc.).

We continue our field excursion to a specific forest, where trees seem to be built from two separate trunks. Vaganov explains, how two cousin tree-species, *Pinus sylvestris* (our Finnish pine) and



■ The National Park of Stolby close to Krasnoyarsk provides spectacular scenery.



■ Margit Pudas-Timonen and the city Krasnoyarsk.

Pinus sibirica) some decades ago were joined artificially together. It, however, is a mystery to researchers, how these pine relatives were able to find their mutual food and water transportation connections.

Siberian forests are sensitive to forest fires. We recorded several fires during our flight here. Looking at a 15 meters high, overdense pine forest just in front of me, it is no wonder why forests tend to burn here during hot and dry summer seasons. Beating out forest fires is often almost impossible, because distance to the closest road may exceed 1000 km. The only way of putting fire down would be the use of helicopters, but it is too expensive. That is why many fires are just monitored from satellite images.

We continue our trip after a tasty lunch. We soon pass a small village. Wooden houses and fences surrounding them have not been painted. Sky-blue door and window posts, however, give an attractive impression of the village. But why on earth to paint these houses? Temperature may fall down up to -50 Celsius degrees in wintertime and rise to 30 or more degrees in summertime. So extreme temperature variation break paint up from wooden surfaces.

My attention is triggered by some abandoned cornfields. Vaganov explains that they have be-

come needless because of improved cultivating methods.

Sailing at Jenisei

We have returned back to Jenisei. I already as a child daydreamed about seeing the famous rivers Ob, Jenisei and Lena. It is now, definitely, time to dip toes in the crystal-bright water of Jenisei. Surprisingly warm!

I notice a sailing boat anchored in the bottom of the closeby bay. To my great surprise I realize soon to be sailing towards the open sea. We are on a dam basin of a big hydropower station. Professor Vaganov is sitting on the boat deck, giving a lecture about the building of the dam.

Our return trip starts in a Siberian sunset, entertained by travel music chosen by our car driver **Michel Smehovich**. We, judging of our quick car backseat monitoring, conclude the Siberian forests looking like our Finnish mixed pine-spruce-birch forests.

We discuss the general need for thinning these partly overdense forests. Wood-processing industries are not very profitable here because of long and costly transportation distances. But we can also consider the thinning questions from other points of view, e.g. as a carbon flux matter.

We stop for dinner at the 80-year anniversary of the Stolby

National Park. We enjoy the Russian amazing hospitality and food culture: toasts, abundant tasty food, emotional community singing and joyful dancing!

Our guide, a young Forest Doctor, **Anastasia Knorre**, brings us to the Stolby National Park. Day trippers have to walk seven kilometres in order to get to the heart of the park, which is landmarked by massive cliffs. We are brave enough — mingled with fear — to try cliff climbing, this great form of popular entertainment.

We return finally back to VN Sukachev institute and start our final meeting topiced by Vaganov's 17-point cooperation plan. As there is nothing to change in his paper, we are soon ready to participate in a farewell party arranged by the institutes researchers. The party, however, breaks for a half an hour: Vaganov's close friend, Professor **Ernst-Detlef Schulze**, visiting from Max Planck Institute of Jena, Germany, has just arrived. They have a joint project called Zotto in Zotino, where they plan to erect a huge 300 meters high tower for carbon flux studies.

Forest research in the Urals

We have moved about 2000 km towards the west, to Ekaterinburg. We are visiting Professor **Stepan**

G. Shiyatov. He leads a dendrochronological laboratory in the Institute of Plant and Animal Ecology. Shiyatov is famous for his four decades long timberline studies in the Urals. His thousands of photos, taken on the same footprint demonstrate clearly, how timberline forests have got denser and moved gradually upwards on the mountain slopes.

We have already had the previous day a joint seminar with him and his researchers. We are satisfied with the results of the meeting, where we negotiated for our future cooperation plan. He suggests playfully confirming our agreement on the border between Europe and Asia.

We have arrived to a mixed pine-birch forest shaded area, where, in the middle of a round green, a painted line passes a massive stone monument symbolizing the border of Europa and Asia. We enthuse to step and jump from one side to another. Tourists behave like this at my hometown in Rovaniemi, as they cross the Arctic Circle. That makes me amused of our actions.

Photos, handshakes, hugging from Europe to Asia and vice versa. And of course an official group photo. We try to look serious-looking, but our joint sense of humour and a school class of small children joyfully goodbuying us at

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■ Krasnoyarsk is about 3500 km from Rovaniemi.



■ The Royal family of Russia was buried in this depression of an abandoned mine in 1918.

Information from Siberia

- Krasnoyarsk with its about 930 000 inhabitants, is the biggest industrial town in East-Siberia. It is famous also for its scientific departments, university and culture. Up to 1993 the city was closed from outsiders because of military reasons.
- VN Sukachev Institute of Forest (the Russian "Metla") was established in 1944. It is the biggest forest biological research institute, with its four departments and 17 laboratories, where 320 employees, 35 of them professors, 100 doctors and 76 Ph.D. students. The institute studies forestry and forest resource monitoring, forest ecology, forest history and biotechniques.
- "Father river" Jenisei flows from the mountains of Mongolia to the Arctic Ocean. The 5500 km long river is just 800 m wide at the Krasnoyarsk latitude, but expands to the width of several kilometres.
- Ekaterinburg, a 1,5-million town in the Middle Urals, is one of the biggest centres in Russia and is the third important cultural town there. There is also forest industries, forest research and forest education. Ekaterinburg was also a closed city up to 1993.
- Institute of Plant and Animal Ecology (IPAE), established in 1944, studies plant and animal biodiversity and climate change. The IPAE, led by Academician **Bolshakov**, has 13 laboratories, accompanied with almost 300 employees (3 academicians, 24 doctors, 77 researchers). Professor **Shiyatov** is the director of IPAE's dendrochronological laboratory.

the bus windows, make it impossible.

Ganina Jama

Nikolai II, a Russian tsar, also once the ruler of Finland, was murdered, as well as his family, too, in a July night 1918 in Ekaterinburg. Their bodies were placed after eventful phases in an abandoned mine in the forest of Koptiaki, close to Ganina Jama.

The remains of the royal family were relocated in 1975, but excavated not until later on, 1991, because of political delicacy. The authenticity of their remains were identified by DNA analysis and buried officially later on in St. Petersburg.

The memorial area, surrounded by a terrace platform, is located in an idyllic birch forest, in the middle of an orthodox village. A depression covered by moss and twigs reminds of this bloody period of Russian history. I brace on a railing of the terrace and quietly think of the episode.

A high granite cross mounts from the bottom of the depression. I listen to quiet orthodox hymn in the air. I feel to be in a big church. The area is not big, but very impressing. This memory and mutual understanding with Professor Shiyatov about humanity and religion make me impressed.

After wandering some tens of kilometres in the streets of Ekaterinburg I find it easy to move around here. And as there are everywhere clean as well here as in Krasnoyarsk, and I can also easily communicate with local people, I love to come to Siberia also another time!

This article was originally published in Lapin Kanssa 06-FEB-2006 as a Finnish version. Translated by Mauri Timonen. You can send comments: to Margit: maputi@nic.fi, to me: matimon@nic.fi