Abisko, Swedish Lapland, February 2018

Abisko National Park
Swedish Lapland
Jeremy Braithwaite Photography

Visit to Swedish Lapland

In February 2018 we visited Abisko National Park in Swedish Lapland. Abisko is just over ninety kilometers northwest of the mining town of Kiruna, which is a one and a half hours flight north from Stockhlom, well within the Arctic Circle.

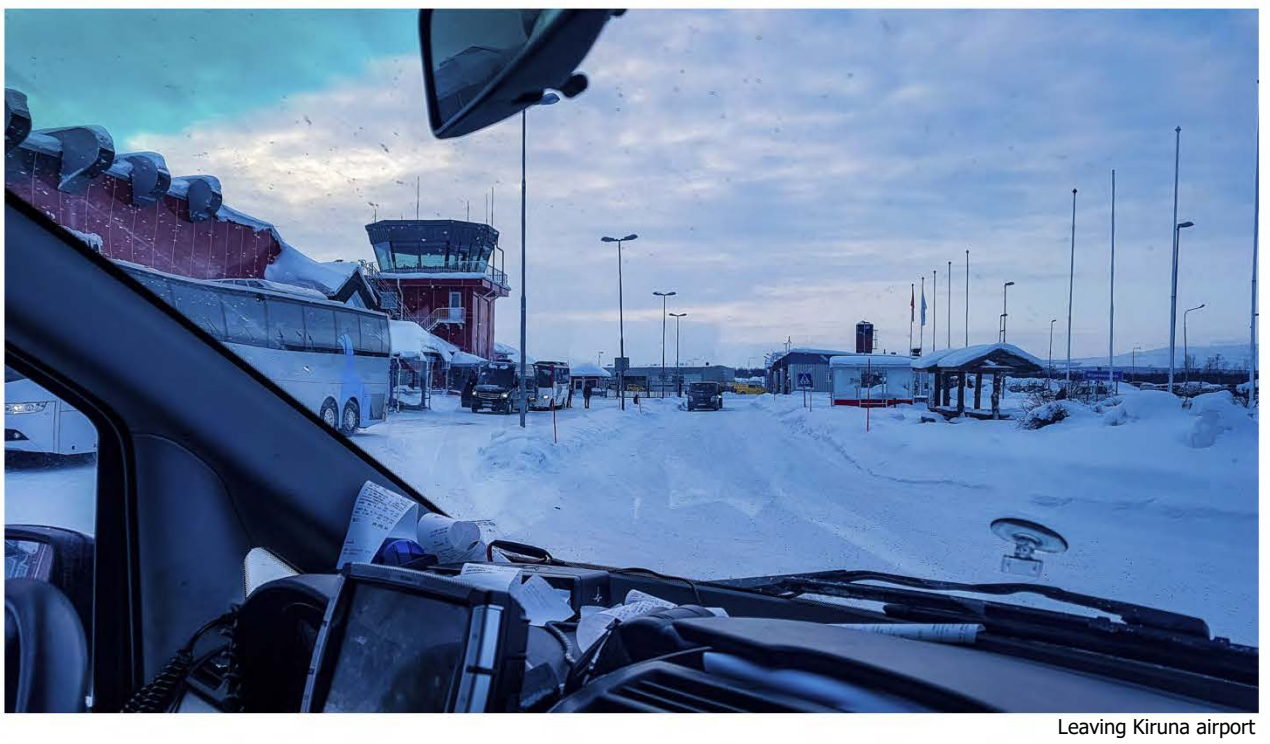
The objective of the trip was to, hopefully, see the Aurora Borealis, the Northern Lights. We had thoroughly researched options in all the Scandanavian countries as well as Iceland and opted for Abisko. The National Park is located in a rain shadow with a mountain range to the west (Norway) between it and the sea. It tends to have less snow (hence more chance of clear skies) than other options. Abisko is also the base for Lapland Media who run small group photographic safaris, using Canon equipment, the same as Jeremy. The decision was made!

Monday 12 February, 2018: Stockholm to Kiruna

Truck racing, Swedish style, at Stockholm airport

Kiruna airport

The flight north in bright sunshine

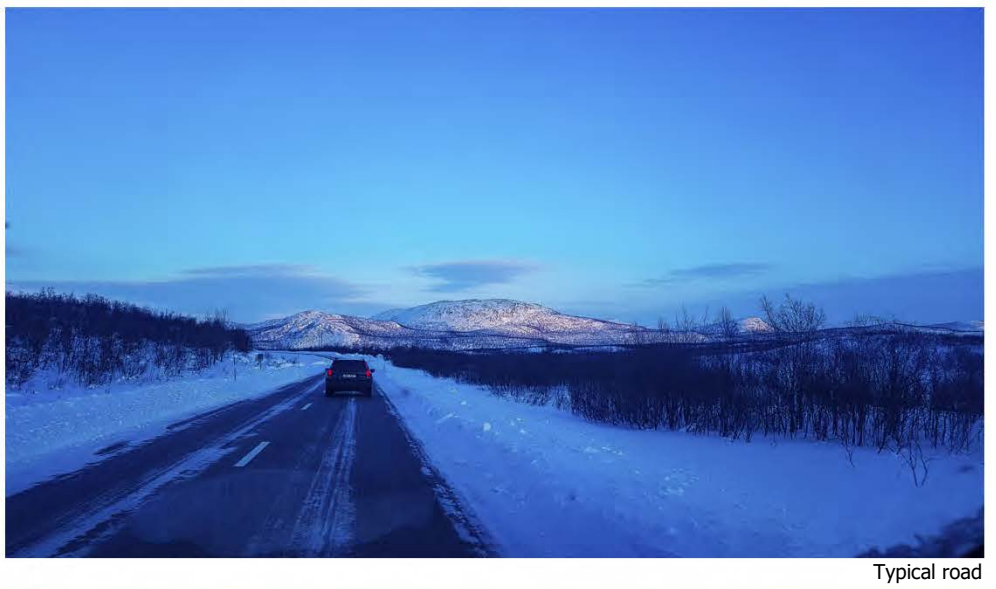


Leaving Kiruna airport

Kiruna to Abisko National Park

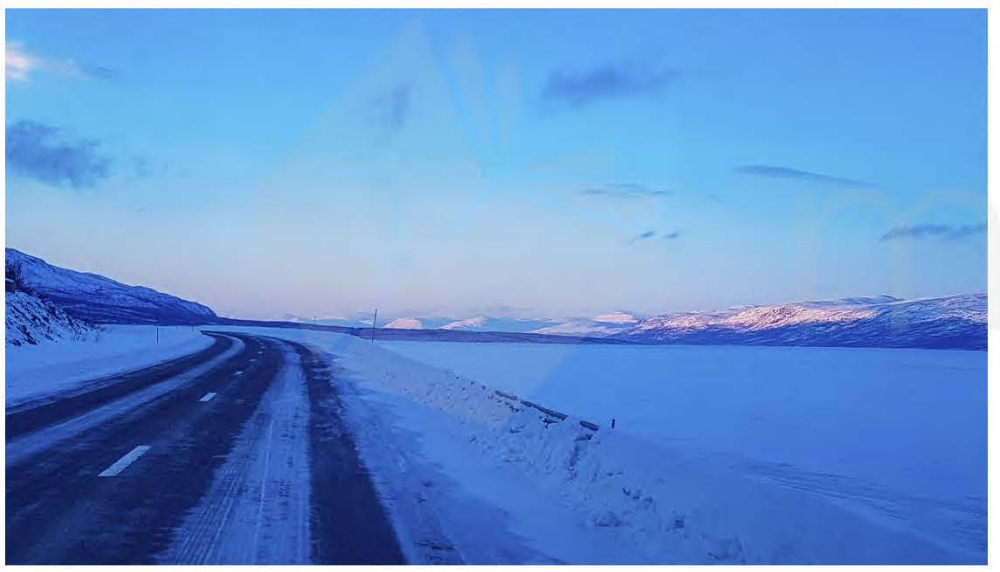
Kiruna township

Start of the trees



Typical road

Frozen lake



The only reindeer we saw

Abisko Mountain Station (hotel where we stayed)

The view from the dining room of the hotel

Willie, the travelling bear, had a beautiful view from our room

Lapland Media

Niklas, our guide was somewhat fearsome looking, but a very skilled photographer and a considerate guide

Inside the eight seater mini-bus. Jeremy always sat in the front as he was by far the biggest man in the group...the rest of us squashed in behind

Our group of seven setting out on an expedition

What causes the aurora?

Imagine Earth has a protective shroud consisting of the atmosphere and a magnetic field, called the magnetosphere, that protects us from a constant flow of damaging high-energy particles and other radiation emitted by the sun.

The aurora is the result of an interaction between the sun, atmosphere and magnetosphere. The magnetosphere captures and redirects the high-energy particles from the sun and when they collide with the oxygen and nitrogen gases in the atmosphere the molecules become excited. When the molecules return to their normal state, they release photons, small bursts of energy in the form of light in the atmosphere.

When billions of these collisions occur and enough photons are released (at about 80 to 300 kilometres above the earth surface), the oxygen and nitrogen in the atmosphere emit enough light for the eye to detect them. But since the aurora is much dimmer than sunlight, it cannot be seen from the ground in the daytime only at night.

Why the different colours?

The colour of the aurora depends on which gas is being excited by the electrons and on how much energy is being exchanged. Oxygen emits either a greenish-yellow light (the most familiar colour of the aurora) or a red light at very high altitude; nitrogen generally gives off a blue light. The oxygen and nitrogen molecules also emit ultraviolet light, which can only be detected by special cameras on satellites.

Why does it take different shapes?

Scientists are still trying to answer this question. The shape depends on where in the magnetosphere the electrons came from and on what caused them to precipitate into the atmosphere. Dramatically different shapes can be seen on a single night.

Where can I see the aurora?

Auroras usually occur in ring-shaped areas centred around the magnetic poles of Earth. The complete rings, called the auroral ovals, can only be seen from space.

Our first Aurora....from the hotel

At about 6.00 p.m. the group were enjoying our first dinner together when Niklas went outside, and came back to announce the Aurora was visible. With great excitment we all headed outside for our first opportunity to see 'The Lady'. It was a hurried setup as we wanted to cature the image in case the aurora did not appear on the other nights.

The first night in the forest

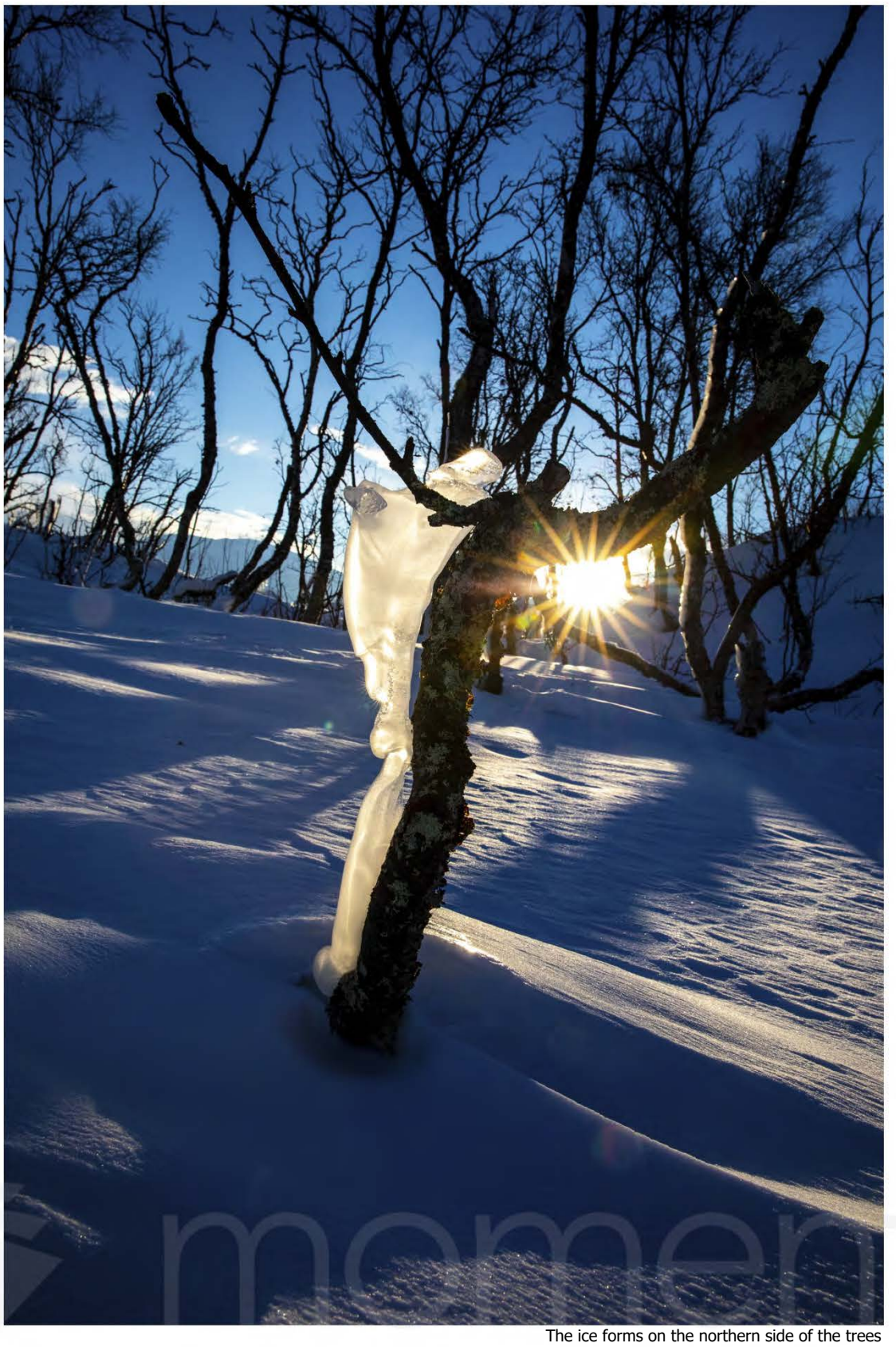
Tuesday 13 February, 2018: The lake in daylight

We followed the lake shore for about ten kilometers north west of the hotel where a small peninsular projected into the lake, now frozen by a thick covering of ice. The weather conditions had created ice sculptures on a rocky outcrop at the edge of the lake. The weather was fine and sunny - perfect to explore. Unfortunately Jeremy slipped while photographing and broke a couple of ribs that meant we did not go out Aurora hunting on Tuesday night.

Our mini bus. The car park was about 300 to 400 meters from the lake

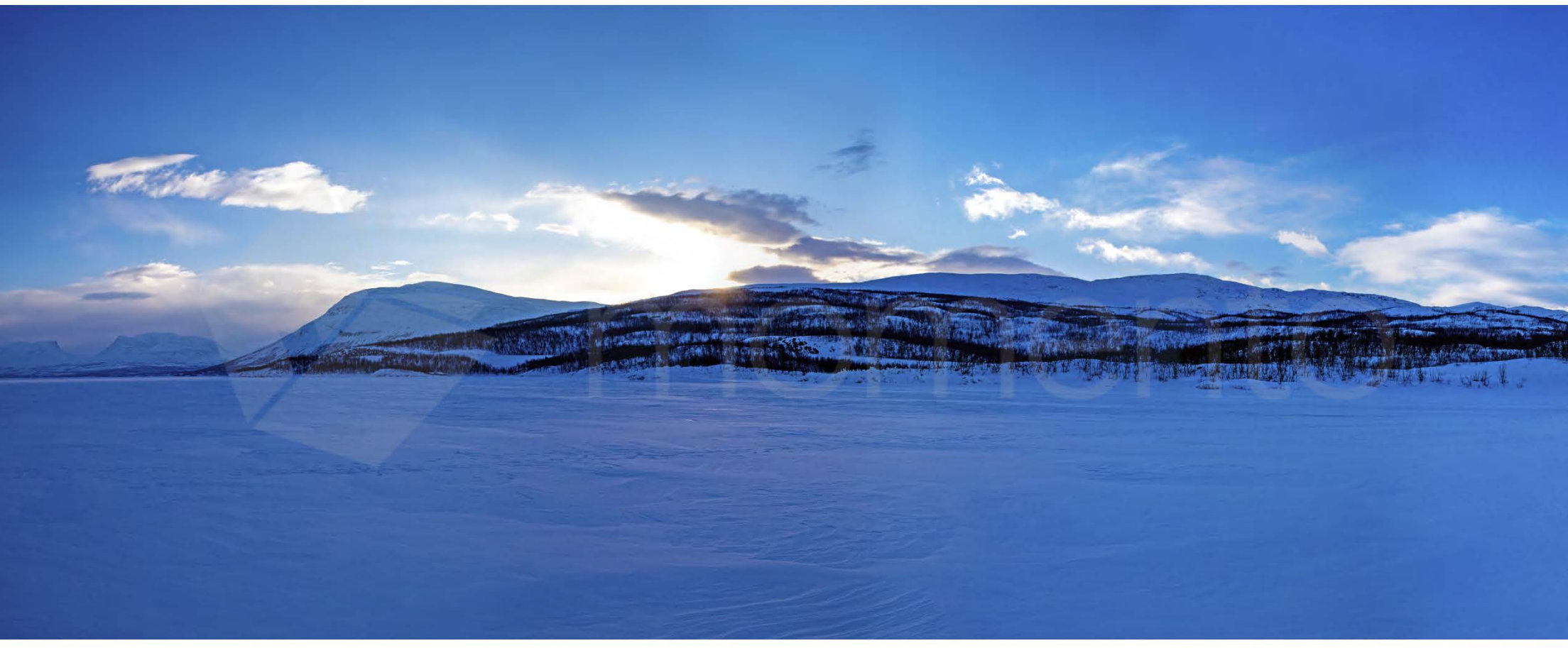
Showing how high the deer eat the bark of the birch trees. It was a long slog through the snow

Briefing before we split up



The ice forms on the northern side of the trees

The natural ice sculptures are a feature of the rocky outcrop at the edge of the lake



Wednesday February 14, 2018: The canyon

We took the opportunity of another fine and sunny, alberit cold, morning to walk around the canyon near the hotel and down to another section of the ice lake (the part visible from the hotel).

There was a tunnel under the road. As we entered the tunnel Sami singing was activated. It was a haunting sound. And, yes, it was cold!

Madmen heading out onto the lake to camp!

That night.....the forest and the ice lake

Julie opted not to go on the first part of the expedition, again into the forest. When the group came back to the hotel at about 9.30 she joined them to visit the ice lake.

Aurora from the ice lake - Julie's story

I had become so cold when we went into the forest to see the Aurora on our first night at Abisko I told our guide, Niklas, I would not go out on a following night so not to spoil the experience for Jeremy or the other five on our photographic safari. Niklas was adamant I should see the Lights and hatched a plan. For the first part of the night he would take the group on a sled towed by a skidoo to the tepee in a clearing in the forest we had gone to for the first night. They would then return to the hotel, swap to the mini-bus and travel to the ice lake we had explored the previous day with the hope of seeing the Aurora. When the group were leaving the forest Niklas would send me a text and I'd meet them in the hotel foyer. We agreed if I became too cold on the ice lake Niklas would take me back to the bus where I could sit inside, albeit still cold, but out of the wind.

****

At 9.30 p.m. I receive the text - pick up in thirty minutes. So starts the preparations. First thing, take off indoor clothes and start to redress for an arctic adventure. Firstly, the bottom half. Pull on long johns, then two pairs of merino socks, thick pants.

Now the fun part - struggling into the blue arctic suit. Unzip sides of bottom of pants legs, feet through pants legs, left foot gets hooked in a mysterious part of the suit. Trying to extract foot is an adventure in itself. Finally extricate foot and pull the suit up to waist and tie arms around me to stop the whole thing falling down (I'm in a size 22 instead of a 14 to get the body part long enough for me - there is a lot of spare suit hanging loose around me).

Sit on the bed and retrieve the arctic boots from under a cupboard. These boots have a 50mm rubber sole and come to just below the knee. Push feet in, affix Velcro strap, pull drawstring to tighten. Zip the pants legs shut over the boot after battling to fasten the press stud and Velcro gaiter at the bottom of the pants leg. My bottom half is now suited.

Two merino thermals over a long sleeved t-shirt (allergic to wool so need something between the merino and my skin so I don't get hives), a thick, thermal rollneck t-shirt over the merino thermals.

Blast - there is one merino sock still on the bed. Did I forget to put it on? So the whole pants zips, gaiters and boots process is done in reverse to check. All is OK - I must have put out five merino socks.

Continue dressing. Over the thermal t-shirt goes a wind-block hoodie then a thick sleeveless parker over the hoodie. Collect gloves, mittens, balaclava and neck warmer and waddle downstairs, a blue Bibendum.

The whole process takes 25 minutes.

Jeremy, along with three other members of our group of seven have already been out for two hours at the tepee in the forest where they had been rewarded with an aurora on the horizon. Transportation was via a sled pulled by a skidoo.

Back at the hotel the skidoo is replaced by the 8-seater minibus to transport the now expanded group to the ice sculptures by the lake about ten kilometres north west of the hotel.

Before heading outside it's time to struggle into the sleeves of the arctic suit and zip it, the parka and hoodie, part way up. The arctic suit belt helps to secure the entire apparatus. It's important not to get too hot and sweat in the suit as the droplets can freeze on your body when you step outside and cause major problems. There is no chance of sweating when outside, but care has to be taken when inside the hotel or on the bus.

Looking like apprentice astronauts the group clumps to the bus, hauling ourselves in. It is not easy to negotiate entry with the heavy boots, but we are all finally installed.

Niklas drives with skilful aplomb on the icy road. What to us seems treacherous to a local is the norm.

On approach to the lake it is time to finish dressing. Firstly, the neck warmer, tucked well into the clothes. Zip up the multiple top layers, pull on the balaclava with the hoodie pulled over. Two sets of thermal gloves and then struggle to push the gloved hands into mittens. The hood of the arctic suit goes over my head when I emerge from the bus.

Ready.

The group decants from the bus. Backpacks with camera gear and tripods sorted, the trek through the snow in the birch forest to the lake begins.

It's not easy for the inexperienced to walk when clothed in multiple layers, arctic suit and heavy boots. The five Europeans in the group are much more nimble than us Australians. We figure we are walking with about six to eight kilos more than when we bushwalk at home.

There is a light green aurora starting to shimmer from the mountains to the east as we step onto the frozen lake. The group spreads out to start setting up to photograph 'The Lady'.

The colour of the aurora emerges as a ribbon over the northern sky. At first it sits dormant, a pale green paint splash emerging from the mountains, arching over the sky to disappear over the western horizon. In time the colour intensifies to a bolder, yet still subtle, green.

Vertical streaks start to appear in the green band to the east and then overhead. The streaks lengthen to become chiffon curtains that appear to shimmer and move.

A second band of colour, initially very faint, mirrors the band appearing from the eastern mountains, much as on occasion you see a second rainbow mirroring its much stronger cousin.

The colours of the aurora wax and wane in intensity. Just when you think The Lady has left the stage she emerges for an encore, more majestic than her previous performance.

We photograph from different places on the lake. The dilemma is what to shoot. The colour rising from the eastern mountains is dramatic. The light shooting from the top of the ice-encrusted outcrop that emerges from the lake looks like a green spotlight beam of huge intensity. Moving back a panorama shows the arc of the aurora over the outcrop, stretching from horizon to horizon.

The lower sections of the outcrop are fringed with natural ice sculptures and icicles. We move slightly to the east of the outcrop to try to photograph the reflection of the aurora green in the ice. It is a success.

Finally the cold, very bitter for us - an over fifty degree Celsius temperature difference from when we left home, forces everyone to retreat to the relative comfort of the bus. Fogged glasses make navigation along the track to the bus a challenge.

It is almost impossible to describe the beauty of the aurora.

Sometimes it is a small band, barely visible to the naked eye. At other times the size is immense, dominating the northern sky and constantly changing shape as it marches through time and space.

The colour is sometimes subtle to the eye, at other time bright and pulsing.

As I sit writing this the following morning in the warmth of the hotel I look over the frozen lake to the snow covered mountain range. The sky is a pale blue with high cloud moving in. The sun highlights some of the mountains, others sit dark and foreboding in the gloom.

It is hard to believe just twelve hours ago the sky was alive with an ethereal green glow and a billion stars littered the cloudless sky.

The sight of the aurora arcing over the frozen lake will be a lifelong memory.

In Sweden the Aurora was often seen as a portent of good news. Many believed the lights to be a gift from benevolent gods providing warmth and light in the form of a volcano in the north. Elsewhere they were believed to be the light reflecting from large shoals of herring and bode well for local fishermen. The Swedish farmers saw the lights as heralding a good harvest in the coming year.

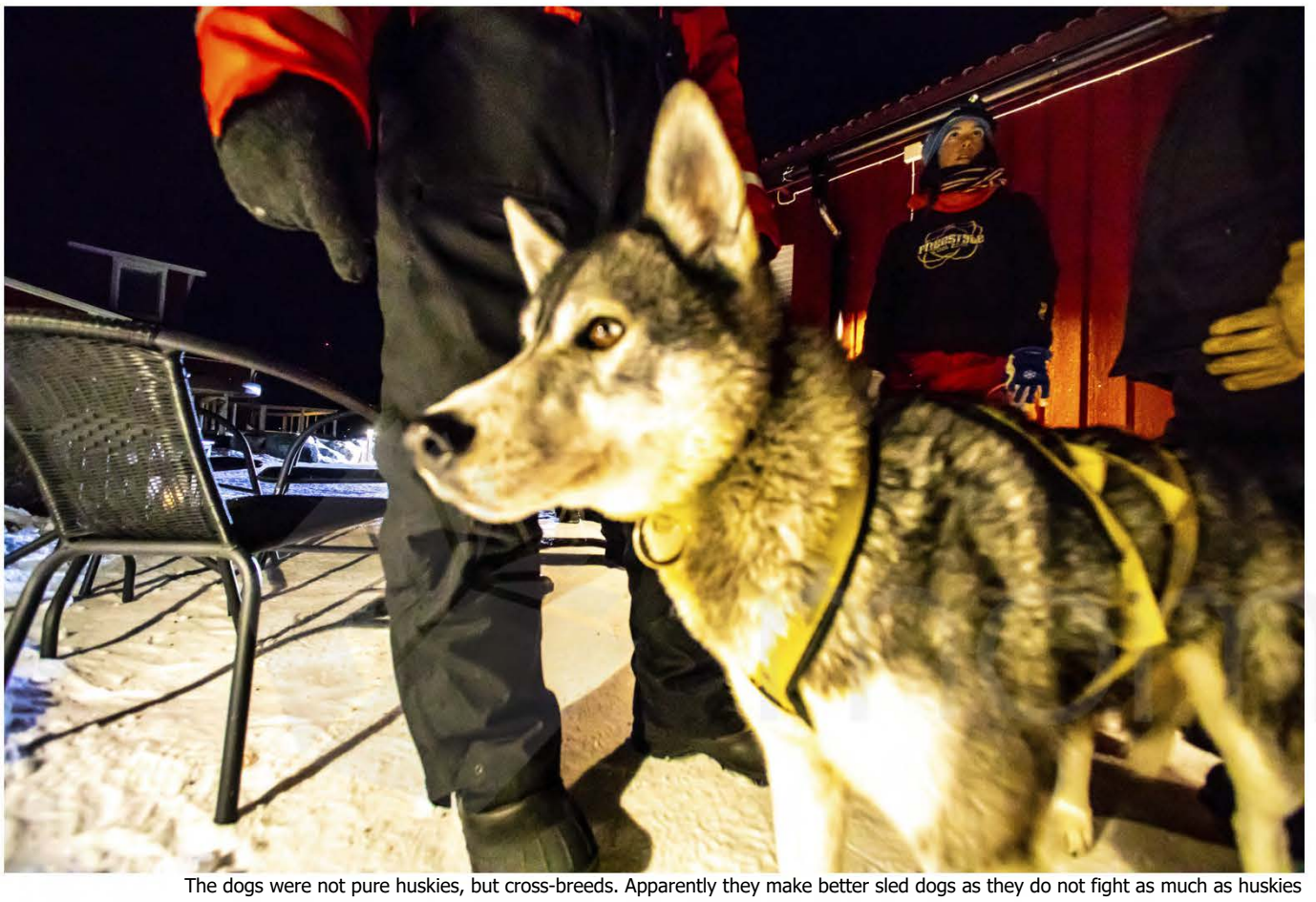
In Norse mythology one legend suggests the lights were reflections or glow from the shields and armour of the Valkyrie, female warriors who would choose who may die in battle and who may live to fight another day. The Aurora was also believed to be the 'Bifrost Bridge', a glowing and pulsating arch which led the fallen in battle to the warriors' final resting place in Valhalla.

The Sami, traditional inhabitants of Lapland, believed the lights were the energies of the souls of the departed. When the fires blazed in the skies, people were to behave solemnly, and children were admonished to quiet down and be respectful of the fires. It was believed that whoever disrespected the fires incurred bad fortune, which could result in sickness and even death.

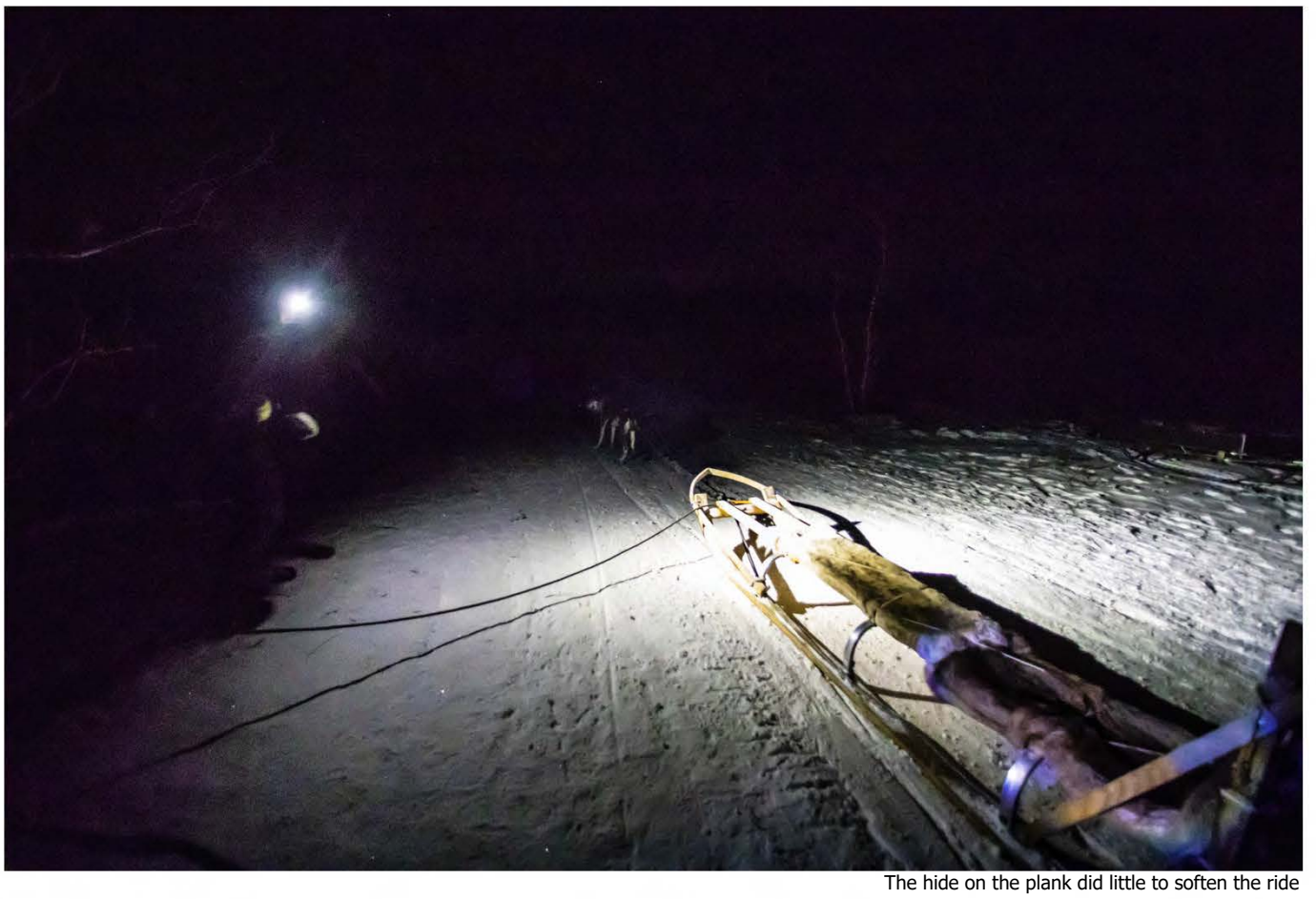
Thursday 15 February, 2018: The forest

We headed out to another clearing in the forest - this time on a dog sled! Not the most comfortable form of transport as four of us sat astride a plank on runners behind the dogs. In a normal year with deep snow it would have been more pleasant, but as we travelled most of the way on ice it was somewhat(!) bumpy. Jeremy's ribs did not react kindly and he opted to return on the skidoo behind Niklas. After we experienced two hours of a magnificant aurora we packed the cameras and were heading back when a corona 'erupted'. The sky became a writhing monster breathing green fire. The aurora moved so quickly it would have been impossible to photograph. The dog sled and the skidoo stopped in open areas and we all looked in awe at the curtains, swirls and ribbons that filled the entire sky. A memory forever imprinted in our minds.

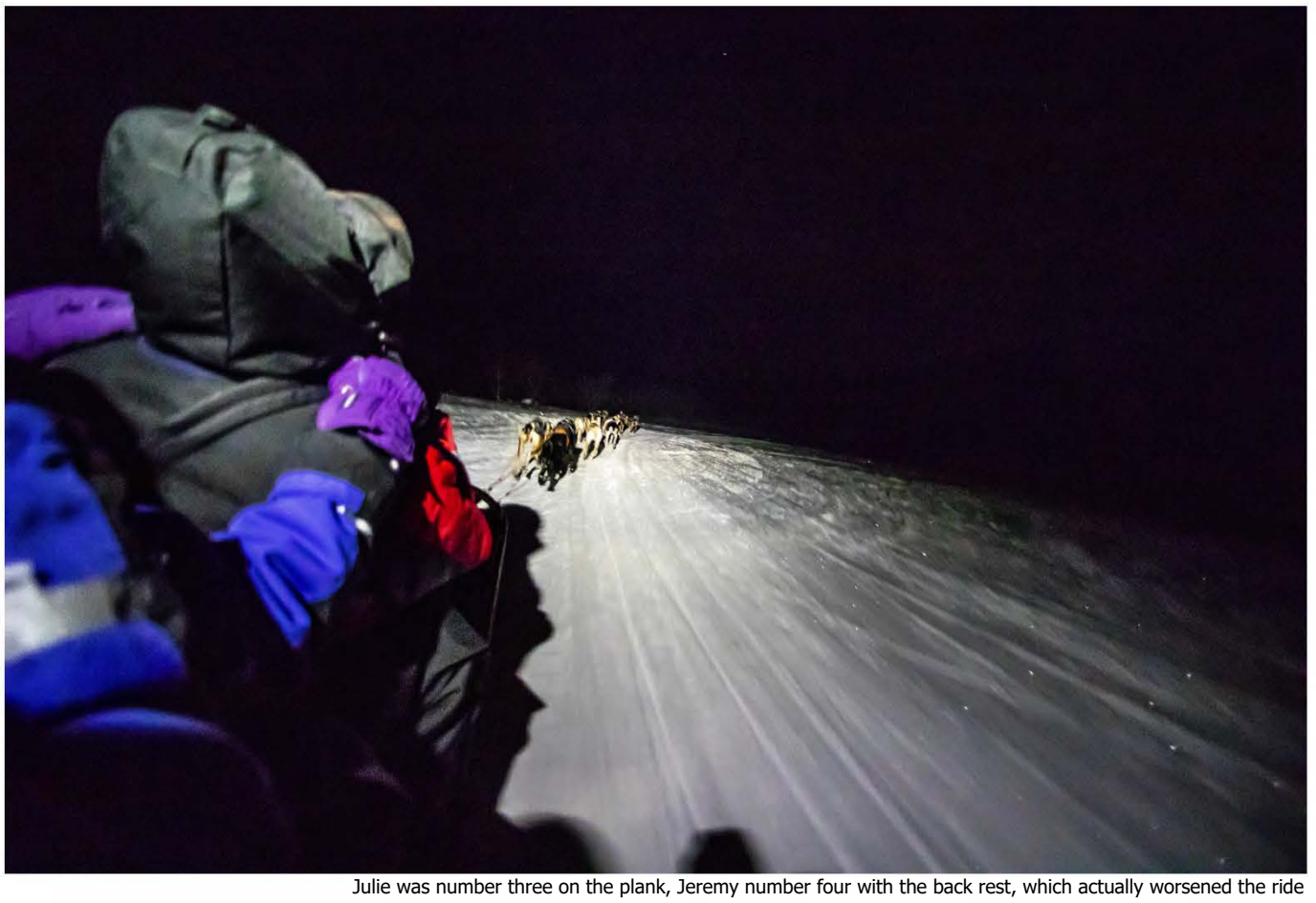
According to NASA, 'a corona is a rare event (we were told only two or three times a year at Abisko). The late evening auroras are usually long diffuse arcs, which slowly evolve into rayed arcs or bands that show increasing activity. As the night progresses, the bands and arcs become rippled and folded, eventually breaking into rays and -- if the viewer is lucky -- a corona. The corona is considered the most spectacular form of a rayed aurora, appearing overhead with all shafts converging to a center point.'



The dogs were not pure huskies, but cross-breeds. Apparently they make better sled dogs as they do not fight as much as huskies



The hide on the plank did little to soften the ride



Julie was number three on the plank, Jeremy number four with the back rest, which actually worsened the ride

Until an aurora appears it is seriously black in the forest

Green dragon fire
Swirls through the northern sky
Lighting the diamonds in the snow