Fighters

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Introduction

Perched in a tree at Murhijärvi, in Suomussalmi, in April 1978 I had no inkling that my future would be so vastly controlled by bears. At the time a bear had just killed a moose (European elk) near where I sat. I was eager to catch a glimpse of the beast and, if possible, obtain a few monochrome pictures.

In the end bears took over my whole life, keeping me busy with photography, making observations, writing books and articles, and lecturing about them at international events. And finally with arranging predator safaris in the wilds for all kinds of nature-lovers.

As I watched through binoculars on a morning in July 1992, out of the mist Kuhmo produced its first wolf. Was it now the wolf's turn to captivate me? I had already secured photos of wolverines as a sideline to my bear photography but the wolf felt like utopia.

In my quest for photographs of wolves I travelled to many other countries. Then, in August 2003, I sat in my hide in Kuhmo with some Italian colleagues. In the morning gloom a wolf joined an old bear at the carrion. Eagerly I took photos using prolonged exposures, while encouraging my companions to follow suit. They obstinately refrained, thinking it was too dark. The show over, I told them this was the first time in my career I had seen a wolf and a bear at one and the same time. A rare event is always worth taking a chance over, even when conditions for photography are pretty poor. Even a blurry image is more convincing than a colourful anecdote!

A problem arose out of my illustrated lectures in Finland and elsewhere during the late 1980s: many other photographers wanted to accompany me while I photographed bears. My two hides being too small to accommodate several people at the same time, I had to spend the summers from 1991 onwards acting as a guide to a steady stream of foreign photographers.

Since the early 2000s our base camp in Kuhmo has been the Kuikka Cabin. Articmedia, our family business, was boosted by the return to Kajaani of my son Sami as the permanent safari organiser. The other boys have also worked for the company during the summer months.

In the last few years the wolf, along with the bear, has constituted our main product. Of course, the wolverine, eagles, owls and other birds, as well as the wild scenery, also interest clients. Our Kuhmo set-up is unique, for nowhere else in the world, apart from in zoos, can one observe a brown bear, wolf, wolverine, sea eagle and golden eagle from the same hide on a single night!

This book, Fighters, gives me a chance to pass on some of my experience of Finland's large carnivores from the observant naturalist's point of view. Not being a scientist, I asked Ilpo Kojola, a researcher at the Finnish Game and Fisheries Research Institute, to contribute some information about the Kuhmo wolves. Under his direction true facts, so elusive to other interests, concerning wolf pack behaviour and wolf movements have been systematically recorded. Radio transmitters attached to individual wolves have proved an important modern tool for monitoring pack movements.

Lassi Rautiainen

1st Alpha pair

PALE ONE ♂
"Disappears" in August 2006 during a bear hunt.

EVIL EYE ♀
Injured on the road in February 2008, thus had to be humanely killed by Finnish Game and Fisheries Research Institute personnel.

LIGHT GIRL ♀
Litter 2005 (2 light cubs)

THE SPITZ ♀
Litter 2006 (1 light, 1 dark cub)

Litter 2007 (5 dark cubs, 1 dies)
Father: Crooked Tail

Litter 2007 (1-2 cubs, dead)
Father unknown.

Regular monitoring of wolves in Kivikiekki, Kuhmo, began in 2003 with the appearance of the first alpha pair, nicknamed Pale One and Evil Eye. The pair had nine cubs: in 2005 two, in 2006 two, and in 2007 five (1 died). In 2007 the family's Light Girl, born in 2005, gave milk from two teats but the cubs were never seen.

Following the death of the dominant alpha pair, the cubs Light Girl and Crooked Tail in 2008-2011 produced a total of 16 cubs, two of which died. The cubs of 2012 were never seen and must have died.

2nd Alpha pair

CROOKED TAIL ♂
Born 2006

LIGHT GIRL ♀
Born 2005

BUSHY TAIL ♂
Litter 2008 (2 light, 2 dark cubs)

BUM BITER ♂ Born 2008
Litter 2009 (1 light cub, died)

BOLD LITTLE LADY ♀
Litter 2010 (3 pale, 2 dark cubs)

Litter 2011
(4 pale, 2 dark cubs, 1 dies)

Litter 2012
Cubs died. Pack splits into two parts.


Grandpa and Grandma

One day in August 2004 before evening drew in I was able to observe for the first time in my life two wolves in my outdoor photo studio in Kuhmo. My previous records were limited to a few observations on lone wolves in certain years. At the time I was not even aware that these two individuals constituted the alpha pair and that their descendants would come to Kiekinkoski as the Russian pack, whose territory in Finland now extends from Rajankangas in the south to Viiksimo in the north.

The extremely pale coloured, handsome male with his aristocratic gait we nicknamed Pale One, while the female, who had a stern expression, we dubbed Evil Eye. For a little under an hour they circled the lake back and forth searching for morsels of flesh and bones from the remains of the carrion we had put out.

I could not quite believe it. Here, in Finland, on my own 'turf' I was actually taking photos of wild wolves! I watched them so closely through my binoculars that at times I forgot I was supposed to be a wildlife photographer using a camera to record precious moments like these. I could not help thinking of all those trips to other countries I had either been to, or was planning to visit, to photograph wolves in the wild. So far, on my journeys in Estonia, Russia, Poland and Canada I had seen only footprints. Aside from in zoos, the only pictures of the actual animals I had taken I had brought back from Alaska in 2001, where we spent quality time in Denali National Park before getting stuck for two days on that fateful September 11th due to the closure of North American air space for fear of another terrorist attack. Yellowstone National Park was provisionally earmarked for my next trip. That appearance of the alpha pair in my home country radically affected my travel plans, however.

Alpha mother 'vanishes' in May

In May 2005 a hungry Evil Eye dined for a couple of hours, her stomach hanging obliquely over the moss. I recollected a similar event during the 1990s, when my Swedish colleague had exhausted his supply of 16 millimetre movie film taking pictures of the mother with her bloated belly. Before giving birth the animal scoffed as much food as she could cram down her throat. For a few days after giving birth, she would stay with her cubs the whole time. It was then up to the father and cub minders to do the family 'shopping'. I witnessed this routine for many years when the alpha mother 'vanished' in May but was an active visitor to the 'restaurant' in summer, taking large chunks of meat home to her babies.

In the 2006 spring I saw four wolves together, the alpha pair being accompanied by two pale coloured cubs the same size as their parents. The two cubs had been led around by Evil Eye the previous year and one of these later became a long-term leader of the pack (Light Girl). Seeing no wolves at all – only their tracks – in the winter of both those years prevented me keeping up to date with the birth of new cubs.

With the official commencement of bear hunting on 20th August in 2006 I was following the behaviour of three wolves in the early morning gloom. For some reason when they left the wolves headed west, where at the border of the hunting prohibition zone 20-30 hunters awaited bears every morning. Hearing three shots, I wondered how in the dark the hunters had managed to see well enough to aim at bears. That was the last morning I ever saw Pale One.

Inbreeding

Luckily Pale One and Evil Eye had mated successfully at the normal time in February. This became apparent in December 2006, when Evil Eye was accompanied by two cubs, The Spitz and Crooked Tail. The latter became the new alpha male, firstly with his mother, and then in 2005 with his sister Light Girl.

I am positive about this because in the 2007 autumn I photographed Evil Eye with four cubs. Pale One was no longer alive that winter but Crooked Tail and The Spitz stayed with their mother throughout that season. The only logical explanation was inbreeding.

In February 2008 fate caught up with Evil Eye. Intending to fit a radio collar, field workers of the Finnish Game and Fisheries Research Institute found the pack leader badly injured, most likely due to a road accident. The radio transmitter had been round the wolf's neck for a short time only. Because the animal was unable to move, the ministry gave permission to put it out of its misery. The post mortem revealed that Evil Eye had given birth to five cubs. Hence, one must have succumbed soon after birth as it was never seen.

A moose is easy prey for a wolf pack. While a solitary wolf is unable to bring one down, a pack containing 3-5 individuals acting sensibly as a group ensures the moose has no hope of escaping. At Kuhmo's Kiekinkoski the Russia pack seldom kills a moose unless there is a very severe frost which has frozen carrion rock hard.

Crooked Tail


and Light Girl

Alpha mother Pale Girl "caresses" her mate, Crooked Tail. Unusually this alpha pair came from the same parents. When the original alpha pair died, they took over the territory. Despite their incestuous relationship, the pair have produced cubs in four years. Typical to wolves, some of their offspring have died.

An alpha pair's most important job is to find food for the latest litter and to safeguard its growing up. Crooked Tail and Light Girl are from the same family in the Russian pack, although born in different years. The female was born in 2005 and the male in 2006. Crooked Tail has also helped his mother, Evil Eye, to produce more cubs after his father was killed.

Since 2007 my clients have increasingly often secured photos of the alpha pair. Indeed, these two have become the world's most photographed wolf couple! Typical

A youthful Crooked Tail playing with part of a dead tree. Like dogs, young wolves especially are playful and will make a toy of almost anything.

situations involving the pair are stealing food from bears and, when the bears are away, carrying food in their mouths to other wolves in the forest.

When hungry, wolves are bolder than when satiated. In summer Light Girl often boldly comes near the hides to fetch food. 'Near' here means under 50 metres. In winter not even the alpha pair approaches to within 100 metres of the hides, even when there is no-one in them.

Bears trigger a response in wolves

For wolves the presence of bears is like showing a 'red rag to a bull'. The bears arrive before midnight at the feast, in autumn even during the afternoon around 1-3 hours before dusk. It looks like the wolves await the arrival of the bears, then charge in quickly to drive the bears away. The Russian pack inhabits either the border zone or Russian territory, both within howling distance of my hide. I have often noticed how wolves that have just woken up stretch themselves while a long way from the forest border before commencing their bear baiting.

These SWAT tactics are led by one or other of the alpha pair – or both. Cubs can also participate, even without their parents, in driving away bears and fetching food. There is, however, a clear difference in the degree of boldness: the alpha pair's prime responsibility being to ensure the food supply, their arrogance in the presence of bears is understandable.

Forest animals gaze curiously at each other. A wolf is unable to catch a healthy owl but a hungry specimen sitting close to the ground is a possible victim. All dead animals are acceptable to a wolf. In the April snow I have interpreted tracks indicating how a wolf has crept up on a cock capercaillie: then with a few rapid strides the wolf has caught the flying bird in its jaws. Only a pile of black and white feathers remained of the wolf's dinner.

Every week Light Girl works increasingly longer days and carries the most food. She may arrive already in the evening, either alone or leading a pack of marauders. At 6-8 o'clock in the morning the lady may take the last morsels to the family. Thus, 10-12 hour night shifts constitute regular shopping trips for the provider. And if the lady is unable to eat any more herself and the others are also replete, she will bury the flesh or bones in the ground. Many of us must have witnessed domestic dogs doing the same thing.

Even the alpha pair is constantly wary of photographers, with their disagreeable human scent. The significance of hunger and the presence of bears is unmistakable. The first two visits to the feast go well. A tug-of-war goes on between fear and hunger. Once the first lumps have been swallowed, timidity forces the wolf away before she reaches the 'carrion supermarket'. In many cases wolves remain lounging around in different parts of the 'supermarket' for hours on end. There is no hurry. They watch and wait in the night hours for the best moment to attack.

The alpha pair are the most courageous visitors to the 'restaurant'. Hunger overcomes their natural caution when food is needed for the family. It is the mother and father's duty to look after the cubs and even the cub minders in the pack.

Identifying features

Distinguishing wolves that appear virtually the same is difficult without regular observation. However, a closer scrutiny reveals at least some feature that sets an individual apart from the rest. Crooked Tail's appendage is exceptionally thin near its base, and it immediately curves. A black-tipped tail often has a curve in it. The way it is swung indicates assurance and courage. Of the pack's 11 wolves (in the 2012 spring) half are 'brunettes' while half are pale. In a few individuals the colouration of the face is a carbon copy of their relatives, so that the wolves have to be recognised by their individual behaviour and movements. Binoculars then come into their own.

Light Girl can be distinguished from other pale-hued family members by a 'birthmark' (dark grey transverse stripes) inherited from her mother, as well as by her lack of any fear of bears. There is one bolder individual in the pack, however: even when alone, Bum Biter may enthusiastically sink his teeth into a bear's hide.

One can only admire the skill and cooperation of the alpha pair. Sometimes they are faced by an aggressive bear unwilling to part with its food. In such a case a wolf arriving alone will wait for its mate. When the second family boss arrives, the wolves make eye contact as though saying "let's get rid of that beast". The ensuing fracas generally lasts for less than a minute, the wolves working in harmony. While one snaps at the bear's rear end, the other grabs the food that drops from the hungry beast's mouth as it whips round to face its tormentor. Then the one that has nabbed the meat scurries away. This ploy is repeated time and again. The victim is too much of a dolt to realise that lumbering off with food in its mouth is the worst thing it can do. Were the bulky animal to lie down on top of the carrion, ignoring the wolves' initial attacks, it would be able to eat in peace. Only rarely has a bear figured this out.

An alpha male will painstakingly stake out his territory. I have also repeatedly seen Light Girl urinating for the same purpose. Likewise, adult cub minders will urinate close to the carrion.

At something over a year old, Spot Face greets cub minder Blood Eye, who has lost a bit of fur in a fight. It is possible that the injury was caused by an irate bear which, with a swipe of its mighty paw, could have torn its tormentor apart. Young wolves beg for food from older pack members by smacking their tongue against the lower jaw.

The Spitz

If you were out in the forest during the grouse hunting season and suddenly a Finnish hunting dog (Finnish spitz) poked its head out from behind a tree, would you shoot it believing it to be a wolf? Unlikely! Yet during the winter, near our hide in Lieksa a German shepherd dog was shot in the belief that it was a wolf – at least that was the hunter's claim. Every year dogs resembling wolves are notified as wild beasts. This can be the case when, for instance, a neighbour's Norwegian moose dog comes to the summer house veranda looking for food. Foreign clients have even phoned me from the Kuikka Cabin in Kuhmo after a brain-washing night wolf-watching to inform me there are a couple of wolves running about. They fail to notice the lady who is actually taking her pet dogs for a walk! Dryly, I try to impress on these visitors that there are many moose dogs and similar hunting breeds in Kuhmo and it is heart-warming to hear the dogs are being properly exercised.

In 2006 my wife and I were discussing what to do at Christmas, apart from paying the routine visit to Grannie. Eventually we decided to spend just about the darkest night of the year in a hide. Later it transpired that during the night three wolves had several times come near our hide to feed on the carrion 'bait'. In the evening darkness we sped to the hide in the border zone by snowmobile. Blurred old wolf tracks were visible along the way.

Lasting only 5-6 hours, the short winter daylight soon ended without any sign of wolves. Ravens and a golden eagle picked at the frozen pork, but no wolves appeared. We decided to hang on for another night. This extra day proved as unproductive as the first had been. In the gloomy afternoon – as gloomy, that is, as it can get with white snow clothing the landscape – the binoculars brought up three wolves moving in single file a fair way from us. Wow – now we'd have to stay a third night!

Howling in the night raised our hopes of the wolves staying in the area for a longer time. At nine in the morning I was obliged to rub my eyes in disbelief, for the binoculars revealed the head of a Finnish spitz for a moment among the pine trunks. Strangely, the animal's undoubtedly wolf-like companions did not appear at all troubled by the presence of this dog-like individual.

I recollected a time in my childhood when I would go into the forest, especially at the weekend, with my Finnish spitz. If I had then seen a wolf resembling my dog, I would surely have refused to believe it was genetically a wolf.

The ears and other features of this present 'dog' were distinctly wolf-like. As a female, it was slightly smaller than either its mother Evil Eye, or its brother Crooked Tail. Pale One, the cubs' father, had mysteriously vanished in August at the time of the bear hunts.

The trio mainly spent the time gnawing at bones. Deep-frozen pork is not easy to chomp ingestible bits off. The Spitz, naively taking an interest in her mother's bone, was soon put in her place like an unruly child, the mother giving her a warning bite on the neck. But by and large peace reigned among the trio as they contentedly gnawed at pig bones for an hour or so. Then they turned and retraced their steps towards Russia.

Playfully, The Spitz drives magpies and smaller birds away in addition to ravens, with obvious enjoyment for the game. Her fur colouration is strikingly similar to that of the Finnish spitz dog breed. However, in appearance, size, features and behaviour she is wolf-like. There is thus no reason to suspect she is not a pure wolf. Over the world there are many colour varieties of Canus lupus, ranging from dazzling white to deepest black. Among the Russian wolves in Kuhmo half are pale in hue and half darker (grey and brown).

Coming out to play?

The happiest memory I have of The Spitz is from November 2007, when she was eighteen months old. Firstly snow, then sunshine, had been forecast. Towards evening in gently falling snow I fetched some items from my vehicle to the hide by snowmobile. Judging by the tracks in the snow, I most likely scared off the wolves that were around.

In the murk of morning I discerned four wolves, one of which might have been The Spitz. Fresh snow helped a lot by providing reflected light, yet prolonged exposures created 'artistic' streaks from the actual subjects. While the conventional wildlife photographer would most likely delete such images, I could conceivably scoop some prize in a competition for artistic images because noone would be able to interpret the subjects in the images as dogs, foxes, birds in flight, or some other entity.

However, I waited for some illumination appropriate to documentary photography, hoping to come up with some 'sharp pix' that would satisfy those who adore such things. Ravens, croaking noisily at each other, busied themselves around the carrion. Two golden eagles and three sea eagles presided over the scene on tree branches. At this time of year the number of sea eagles is variable, depending on the severity of the frost. Very cold weather sends them flapping south.

Ravens had several times created a hullabaloo and raised my hopes of the wolves returning. Suddenly, they set up a fresh din from around one hundred metres away. Some of the birds were swooping down towards the ground, croaking hysterically. I was absolutely certain there was now a wolf about, so I checked my watch: 9.15. Across the mire the November sunshine gently caressed the snow surface.

The Spitz began to counter-attack the ravens. The fact that the wolf was alone bolstered the ravens' courage. A large pack spoiling for a fight would have been most off-putting. As if in a theatre the drama unfurled before me. To my joy the hide was both a fair distance away and downwind of the performance, the brisk breeze decidedly in my favour. A 500-mm telephoto lens coupled with a 1.4 X teleconverter became an extension of my eye.

The wolf with the distinctive colouration of a Finnish spitz lay down next to the carrion, feigning sleep. When the dive-bombing ravens all but hit her on the head with their feet, she would leap into the air and race after them for some distance.

A magpie also participated in the general melee. However, the magpie remained safely out of reach in a tree without ever going near the wolf. It was apparent that The Spitz was neither angry at them, nor seething with hatred for the cheeky ravens. I have seen the same show re-enacted in similar circumstances.

The wolf appeared to be simply saying 'Don't mess with me, you guys!'. She would just lie there until the ravens renewed their dive-bombing. Throughout the performance The Spitz made not the slightest attempt to eat anything. Her stomach was full after the night: the birds' antics amused her.

For an hour the wolf lounged close to the 'bait'. Then she got up and left the scene. But, to my intense surprise, she returned in the middle of the day to check things out.

Was The Spitz ever a mother?

Over the years, The Spitz became a familiar companion, a member of the basic pack. For many years it was her task to take care of the cubs produced by her pale sister and the brother born the same year and, particularly in winter, to go out to obtain moose meat. The Spitz being absent for quite a long time, I became certain that she had either gone elsewhere or passed on to the wolves' heaven. To my surprise, however, she eventually returned to her home area. My last actual sight of this wolf was in October 2010, when I was able to count ten wolves together at a distance. Before the rut in February 2011 a pack containing six wolves separated off at Keikinkoski and made its way south towards Rajakangas. Possibly The Spitz was the mother of this pack.

One aspect of a pack made up of a family of wild wolves compared to domestic dogs intrigues me: if dogs are left together uncontrolled for many years the bitches become pregnant. The males are so eager to reproduce that they get caught while engrossed in the act. In the case of wolves could it be that fertilisation between close relatives may not be certain? Or did The Spitz never come into 'heat'? At any rate, her pale sister from 2005 gave birth to cubs in 2009-2011. There have been several males present in the pack, as also several females, in different years – but all have come from the same stock.

The Cub Minders

In a wolf family cub minders, i.e. year-old youngsters, are important both as participants in predation (chasing a moose, for example) and for taking care of their younger brothers and sisters. When the cubs are a few weeks old their mother and father can go off into the forest leaving one of the older offspring to look after the little ones.

One day in October a five year-old cub meekly approaches The Spitz begging for food. The Spitz obliges by regurgitating some just eaten meat and the cub takes the morsel as though off a serving tray.

En route by snowmobile to my hide in April 2003 I followed some wolf tracks. The direction of the tracks was towards Karikankangas, close to where my hide was. This led me to assume that for the first time the wolves had come to eat my carrion bait in winter.

A couple of kilometres before the lake where my hide stood moose tracks crossed the line of wolf prints. Without more detailed information I could not estimate whether there were three, four, or five wolves. I was acutely conscious then of the error typical of wolf calculations: when all the tracks noted alongside a logging road are combined, one concludes that a large number of wolves have passed this way. On this occasion, over a distance of several kilometres, the wolf prints varied tremendously. Now there was only one wolf, now 2-3 wolves, next a long line of prints close together, where the wolves had obviously proceeded in single file.

Then the direction of the tracks took an abrupt turn. The wolves had broken into a gallop and the moose had increased its stride. Before the edge of a plantation the moose had altered course and the wolves had wisely taken a shortcut. I stopped the snowmobile on the fringe of a dense stand of saplings. A raven was flying a hundred metres away. At first I thought it had spotted me and was coming to say 'Hello'. Then came a flash of comprehension: the moose's flight had come to an abrupt end in the plantation.

On snowshoes I progressed with difficulty through the extremely dense Scots pine plantation. After 300 metres I heard the raven's unmistakable message and found there was a small amount of the moose's rear end left. The snow round its remains had been trampled hard, making it possible to take off the snowshoes. As the plantation appeared less dense at that point I attached the remains of the animal to the snowmobile with a rope. From here it was only a couple of kilometres to my hide. I entertained the hope that the wolves would be bold enough to go to the lake since they had left the moose partially uneaten.

I was surprised to discover that there were no wolf tracks near the hide. Obviously the frozen pig carcass held no interest for the wolves when fresh meat was available from the meat counter in Nature's 'supermarket'.

Settling down in the hide, I envisaged an exciting night ahead of me, my faith in the idea that the wolves would return for their meat very strong. In the dark of the night I awoke to the sound of breaking bone. The spring's first bear! The beast then picked up the remains of the moose and dragged them off to denser forest. It was obvious nothing would remain of that moose meat by morning.

In a hide there is time to think about the life of the wolf. By April the mating season is over, the mother wolf probably already pregnant. Part of the previous years' family pack has left in search of a home of its own but a few of the previous years' cubs may still form part of the pack. In fact, all of the previous year's cubs, born in the month of May, may well stay with the alpha pair.

Catching a moose calls for team work. A pack of from three to six wolves can quickly bring down the big animal. Two wolves find the task much harder. And soon it will be May 10th or so, time for new cubs to be born. This means the mother will be confined to the nursery. If the father has to go out after a moose alone, the result will most likely be no fresh meat.

The 'cub minders' are a great help at this time. These earlier cubs both hunt for meat and care for the new arrivals in the wicked old world they have been born into. A shift arrangement is established, the father, mother and older cubs taking turns at looking after the youngest cubs. And when a kill has been made, the minders share out the meat and even regurgitate food when the little cubs demand their share.

Brave Old Bum Biter

The female wolf we called The Spitz on account of her colouration is the longest serving cub minder in the Russian pack. Starting with the cubs of 2007, she also looked after the 2008 and 2010 cubs. Only five and a half years old in the early winter of 2011, she separated off from the pack along with five other cub minders, forming a new pack with its own territory.

Two other conscientious cub minders have been Bum Biter and the darker-coloured Bushy Tail, these being siblings born in 2008. Both still formed part of the basic pack at the start of the 2012 winter. Bum Biter is the bravest wolf that I have ever encountered when it comes to tackling bears. Normally a lone wolf will keep to a distance at which precipitous flight is possible and will avoid deliberately provoking a bear. But Bum Biter, strong in both body and mind, would enthusiastically attack a whole group of bears, darting about among the enraged beasts, biting viciously at their rumps. He never waited to see the poor bear's reaction to his bullying tactics but rushed on to the next target, bounding energetically about with bared fangs. Many a bear of a more timid disposition gave up wondering about the wolf's audacious behaviour and fled.

Bushy Tail has an exceptionally thickly furred tail reaching down to ground level. The dark markings halfway along this appendage create the impression of two shorter tails glued together. The dark stripes on his back were inherited from his grandmother, the one we called Evil Eye.

The most aggressive wolf I have ever encountered, Bum Biter appears to take sadistic pleasure in worrying bears. At his boldest, he will barge into an entire party of bears feasting on carrion, giving sharp bites to their behinds.

Cubs

The hunting tradition with its state bounties continues to be strong in Russia and the only form of business involving large carnivores. Rearing orphaned bear cubs, then releasing them in the wild, is considered nature conservation. Normally the cubs are also killed by the hunters. In the Tver region over 170 bear cubs and dozens of wolves, as well as lynxes, have been reared.

An advertising agency once sent me a request for a picture in which a small wolf cub was to be running in the snow. Wolves give birth around May 10th, when there may well still be snow in Lapland. During the first few weeks of their life it is virtually impossible to make contact with wolf cubs. Only research teams have succeeded in doing this when they have managed to pinpoint the position of a lair through radio tracking. The term 'lair' is misleading. The mother gives birth in a dryish place under some branches or among rocks; she does not build a nest-like den like birds, or burrowing mammals, do.

When wolves began to visit my outdoor 'studio' with increasing frequency, I began to yearn for a watered-down version of the photo requested by that advertising agency – that is, for sight of a cub running across the snow in the wild . As recently ago as the 1990s I was forced to photograph wolves in zoos, as there was no place in Finland where I could actually see a wolf in the wild.

In the 2009 autumn I heard that in the Tver region of Russia there was a person breeding wolves, among other animals, in his own backyard, releasing the animals into the wild at summer's end. Thus, in June 2010 I spent around ten days with the family of gamekeeper Vladimir Bologov in the village of Bubonice, which lies within the Tver area between Moscow and St Petersburg.

Each morning our programme, also followed by a German conservationist and a French student, started off with the feeding of four wolf cubs in a fenced-off 'nursery' next to the gamekeeper's house. In addition to her normal housework, our hostess Natasha also looked after the wolves, a lynx cub, some ducks, dogs, a cat and, of course, throughout the summer a steady stream of guests from many countries.

In the month of June Vladimir generally received 4-6 week old wolf cubs from hunters or zoos. Hunters shoot the parents, then bring the cubs to the 'study centre'. Vladimir was once an enthusiastic hunter and a guide for wealthy Russian hunters. He later quit these interests to fervently embrace animal conservation.

Vladimir was inspired by his father-in-law, Valentin Pazhetnov. Half a kilometre away, in the same village father-in-law Valentin has reared over 150 orphaned bear cubs which have also been released in the wild in August after over 6 months in captivity. Pazhetnov is now one of Russia's most renowned bear researchers and bear conservationists. Nowadays Natasha's brother heads an international bear project financed by IFAW (International Federation of Animal Welfare).

Bottle-feeding does not make wolves tame

Bubonice village is renowned even abroad for saving some of Russia's orphaned cubs. Its rearing project began almost 30 years ago, when Dr Pazhetnov moved into the village. Now the bear expert has plenty of experience of how bears that have spent their childhood being parented by people become fully readapted to the wild. Neither bears nor wolves have been a nuisance to the village after their release. Even lynxes which have been tame when young have avoided their childhood foster homes.

With Valentin I discussed at length the way winter makes wolves cautious. I have had the same experience with bears every spring: even familiar cubs fear people and are active only by night. Only in the July-September period is it easier to photograph bears. In winter wolves become shy, even when obviously recognising the scent of a familiar photographer. The distance at which they shy away in winter is 2-4 times greater than in the late summer.

We agreed that this behavioural tendency could be termed alienation. We people can also become alienated. When we fail to see a particular person for quite some time, we feel like outsiders. Sometimes it is necessary to chat awhile before the old rapport is restored. Despite the bear cubs having been bottle fed and totally dependant on their human foster parents for their first few months, they do not trust their human carers once they are released from captivity. Valentin feels it would be different if the animals were kept in the nursery until adulthood.

Freedom is offered by leaving the nursery door open. For a start the cubs keep returning to the compound but no single cub has ever remained in its vicinity once autumn has come. The main food in the nursery compound comprises broadleaf trees and other vegetation. The trees are so dense that contact with satellite transmitters fitted to captive wolves is impossible.

← *Catching a glimpse of cubs born in May, even in the Kuhmo area where we regularly take pictures, is difficult before the autumn. The earliest case of cubs being out and about occurred at the end of July, and the latest in mid-September. The alpha pair does not bring small cubs to the 'bait' while bears are there: the photographer's body odour is also a danger factor. We have often heard cubs practising howling in July.*

Wolf cubs are socialised by letting them play with domestic dogs. Typical Russian dogs romp with a wolf cub. A female adult a few years old has responded well as an experimental foster mother for orphaned cubs at Tver.

The day the film ran out

The first contact with a pregnant wolf at my photographic location in Kuhmo occurred in May 1993. My friend Bo Kristiansson was making a bear film for Swedish television. We spent nine days at a stretch in a small hide. Our 2-3 hour 'lunch hour' was spent on the hide terrace, our antique table an old pine turned on its side. On the afternoon of the ninth day I was forced to go to Kajaani on business. Up to then we had had no luck at all, just a couple of quick glimpses of a wolverine and some larger dark shapes one night.

While having a welcome sauna bath I ruminated on how difficult animal photography sometimes was. At around midnight I was reading old newspapers when the door bell rang. There stood my friend, a huge grin on his face.

"As soon as you left, a female wolf with a hanging belly came to the carrion. She was extremely hungry and wandered around for three hours. I used up all my two and a half minute rolls of Kodak in the 16-millimetre movie camera. Tomorrow I'll have to order more rolls by express post from Stockholm."

I would never have believed that the next encounter with a wolf family would not take place for over a decade. Each year I observed wolf tracks. In the direction of Ulvinsalo I would find footprints in the snow when a lone wolf paid Finland a visit. In August 2004 I photographed an alpha pair, bringing my dream of seeing an entire pack that much closer. The following summer I observed individual wolves a few times from my Viiksimo hides as well. Wolves rapidly covered the 35-40 kilometre distance from Kiekinkoski to Viiksimo. I had to study the photos to be sure that they all belonged to the same pack.

Cubs are content to wait to see what will happen in the restaurant: will an adult bring some food soon, or have the bears taken the lot? Typically, wolves lounge round the restaurant for hours on end between early evening and morning – but never during the daytime.

On a dim May morning in 2006 a wolf family appeared for the first time: two rather pale cub minders from the previous spring came along with the alpha pair. They had not wanted to show themselves at all during the nights of their childhood. I still remember that fantastic feeling – "Wow, a wolf family in my own studio!" I imagined situations that later years would hopefully furnish. A wolf book was still many years away. However, I had by now published two books about bears and a third was already at the planning stage. Now I had something of great interest to add to the contents of that third publication.

Over the summer, in particular mother Evil Eye and father Pale One steadfastly fetched food from the feast we had laid out. They were even joined on occasion by the cub minders. Sometimes the pieces of carrion were so large as to be impossible for one wolf to carry off alone. With all this activity, I concluded that some new cubs must be hidden somewhere.

Snow tracks in November revealed the total number of wolves as 5-6. Presumably this meant 1-2 cubs in the spring. It was December 2006 before I managed to secure pictures of these two newest cubs when The Spitz and Crooked Tail accompanied their mother to the restaurant.

In 2007 there occurred an event that ought not to be possible in a wolf family's territory. In May and June, Light Girl, born in 2005, diligently carried food away into the forest. For a long time I thought she was cub minding but the photos revealed that the young female had given milk from at least her two rearmost teats. The fur on her belly lay flat against the skin, while the two teats were completely exposed. Had the young mother given birth this first time to only two cubs? A consequence of inbreeding?

This puzzle was solved by the Finnish Game and Fisheries Research Institute in February 2008, when researchers had to put down the alpha mother (Evil Eye) due to a road accident. The autopsy revealed that she had given birth to five cubs the previous spring. Of these, four survived. Thus, the pack's female leader and her two-year old daughter had given birth to cubs simultaneously! One explanation for this could be that when Pale One, the original father, disappeared in August 2006, family relations during the 2007 mating season went awry.

Light Girl did not, on the other hand, have the courage to show herself very often. Had the mother through her cubs become irritable towards her daughter, who was occupying the same territory? It is also possible, of course, that the first born cub or cubs had died.

The 2008 spring marked the start of a several-year period of ruling the virtual family. Crooked Tail (2006 male) paired up with his sister who, born in 2005, had had 1-2 cubs sired by some other male the previous spring. Around May 10th-15th the pair brought into the world two pale and two variegated cubs.

During the last week of the following July a Dutch lady photographed a small lone wolf. In the same situation a man videoed the familiar pale mother, who commanded the cub to retreat into the forest. The cub appears to have died at some point before the autumn as we never saw it again.

14 cubs over five years

The pair had five lovely babies in 2010, and in 2011 six, one of which, however, disappeared in September. In the 2012 spring Light Girl was discernibly pregnant with her sixth consecutive litter. The cubs most likely died. Over the five-year period 14 of the cubs survived until late autumn but how many have actually been born is a mystery. We have no idea where the cub minders 'disappear to' when they establish their own territories. Some of them obviously live in Russia where, however, the almost 100-euro bounty promotes their demise. Wolves fitted with transmitters are known to have made long journeys.

The old alpha pair Evil Eye and Pale One possibly produced cubs on the Finnish-Russia border prior to 2005 but no-one has ever come forward to say how many and when. My observations at Kiekinkoski were not previously possible as wolves were simply not seen. Certainly the 'old pair', as I call them, produced a total of four cubs in two years – indicating that the couple were in fact in the early phases of territory establishment. An alpha mother tends to be most productive at just under, or just over, 5 years of age.

We do not get to see litters before the autumn, despite hearing the cacophony set up by the hungry cubs. When one of the adults carries some tasty morsel in its mouth to distribute among the cubs the latter set up an awful racket that is clearly audible for a long distance on a calm night. It sounds exactly as though some puppies have learned to bark in unison but their vocal chords have not been tuned properly.

On an August night one may hear howling and crackling noises. From September to Christmas is the most reliable period to see the whole family together from time to time. In the gloom of December and January observing the wolves is possible only through binoculars. The February to March mating season again interferes with the family's composition, while birthing in May triggers cub minding activities.

Based on the national monitoring by the Finnish Game and Fisheries Research Institution, my Kiekinkoski (Kuhmo) Russian pack has remained the best producer of cubs. Moreover, its members have stayed together. Perhaps the positive effects of ecotourism have borne fruit in Kuhmo, which in terms of watching and photographing the great predators has no equal throughout Europe. The European brown bear has formed part of Kuhmo's image for decades already. Increasing numbers of local inhabitants are nowadays receiving a share of the tourism revenue generated by these animals and seeing the positive aspects of having them around. A dead predator does nothing for ecotourism.

By October a cub from the same year will be five months old and similar to an adult in appearance. A lovely winter coat enhances its noble bearing.

Alert young wolves await orders from their parents. In June and July a moulting wolf over a year old resembles a rag that has gone through a mangle. If the mange attacks a wolf the result is a truly pathetic looking animal.


Brawling at The
Restaurant

The bear is a symbol of might and alacrity. It is thus generally believed that a wolf has no chance against so powerful a beast. This concept appeared to be reinforced by an event in the terrain near the lake when a Norwegian video cameraman phoned me early one morning asking me to look for a dead wolf. He had captured a sequence on tape showing two wolves chasing a bear. The final shot showed only a blanket of vegetation but just before the animals were lost to view the cameraman had seen the bear take a fearful swipe at the back of one of the wolves. Ominously, only one wolf and the bear had left the scene.

Together we searched for the presumed dead wolf which, however, was never found. I theorised that either the wolf had only been unconscious (when the bear would gladly have torn it to shreds if it had located its tormentor), or that the wolf had vanished under cover of the undergrowth.

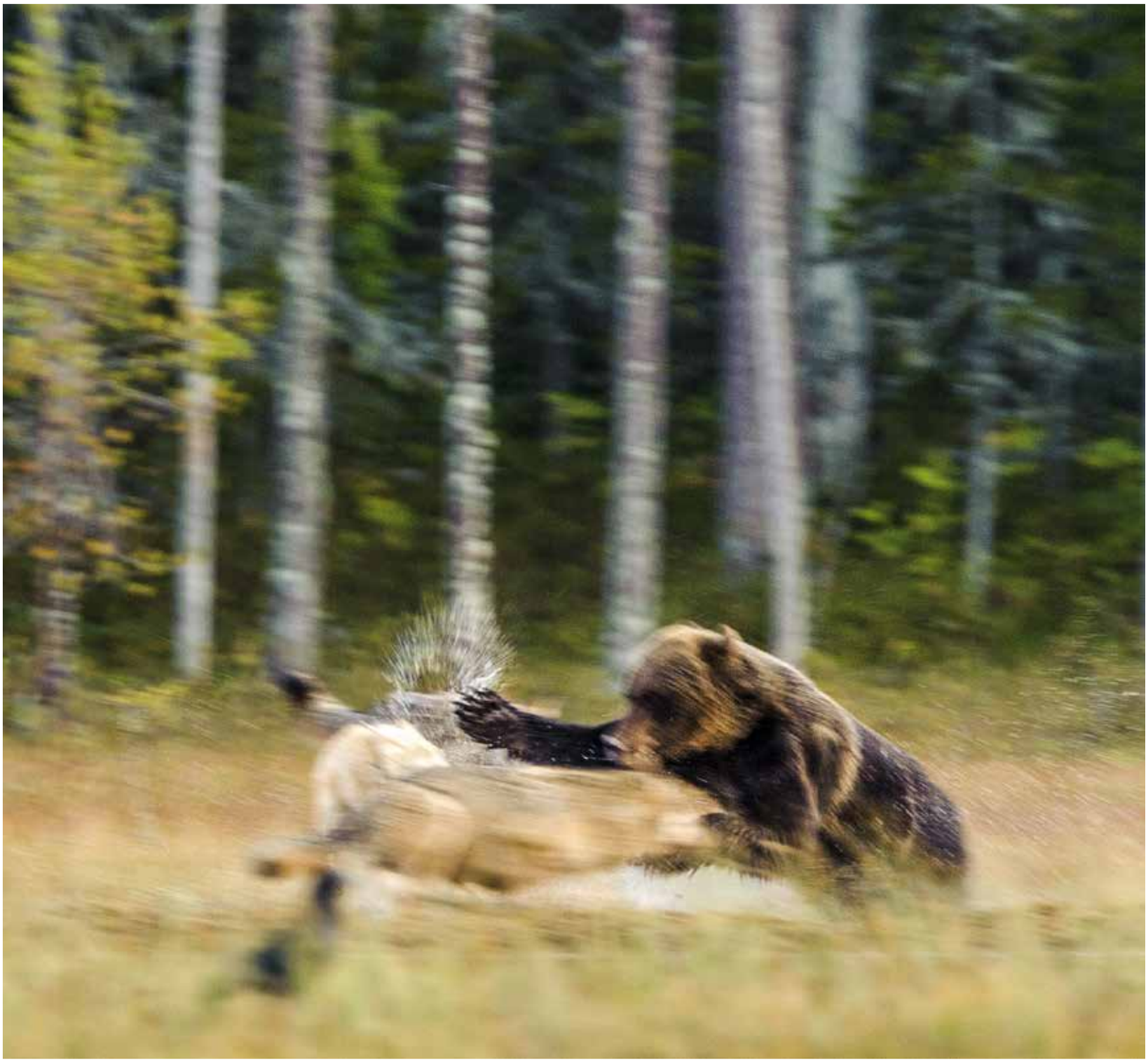
During the night hours I have seen bears take a mighty killer-blow at a wolf which has been annoying them. Despite the speed of the swinging paw, the wolf has always managed to avoid a crippling injury. It is, of course, possible for the wolf to be brought up short by a tree or something, enabling the bear to slice into the rascal's body with its five razor-sharp claws. However, thus far the wolves I have been watching have been adept at worrying bears while avoiding retribution. No bear I have seen lashing out in anger has ever caused a wolf any injury.

A client told me that a few years ago in Canada a wolf pack had killed a large bear. This is not by any means impossible when there are many wolves present and competition for food leads to extreme violence.

Alpha pair cooperation

A solitary wolf is incapable of driving bears away from corpses. The alpha pair, on the other hand, is an extremely effective combination: food has to be obtained for the litter at all cost. The pair work intelligently, first following the unfortunate bear for as long as necessary. Bears often carry away carrion with the intention of secreting it somewhere safe. As it lumbers off, the wolves snap at the beast from behind, bullying it mercilessly. Sooner or later the bear turns angry, inadvertently opening its mouth, whereupon the piece of meat falls to the ground as the great beast turns to face one of its tormentors. Quick as a flash, the other wolf snaps up the unguarded chunk of food and hurries off with it to the family.

Only one large bear has ever shown a degree of common sense. Having carried some meat in its mouth quite a long way, it put its snack under its stomach, then lay down on it. The wolves circled the animal in an attempt to goad it into reacting, snapping at its body from every angle. As in the world of human politics, the tactician obstinately failed to 'rise to the bait', however. Eventually the wolves grew tired of trying and left the fellow in peace. That particular bear became an adept at this trick. Quick to realise they were getting nowhere, the wolves henceforth chose a less intelligent individual to rob.



Despite its fast reflexes, a bear is no match for a wolf. Wiliness is the answer. One bear figured out that if it were to lie on top of the carrion its arch-enemies would be unable to steal its food. The silliest thing a bear can do is to flee with food clamped in its jaws. Bears can be murderous towards wolves that bully them. Unfortunately, their front paws are too short to make contact.

The number of wolves is the crucial factor in clashes at a feeding site. Three or more of them already pose a threat to bears. Wolves are able to dupe bears into believing they have an elephantine stature, jumping as high as possible as they rush towards the bears. A dense pack that keeps bounding into the air appears a formidable adversary to the bears. And when the first bear runs away in alarm, the wolves become convinced of their prowess, while a panic reaction sets in amongst the remaining bears. I have seen as many as a ten or so bears feasting at night before these have vanished after a large wolf pack has bounded towards them at high speed.

Individual differences among both wolves and bears are vast. Bum Biter, a large male wolf, is bold enough to attack bears single-handedly. Some old male bears will turn towards the wolves waiting for the latter to attack. They will then neutralise the attack with a counter-attack. This may be because a clumsy old beast is unable to flee fast enough to avoid being bitten in the backside. The counter-attack may well be successful, forcing the wolves to move hopefully on to the next likely victim.

The alpha pair attacks a bear from two sides. Reacting angrily towards a bite on the behind from Crooked Tail, the bear whips round and drops the food from its mouth, enabling Light Girl to snaffle it.

Bear's mistake awaited

It is fateful for a bear to tear off some food, then leave the bait with it. The wolves wait for just such an opportunity after lying patiently close to the bears. They then embark on a group raid and the game is soon over. A wolf is in no hurry to sample the delights of the 'restaurant'. At the latest when the sun begins to shine warmly the bears leave for their daytime sleep and then the restaurant remains entirely in the wolves' hands.

If the carcass is large and fresh, making it difficult to tear pieces off easily, the bears are the ones in charge, while the wolves are forced to wait. On many nights sweeping the scene with binoculars has revealed wolves sleeping here and there. They rest in peace, letting things take their course. Before very long, either a bear tries to carry a morsel away, or the morning is sufficiently advanced for the bears to lumber away to get some sleep.

Hunger is also a factor in the way the wolves operate. If they have not eaten for a couple of nights, a void in the stomach increases their courage and aggression. This is most clearly apparent from their time of arrival on the scene. The first few minutes are devoted to skirmishes and loud growls as the bears express their

A wolf pack approaches its foe gingerly on a lake shore where escape routes are limited. The wolves first figure out which bear they are up against. They swiftly learn to detect differences in behaviour, wisely avoiding bears with short tempers. Nervous bears will quit the scene as soon as wolves appear at the 'restaurant'.

Constant strife saps the strength. Hence, the most spectacular drama is enacted immediately wolves appear on the scene when bears are already tearing the carrion apart. As the night progresses everyone keeps a watchful eye on everyone else. Generally, however, they all get a meal before morning.

displeasure at the wolves' roguish behaviour. The furore is short-lived, however. It would be a silly waste of energy to quarrel for hours on end. Thus, after the initial mayhem things quieten down and wolves and bears tolerate each other's presence.

It also seems there is a certain amount of play involved in the skirmishes between wolves and bears, at least on the wolves' side. The wolves appear to enjoy the spectacle of panic-stricken bears running off in disarray. Chasing them is sometimes more of a sport than a necessity. This becomes obvious when a morsel of meat stolen from a bear is left untouched on the ground or just plonked haphazardly down somewhere else. The culprit is not even hungry but gets a primitive kick out of bullying something bigger.

Wolves also quarrel among themselves. Human families are blighted by greed and self-interest: children clamour over the best ice cream or lollypop. Members of the dog family typically 'own' food, commandeering it and taking it away out of sight of others. They also over-eat; even when their stomachs are full to bursting point they fear that somebody else is going to stake claim to the food that's left.

Moments before the picture was taken this robust bear has had to give up its meal, yet the wolves keep worrying it. I have seen wolves strung out in a line like human moose hunters: as the fleeing bear passes each one, the wolf at that point persuades it to keep going! Once the enemy has been seen off, the wolves can settle down to feed in peace.

Bushy Tail, the current cub minder, distracts a bear so that the alpha pair can rush in and grab the poor beast's food. The bears never seem to work out they should maintain a cool head in a conflict with wolves. Time and again this simple strategy ensures the wolves dupe the 'King of the forest'.

In normal circumstances wolves are also partial to eggs for breakfast. A regular supply of easy meat reduces their need to kill birds or beavers, or to search for eggs. Consequently, there are always plenty of waterfowl and wader families present in our Kuhmo 'studio'.

Light Girl puts on a spurt when she realises her mates have arrived to drive away the bears, and the familiar performance is repeated once again.

Friends

In the summer of 2006 an amazing event occurred involving a male bear cub and a female wolf cub. The shy bear cub tended to avoid the other bears and to feed alone. If larger individuals appeared, the young cub would quietly depart.

This scenario continued for several nights. Then a light coloured female wolf cub joined the young bear. She, too, kept herself to herself, avoiding conflict. I called them Romeo and Juliet. Romeo's behaviour emboldened Juliet. Romeo sat at a funny attitude at the dinner table and appeared inquisitive but friendly when Juliet guardedly crept up to the same table. From her attitude it was obvious that Juliet was prepared to flee immediately if Romeo disliked her. Tail between her legs and her entire body tensed, the wolf cub finally summoned up the courage to eat off the same plate as the little bear.

In the realm of the bears I had never before seen an individual which did not in one way or another behave threateningly towards a wolf, if not by actually charging, at least by emitting that characteristic smacking together of the jaws or a low-pitched warning growl.

Had the two been members of the same species one would have surmised that deeper feelings were at work. But a wolf and a bear - huh! In fact, their friendship actually grew night by night. Romeo would appear first. Not long afterwards Juliet's pale form could be discerned in the forest. As soon as it became evident that no other bears or wolves were feasting, she would join her friend. At its best the distance between the two heads as the animals sank their teeth into the food was a mere 30-40 cm.

This unusual love affair lasted for well over a week before the animals went their separate ways. Later, I saw Romeo several times but he was always alone. Juliet, on the other hand, could be seen hanging out with her relatives. It is highly characteristic of wolf behaviour for the pack to disperse, only to gather again in a variety of compositions – even during the same night.

Optical illusion versus reality

In later years I noticed that bears and wolves cannot be bothered to fight all the time. Aggressive behaviour saps an animal's strength when it has to constantly emit growls and to rush at its enemy all night long. Thus, each summer I secured photos of new friends which could be in close proximity without showing any signs of aggression at all.

Both species display interest in the other's affairs. If a noisy fight ensued some distance away, or other individuals appeared on the scene, the animals' own business was temporarily forgotten.

Things are not always as they seem. The photo at the beginning of this section, where a pale mother wolf and a dark brown bear in close proximity are staring at the same point, would appear to depict two close buddies. Yet sometimes a long telephoto lens gives a false impression: in a shot taken at a distance of 100-200 metres it looks as though two animals are almost touching, whereas in reality they are standing several safe metres apart.

Harmony, or lack of it, between the two species is affected by the degree of hunger, as well as by coexistence for several hours. Individual differences exist, though. A young bear befriended a young female wolf in a relationship lasting a fortnight or so. First the bear would appear, followed soon afterwards by the young wolf, yawning prodigiously after her daytime sleep. Their faces within a metre of each other, these two would eat without quarrelling at all. In general wolves and bears pass each other by docilely. A solitary wolf will rarely attack a bear but an entire pack may worry the bulky beast mercilessly for sheer fun.

Wary Winter Wolves

Having photographed bears for several decades, I have become convinced that the winter makes these beasts cautious. Even the old male who knows the photographer well is wary of the recorder as he sits alone and silent in a hide. Nor does the provision of food by the photographer over many a summer cure the old fellow's wariness.

Prolonged absence has the same effect as between people: the old school friend is not at first the same buddy as before when we later meet up. Our relationship and trust needs reviving with, for instance, a nice cup of tea.

The bears' six-month vacation in Russia from October to April erodes their trust. It is not until July or August that they regain their confidence, and only then in the 'restaurant' area. After all, a bear only visits the hide sites to obtain food, not to eat grandmothers or children. I have never managed to get close to a bear anywhere else than close to the carrion. If the carrion is all eaten the bears go elsewhere after only 2-3 disappointing nights. They do, it is true, consume berries every night from the cloudberry season in July to the lingonberry (cowberry) season in October, despite plenty of dead meat being on offer. This habit is easily proven: bear droppings are full of purple bilberries in August, while the dung is dyed red in September.

Researchers have shown through bears fitted with radio-collars that the beasts keep a safe distance even where I have set up my hides. The bears instinctively shy away from the area. On the other hand when a bear, irrespective of the presence of carrion 'bait', is caught unawares, it stays hidden, so that a person passing by has no inkling of being so close to the large animal.

The last bears enter their winter dens in Russia towards the end of October or the beginning of November. The first snow falls in Kuhmo within the first fortnight of November at the latest. In the November to March period the wolves become very wary. The presence of a bear tends to excite wolves and make them more tolerant towards hides which obviously contain human observers. I have experimented by moving some carrion 'bait' to within 50 metres of a hide. Despite there being no human visitors to the site for some weeks, the wolves refused to eat so close to a hide.

Not a Foregone Conclusion

During a moose hunt in Suomussalmi during the 1980s a bear escaped from the line of beaters and hunters by taking refuge in a small tract of forest in the middle of an open logged area. A 'simple' plan was hatched: the hunters would line up in readiness along one edge of the open ground, while a couple of beaters would drive the animal from cover so that it could be shot. The beaters tramped through the forest growth but found neither hair nor hide of the beast. There was much discussion about how the animal could have slipped away undetected. Finally, someone realised that the bear had escaped in the direction the beaters had come from. Cunningly, it had waited until all the hunters were in position on the other side of the clearing before selecting an escape route in the opposite direction. Had a hunting dog been brought in to flush out the bear instead of beaters, the outcome might have been very different.

There is more light in February to March, as well as abundant snow, to assist wolf photography in wintry conditions. Luck is a useful bonus but local factors, such as the wind blowing towards the hide, or a snowstorm blotting out sounds and scents, enable the wolves to gambol about or relax naturally without human interference. A minor interruption like a raven's warning to an eagle can be enough to send the pack fleeing in panic.

During recent years the same behavioural pattern in winter has become obvious in wolves. Up to the end of October photographing wolves is relatively easy, even though they do not approach close to a hide. In November and December the wolves behave very differently from in summer. Former trust in a familiar photographer evaporates entirely. The distance left for a quick escape increases enormously. I have tested this conclusion by siting a hide around 50 m from carrion 'bait'. After I walked away no human being at all visited the border zone for a couple of weeks. Upon my return I found that the wolves had tried to approach the carrion from different directions but they had always kept their distance. Only ravens and eagles had visited the 'restaurant'. After I moved the hide to a spot around a hundred metres away, the wolves plucked up the courage to visit the 'bait'.

April sees a resumption of the 'bear rally'. As soon as the first males emerge from their winter dens the wolves start their 'bullying' tactics again, chasing individual bears away from the food. The presence of bears is fundamental to the wolves' attitude towards hides and the people hiding out of sight in them.

When bears are around, a wolf's attention is devoted to the "enemy" so that the usual safe distance from a human being often slips its mind. This phenomenon is familiar to those who take their pet dog out for a walk. When a strange dog comes towards the pooch, the latter's obedience is thrown to the winds and biological laws take over. Bears and birds also tend towards a group behaviour model differing from that of the solitary individual. The first animal to appear is alone and inevitably cautious. Once several individuals are on the scene the subsequent arrivals are not nearly as cautious as they would be if alone.

While photographing birds I have noticed that dozens of bean geese just stand around as I emerge from the tent (my hide) in the morning. They show no inclination to take flight because they are completely flummoxed: how on earth did this fellow manage to get inside our secure area? When only one bird has been present, my sudden appearance has resulted in panic-stricken flight. I have noted the same reaction from whooper swans and cranes.

The most difficult month for catching a glimpse of a wolf in the daytime is January. Then the frost tightens its grip to the full extent so that chewing pieces off a frozen carcass becomes almost impossible. At that time of year wolves concentrate on securing live moose with softer flesh.

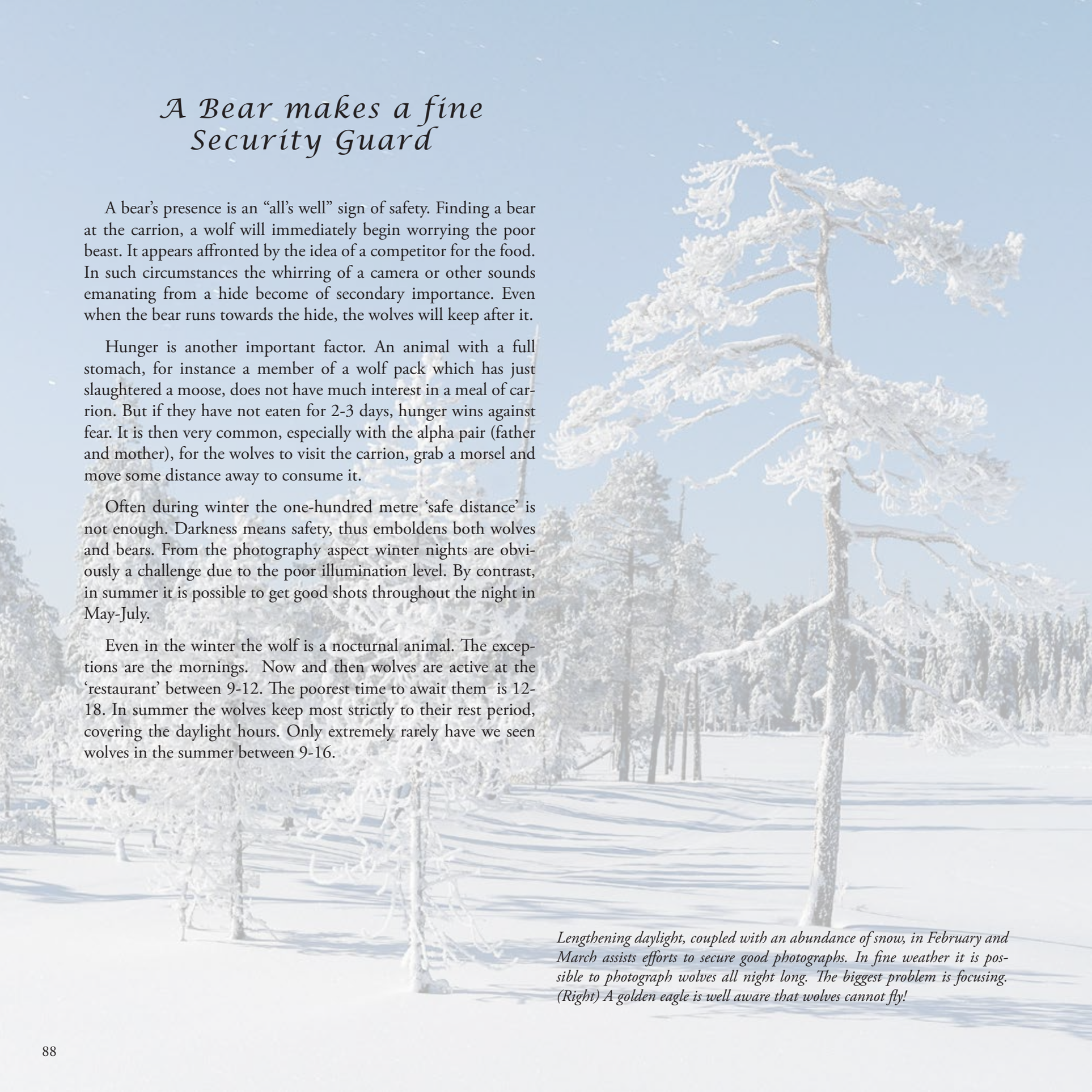
A Bear makes a fine Security Guard

A bear's presence is an "all's well" sign of safety. Finding a bear at the carrion, a wolf will immediately begin worrying the poor beast. It appears affronted by the idea of a competitor for the food. In such circumstances the whirring of a camera or other sounds emanating from a hide become of secondary importance. Even when the bear runs towards the hide, the wolves will keep after it.

Hunger is another important factor. An animal with a full stomach, for instance a member of a wolf pack which has just slaughtered a moose, does not have much interest in a meal of carrion. But if they have not eaten for 2-3 days, hunger wins against fear. It is then very common, especially with the alpha pair (father and mother), for the wolves to visit the carrion, grab a morsel and move some distance away to consume it.

Often during winter the one-hundred metre 'safe distance' is not enough. Darkness means safety, thus emboldens both wolves and bears. From the photography aspect winter nights are obviously a challenge due to the poor illumination level. By contrast, in summer it is possible to get good shots throughout the night in May-July.

Even in the winter the wolf is a nocturnal animal. The exceptions are the mornings. Now and then wolves are active at the 'restaurant' between 9-12. The poorest time to await them is 12-18. In summer the wolves keep most strictly to their rest period, covering the daylight hours. Only extremely rarely have we seen wolves in the summer between 9-16.



Lengthening daylight, coupled with an abundance of snow, in February and March assists efforts to secure good photographs. In fine weather it is possible to photograph wolves all night long. The biggest problem is focusing. (Right) A golden eagle is well aware that wolves cannot fly!

Frozen Food

Studies reveal that in winter 90% of a wolf's diet is composed of moose meat. Erkki Pulliainen, Professor Emiritus of Zoology at the University of Oulu, has estimated that an adult wolf requires 3.6 kilos of meat a day (24 hrs). In some forested areas it is therefore possible, at least in theory, for a pack with 10 individuals to consume 1000 kilos of meat a month. The calculation does not only apply to moose, because in winter wolves also eat birds, hares, reindeer, raccoon-dogs, and dead meat (carrion) put out by people. There is a great deal of variation according to what is on offer. For example, in Russia there are areas where the wild boar is the most important source of sustenance. In Canada, on the other hand, there may be enough caribou locally to sustain the wolf pack. While in Alaska's Denali National Park I watched through binoculars how some wolves failed to bring down a caribou. But on the second day I witnessed from the Green Line window some wolves tearing apart a caribou carcass.

From December to February Finland expects periods of severe frost which freeze any dead meat solid. As a member of the dog family, the wolf loves to gnaw bones, but it needs no stretch of the imagination to realise that hard, frozen meat is not as attractive as a fresh moose brought down after a chase. Thus, the December to January period is a waste of time as far as the wolf photographer is concerned. That's the time to sit down and plan a wolf book!

Even on the same night a wolf pack may consist of different-sized groups. Hence, determining the actual size of a pack is a job for professionals. The footprint counting technique normally used by amateurs gives a +200-300% error of pack size. Location data obtained by the Finnish Game and Fisheries Research Institute through fitting radio-collars to individual wolves enable territories to be accurately determined.

Snow prints can be confusing

The mobility of wolves and constant changes in their pack composition inevitably lead to interpretation errors in the evidence provided by footprints in snow: counting footprints is a task simply begging for misinterpretation. Neither can the assessor be certain that the prints have been left by a wolf! A classic example of this are the calculations made by hunters in the Kuhmo area. An 'expert' assessment has converted a few 'incontrovertible' wolves into lynxes or dogs.

Without surveying a large area by snowmobile an estimation of the number of wolves and the extent of the area over which they roam is practically impossible. A person counting tracks by driving down roads sums the results. I once read in the newspapers that there were 20 wolves in the Kuhmo area, where I take photographs. This certain 'data' was submitted by local hunters. At that time 1-8 wolves were visiting the vicinity of my hides. The size of the pack varied weekly between the minimum and the maximum number. We had already photographed all the individuals and we had not obtained three times the number – apart from in Photoshop!

Wolf counts are a professional chore. In this connection the only reliable perpetrator in Finland is the Finnish Game and Fisheries Research Institute, whose personnel have logged up decades of field experience. Even better, many packs include wolves with radio-collars and these individuals are generally leaders of the pack. Based on these tagged wolves real time data is obtained about pack movement and location. Unfortunately, tagged wolves and even entire packs have fallen victim to poachers in recent times. Every lost tagged wolf is a severe blow to the researchers.

The Despised Wolf

If the wolf only understood that it is forbidden to interfere with mankind's beloved dogs, it would be spared a lot of grief. It is easy to sympathise with dog owners if a wolf has seen fit to remove a trespasser from its own territory. The village grandmothers and grandfathers side with the hunters over the necessity to kill the bandit. Children inherit their mothers' and fathers' negative attitudes towards marauders. Anger is aroused by the loss of a hunting dog or cherished pet. The law may be couched in any terms at all but a person's own law takes precedence.

A hungry wolf, which may be an individual in poor condition or an injured one that is no longer a member of a pack, may approach a human settlement to seek food with its last vestige of strength. Sometimes the problem can be traced back to licensed human hunters eager to make use of every single moose permit, even when it means decimating the local population. In forested areas of Finland 90% of a wolf's main food source in winter may well consist of moose and in summer 60%. How can a pack survive after the entire local moose herd has been culled under licence? When granting moose hunting permits we need to first assess the proportion required by predators, and only then to consider human needs.

Thanks to radio collars fitted to both wolves and bears by the Finnish Game and Fisheries Research Institute, more information about illegal hunting has recently come to light. Entire wolf packs have been exterminated by poachers. The most brazen offenders brag to the media how they kill anything they want to without hindrance.

Talking of which, the media are a factor primarily responsible for stirring up hatred for the wolf. Local newspapers in particular eagerly publish even a tiny transgression against the human community. Even worse, the story has to appear in tomorrow's paper, even if there is not an iota of truth in the tale. It is enough for somebody harbouring hatred for predators to call a journalist maintaining that some despicable act is down to a predator. Frequently, the animal responsible for some misdemeanour or for terrorising summer house residents in reality is a dog. When the true facts become known no correction appears in the paper and, even when it does, the original article carries far more weight than any retraction can ever do.

Politics and reindeer

The wolf is also a political issue. With 300,000 hunters in Finland, and an even greater number of dog owners, those wishing to enter parliament must first proclaim the death sentence for wolves.

What about Lapland and its reindeer? In terms of wolf distribution the reindeer husbandry area year after year is completely off the map. Wolves coming in from either Russia or the south for some reason vanish there like a wisp of smoke in a wind. Well-known for its sheep rearing, neighbouring Norway is completely intolerant of wolves.

Even the system of State compensation for any damage caused by predators is flawed. In recent years there have been signs of saving State funds by reducing Finland's large carnivore populations to an absolute minimum.

It is difficult for a wolf to find anywhere in Finland where this noble beast is generally accepted. The country's wilderness areas have for long been highly fragmented and the concept of the kind of extensive North American protected areas where hunting is prohibited does not sit well with Finland.

Will the time ever come when the value of a live wolf, as income earned from tourism, will exceed that of a dead one? In our safari activities in Kuhmo the wolf plays a prominent part. These days brown bears can be observed in several European countries but the weekly observation of wolves has only been possible from our outdoor studio.

The more people who get to watch and photograph the wolf the less the fear and prejudice around. Something that is not seen, or that moves around only at night, gives us the creeps. The wolf, moreover, has a bad reputation. This is instilled in us during childhood and remains indelibly in our minds. Often reference is made to the 'hunger years' recorded by Finnish clergymen. No-one can prove that children were then murdered by wild wolves. DNA analysis was unknown as an investigative method. Or could it be that, thanks to extreme poverty, children were left out in the forest to die, their dead bones later gnawed by hungry roving carrion-eaters?

Pelts bring short-term gain only

In Africa and India people have realised that wildlife tourism forms the most important source of income for populations in poorer regions, even when the main safari business is in the hands of rich foreigners. Prior to the wildlife tourism boom only poaching produced some sort of income for local guides employed by white people. Now poaching has been reduced in some parts and increasing numbers of villagers are earning money from tourists wishing to observe and photograph wild animals. If the animals are killed off, this form of tourism will be snuffed out. One live tiger may be worth hundreds of thousands of dollars: tourists stay at hotels, vehicles are hired, food is purchased, competent guides are given welcome tips. A buyer, on the other hand, pays a relatively small sum of money for a tiger skin.

Regrettably, Russia has failed to grasp the importance of wildlife tourism in relation to the wolf. Bounties on wolf pelts are paid in Karelia. Even Finns have been involved in the shooting of wolves from helicopters. While this method is technically prohibited, it goes on in modern Russia.

Not only will a wolf guard its territory, it will even kill trespassers, i.e. other members of the dog family. Occasionally wolves kill domestic dogs for food. It is clear that when a proficient moose dog is killed and eaten by a wolf, no supporters of wolves can be found in the village. Indeed, the main reason for hating wolves is the fear that domestic dogs will fall victim to them. Wolves are not dangerous to people.

Is 'wolf tourism' approved?

I have carried out pioneering work in 'wolf tourism' in Kuhmo. At times I have felt that I myself am hated more than the animal itself! Despite this, attitudes have changed within a relatively short time. In the 1980s no love was lost on bear photographers, even, in Kuhmo. The wolf has only come into the tourism frame during the current century. This book is the first in Europe to be based on wolves actually photographed in the wild. Moreover, in the last few years cooperation with the Municipality of Kuhmo in the wild-life tourism sector has met with outstanding success.

It is sad that in the name of wild forest reindeer conservation there has been a tendency to deliberately condemn the wolf as the villain of the piece. The dramatic deterioration of the wild reindeer situation in Russia has been virtually ignored. Thanks to poaching, Russian Karelia is now almost entirely devoid of wild forest reindeer. In migration years as recently ago as the 1990s some of the deer crossed over to Kuhmo and Pohjois-Karjala (northern Karelia) in Finland. And in Kuusamo hundreds of the animals would crowd the other side of the impenetrable domestic reindeer fences. Deer diseases and a reduction in the lichen situation also affect the wild deer's status. At the beginning of the 1980s I photographed wild forest reindeer in Lentua at a time when there was plenty of lichen around. In more recent years the deers' winter pastures have been extended by necessity to Sotkamo, Ristijärvi, and even Kajaani, in addition to Kuhmo.

Is a live wolf on the eastern border more valuable than a dead one? In monetary terms, yes. Bears can be seen in many European countries but successfully observing and photographing wolves is only possible in Kuhmo. Increasing numbers of visitors are coming to Kuhmo to see the wolves. Where tigers roam wild, poaching used to be the only means local folk benefited from them financially. Nowadays people in many regions frequented by these animals oppose poaching because 'tiger tourism' brings in far more revenue. A dead animal is only paid for once.

The Tormentors

Few animals are happy with ravens: bears, wolves, eagles, goshawks and gulls all have fights with these black birds. Although a goshawk can easily kill a raven, a violent counterattack may turn the tables on the predator. Defending its nest, a gull tells a raven to shove off.

Irregular sleep has robbed me of my energy again. I lie prostrate on the floor of the hide, fatigued, trying to get some rest. My Norwegian clients' cameras click away at regular intervals but I have no interest in the bears at all. "Our host snores like a buzz-saw. Will it disturb the bears?"

"No. They know me," I mumble.

My clients are amazed that I can reply from a deep sleep. Later I explain that for decades I have used an alarm system based on hearing. At one time I tried using electronic alarms but became tired with constantly resetting them. In rainy weather the alarms were highly unreliable and a bear or wolverine sometimes got entangled in a wire and tore the alarm from its place. Again, if a motion sensor was set too sensitively, a bird flying by could trigger a false alarm.

"Craak, craak."

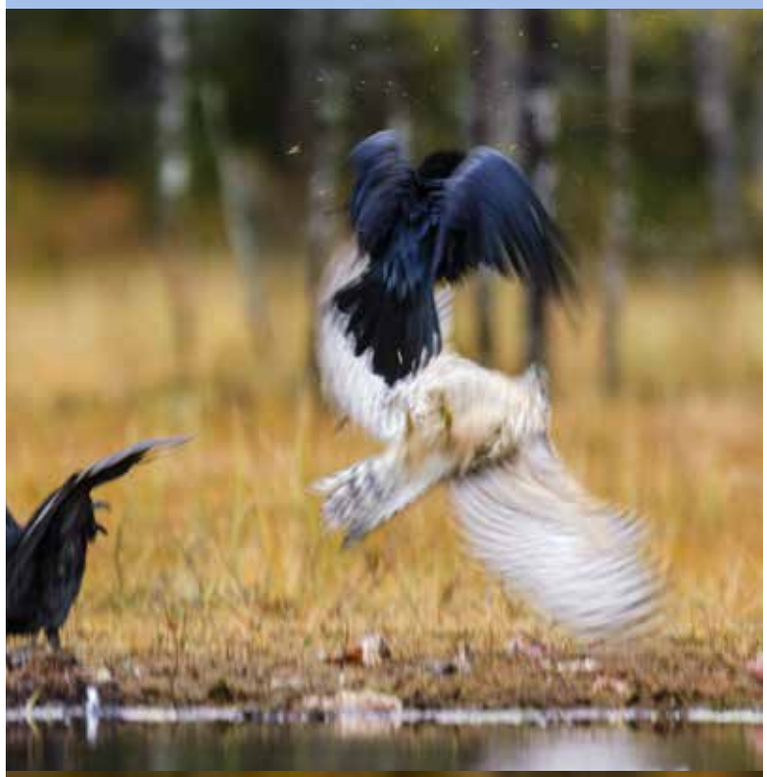
"More bears are coming," I whisper.

The disbelieving Norwegians find this funny. A few minutes later a new bear steps into the 'studio' from the dimming forest. I inform them that the raven is so wise that it does not bother to announce the arrival of the same bear more than once. But as soon as a new one appears, the raven will announce this to the world at large with from one to three warnings that the enemy has received reinforcements.

"Craak, craak, craak, craak, craak, craak, craak, craaaak …"

"A wolf will soon arrive from Russia," I assure them.

Now the Norwegians take my word seriously and sweep the mire area with their binoculars. I force myself to squat on a small stool behind the camera. New pictures for the wolf book will not be secured if one goes to sleep. Using sign language, I indicate that there is a wolf some 300 metres away behind the forested mineral soil 'island' in the mire. The ravens' dive-bombing behaviour is a sure sign of its presence. The birds swoop down over the animal's back as close to it as they dare. This group alarm behaviour lasts for several minutes. Many ravens set up an alarm simultaneously, whereas in the case of a bear a brief signal suffices.



In summertime I have often discovered dead ravens near the carrion. While I have never actually seen a wolf snatch an impudent raven out of the air, I am convinced this is wholly possible. Many is the time I have witnessed a chase where the raven has barely escaped death in a pursuing wolf's jaws.

Can a Wolf catch a Raven?

A wolf triggers off a skirmish. Setting of at a fast run, it tries to grab a raven in its mouth. The wolf bounds high into the air, eager to kill each and every ragger. Two other wolves quickly join it. Now the ravens approach them with far more care. One of the three wolves may succeed in nabbing a bird, bringing about a 'black death'. Indeed, I myself have occasionally found dead ravens near carrion. Although goshawks may prey on, and capture, ravens I am convinced that on occasion a wolf succeeds in grabbing one of the jet black birds which has been flying away from it too close to ground level for safety.

In the March snow I have interpreted from tracks how a cock capercaillie diving down from a perch into the snow to form a tiny 'cave' has ended its days in a wolf's stomach. Initially, the wolf will have stealthily approached a bird whose scent it has detected. The mammal then floors the accelerator. As the capercaillie attempts to flee, the wolf brings its tasty roast down. A mass of feathers and blood-stained snow remain as evidence.

Young wolves cunningly feign inertia when trying to trap ravens. I shall never forget The Spitz's behaviour in this respect. He ceaselessly harassed other birds as well as the black ones, including the magpie. The cunning wolf would sprawl on his stomach as though fast asleep. Suddenly, as one of the birds swooped down too low he would leap into the air to grab it.

Bears also hate ravens. There are vast differences between individuals, though. While some appear to completely ignore their tormentors, there are aggressive individuals that constantly seek to drive off the impudent dive-bombers. A bear may chase a raven for several metres, swatting frustratingly at thin air with its huge paws. In the early 1990s Split Ear would approach carrion in a nonchalant fashion. But if so much as a tiny white wagtail happened to be present, the bear would suddenly put on a spurt, hissing loudly.

A Wolverine in a Spot of Bother

Wolverines suffer the most from the ravens' bullying. The old male we dubbed Fully Black altered his entire feeding schedule because of them. Several times I witnessed how the poor animal was forced away by the birds. Bullies are encouraged by the weaker party showing signs of fear. Fully Black's precipitous departure encouraged the ravens to sink their talons into his back. They had discovered that mobbing produced the desired result. Finally, Fully Black got fed up with being active in the evenings or mornings and became entirely nocturnal. Since ravens spend a several-hour siesta at night, even at the height of summer, they do not harass visitors to the carrion then and are content with emitting warning calls.

From the alarm standpoint, the wolverine is not a species that elicits much response from the ravens. Many times a wolverine has put in a sudden appearance at the carrion without any previous fanfare from these birds. There have been occasions, however, when a raven has emitted a soft alarm call upon the arrival on the scene of a wolverine.

Ravens are active from sunrise to sunset. They can be considered rather silly as they cannot resist revealing the whereabouts of some good food to the other forest inhabitants. Why don't they consume the carrion in silence after they have located it? One good spin-off from their alarm call system is that all birds recognise ravens' warnings and are thereby forewarned about, for example, the approach of a human being. The calls of ravens are of little use to mammals with their keen sense of smell which can pinpoint the location of carrion themselves, but a warning of the approach of people is in the interest of forest mammals as well.

In December 2010 the ravens' warning system ruined my expectations for photographing the wolf pack. Four wolves were feasting in the ample illumination of morning. They were frolicking together and thanks to a strong wind were completely unaware of my presence. I was terribly excited about the prospect of realising my ambitions before the day was out.

Then from behind the hide there came a sudden cacophony of alarm calls from a large number of ravens. The wolves being uncertain of what was happening began to run wildly to and fro, before vanishing at high speed into the forest. That day was never repeated. After the wolves had disappeared, I turned my gaze towards the sky – a golden eagle spiralling down towards the carrion had upset the ravens.

(Next page) Is this wishful thinking, or a manifestation of anger? One would think a smart wolf would have enough common sense to realise it cannot jump so high! Equally hopeless is a bounding wolf's chances of grabbing a cheeky bird by leaping up in soft snow (left). A magpie may have to give up its seat to a young eagle about to land in the same tree. Yet a perched eagle may be mercilessly mobbed by smaller birds. The bulky predator has no chance of defending itself against its small persecutors (above).

Birds of prey also elicit group warnings

Ravens display almost the same kind of reaction to golden eagles and goshawks as they do towards wolves. Time and again ravens will announce en masse that a golden eagle has taken off. The extent and duration of their bullying where birds of prey are concerned differs from that when mammals are the target. Eagles are bulky and move rather clumsily. Ravens appear to take great pleasure in tugging at the tail feathers of a sea eagle. The bullies like to sit in trees near, under or above, the large bird. Even the goshawk's quick reflexes are no match for the raven gang sitting in a tree.

In a fast chase the situation is reversed, Based on its large size, a female goshawk sometimes manages to catch a fleeing raven. As in the photo in this book, the situation may be funny when a goshawk falls on its back as a result of raven worrying. The struggling pair chased each other about for hours. Sometimes the hawk was clearly winning, but it was also obvious that the raven was better at pursuing its opponent.

Moose hunting indicates the ravens' skill at predicting food soon to come. The birds sit in the crowns of trees, following the movements of the hunters clad in red. They trust the hunters' professional skill: a shot fired means a dead moose and soon the table will be laid with the tastiest morsels.

Ravens also indicate moose movements. Once I was given a shooting position well away from the rest of the hunter chain. Two ravens called in a way that convinced me they were following a running moose that had penetrated past the chain of waiting 'guns'. Carefully I repositioned myself further away so that I was facing the direction from which the calls were coming. As a consequence, I succeeded in shooting a lone bull moose which would have escaped unscathed had it not been for the ravens' timely announcement.

Maternal Instinct

When wolves began to pay regular nocturnal visits to our outdoor 'studio' at Kuhmo's Kiekinkoski in 2003, mother bears did not dare bring the same year's cubs to the carrion. We managed to photograph families almost every year before the 'wolf season'. A mother of yearling cubs almost ready to fend for themselves is also nervous. Should wolves attack them, these yearlings may bolt up a tree.

Each summer I eagerly await the moment when I shall see the first small bear cubs, born in January in the winter den, now actively out and about. By the end of June the furry little fellows are big enough to be able to follow their mother around. During both the 1990s and the 2000s I was fortunate enough to be able to photograph such cute little bear cubs.

Then the wolves arrived. At first I did not make the connection: where were the bear cubs now? During the wolf season I had only brief glimpses of small cubs in the nearby terrain, sometimes following their mother about, but these family units never appeared at the carrion 'bait'. I was thus forced to conclude that a mother bear did not want to risk bringing small cubs to the carrion while wolves were present.

Even larger one and a half year-old cubs, that is, cubs which are no longer with the mother, are helpless if attacked by wolves. My son Sami watched a young bear take refuge in a tree, whining plaintively, when chased by a wolf pack.

The mating season for bears is the end of May and beginning of June. At that time of year I have witnessed a mother bear's callousness towards her eighteen month-old offspring. She bit the youngster and kept chasing it away, for the simple reason that she wished to attract a mate for a new pregnancy. Conversely, a mother has sometimes taken an older cub back into her custody later in the summer.

On the night of the 16th May, before the frenzy of the rutting season, I was treated to a fascinating scenario. A mother bear appeared, accompanied by two cubs of an age at which they would normally have been self-sufficient. Suddenly, two moulting young wolves arrived and began to stare at the family of bears. Both sides appeared very uncertain about how to react. The mother bear seemed unwilling to interrupt her meal but the wolves were not used to bullying three bears at once!

Gradually the wolves crept closer, with frequent pauses. When the distance separating the animals was 30-40 metres, the mother bear began to make false rushes at the wolves, the cubs rearing up on their hindlegs. I was sure the cubs would rush up a tree in panic but in fact they didn't. Had the group of wolves comprised several adults, the situation would have been very different.

At one year old, wolves are not audacious enough to harass a bear family. More experienced individuals would chase the bears away. On this particular night the bear family peacefully fed close to the wolves for several hours.

Wolves' inexperience saved the bears

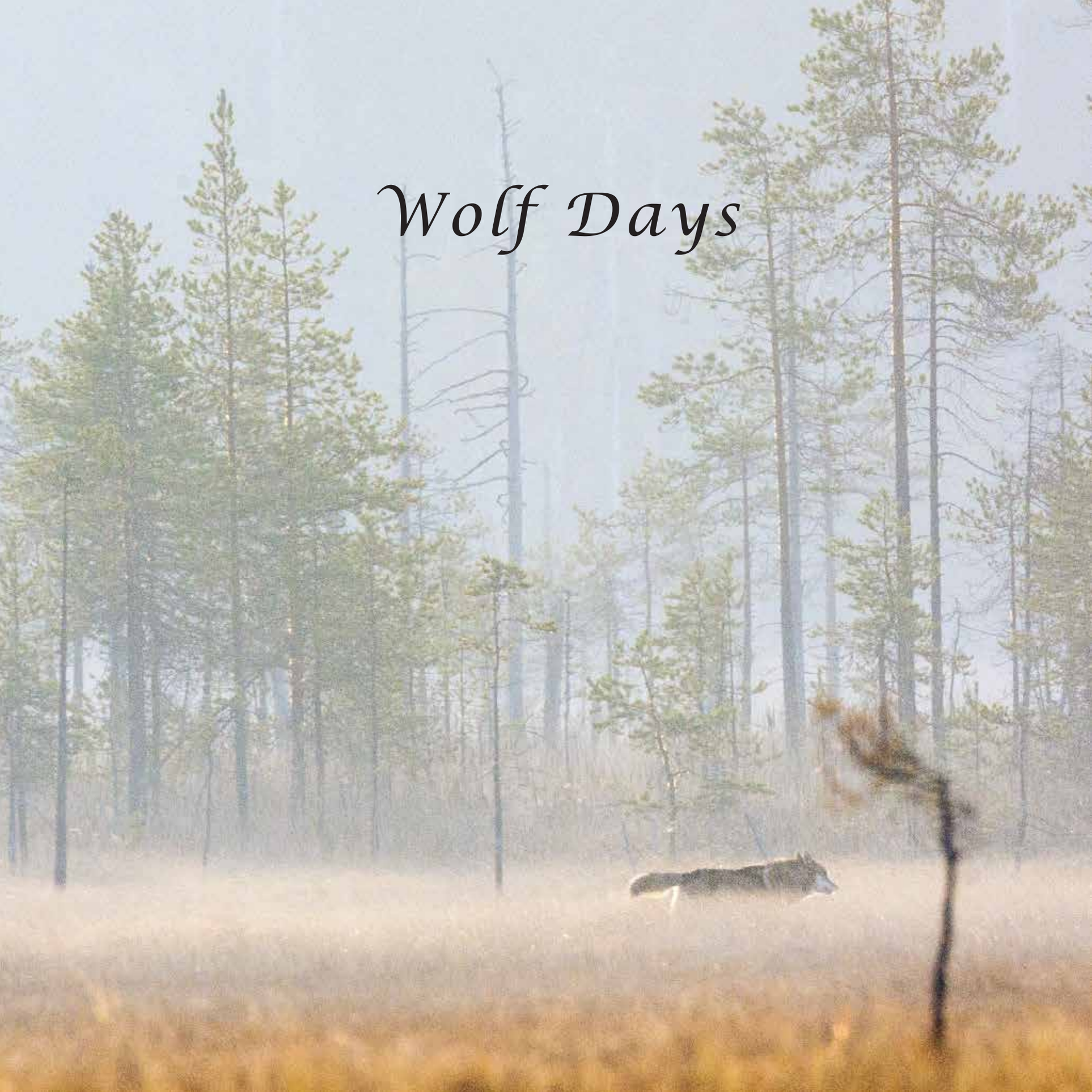
The young and inexperienced wolves were bewildered by the mother bear's repeated charges towards them. Their ear movements were an outward sign of their indecisiveness. The mother bear sensed that she could save her brood. The wolves retreated under her repeated charges. At times all five animals participated in the drama. However, the wolves snapped playfully at the bears without any real sense of purpose. And, as is often the case when photographing predators, the sparse illumination produced unpredictable 'art' due to the prolonged exposures. In the majority of images it was impossible to say which fuzzy animal was moving and in which direction.

The wildlife photographer is always poised ready for drama and action. My imagination ran wild: what if there were five adult wolves present? A couple would worry the mother bear while the rest forced the cubs up a tree. Either that, or they would bite the cubs to death. How enraged would that make the mother bear?

I have once borne witness to the fury of a mother bear. This was at Ähtäri Zoo when keepers were weighing some tiny cubs. Before embarking on this risky task, the keepers had inveigled the mother into a separate cage, from which she could see the cubs in human hands. She growled in uncontrollable anger, tore at the bars, and foamed at the mouth. We human beings would certainly not have survived had the irate mother been able to reach her cubs.

Where wolves are concerned, a mother bear instinctively realises she will be on the losing side in a fracas. Should many wolves attack the family at once, she will be unable to defend her brood. One can only admire the cunning and propensity for cooperation hallmarking wolves. I have a feeling this drama would have been short-lived had several adult wolves been present to charge the mother bear simultaneously. The mother's instinct would have told her the risk of staying around was too high and the bears would rapidly have put as much distance as possible between themselves and the murderous wolves. It was the dithering about of the inexperienced wolves that caused the bear to stay put. Strangely enough, later that night the two wolves and the bear family ate docilely within sight of each other, the competition for food forgotten for the time being as they stuffed themselves full.

A mother bear's sudden charge catches a wolf off guard. Her yearling cub imitates a rolling ball as the youngster takes to its heels in the opposite direction.



Wolf Days

During the February rut there is a great deal of prancing about on the ice covering the wolves' favourite pool. Individuals chase each other about, make short excursions, and lie down in the snow. In soft snow a wolf's footprint is more rounded due to the sole spreading out to provide better grip. The hind paw prints do not cover those of the front pair as they do in dogs. Recognising wolf prints in difficult terrain conditions is not at all easy.

The radio-tag is the only reliable means of tracking wolf movements. In winter regular footprint monitoring supplements the data provided by wolf tracking collars but in summer it is impossible to discern any footprints. In Finland there is only the Finnish Game and Fisheries Research Institute which, through competent field workers, is able to professionally assess the wolf population in an unbiased manner.

The sporadic interpretation of tracks in the snow multiplies the number of wolves. My so-called Russian pack has travelled over 20 kilometres south from Kiekinkoski, in Kuhmo, to Rajakangas, and 25 kilometres north to Viiksimo. The westernmost observations have been made more than 20 kilometres from the Russian border. This area – as all of Finland nowadays – is full of logging roads. If someone attempts to calculate the number of wolves by adding all the tracks in the snow together, the outcome will be the same as in the case of the so-called Russian pack a few years ago. I mean, the local Finnish hunters reported 20 wolves living in the Kiekinkoski area at the time. In that particular year I knew for certainty that there were precisely 8 wolves in 'my' Russian pack and I had photos of each and every one of them. Although the Finnish Game and Fisheries Research Institute fully endorsed my number, the district's game management association insisted there were 20.

A wolf pack constantly splits up, pack members tending to fragment into smaller groups as a matter of course. On a single day, even, the pack's members may hang out with different colleagues as they roam their territory. Moving wolves follow in each others' footsteps. If anyone tracking prints on a logging road takes a haphazard peek at a line of prints without following it to the point where the wolves separate, their pack size estimate is worthless. At the same time a second or third assessor may discover the same tracks and take note of them. When all the tracks observed are summed without any inkling of how the members of the pack have altered its composition, the final estimate is miles out. It became apparent even in the Kuhmo wolf counts that the hunters were unable to distinguish between lynx or dog tracks and those of the wolf. The Finnish Game and Fisheries Research Institute's specialist had to report regrettably often that a particular set of prints were not in fact those of a wolf!

Group behaviour model

Bears are just the same: after they awaken from their winter sleep they do not trust us, moving about only under cover of darkness far away from the hides. In July-September bears adopt a group behaviour model: when there are many of them present, as well as wolves around, the animals focus their attention on individuals of the same species. Human activity in the hides is then not of primary concern to them. It is far more important to stay out of the way of physically stronger bears and to avoid the wolves as well.

The circadian rhythm of wolves varies according to the season. Naturally, the light nights of summer aid observation. Using sensitive photographic material, it is possible to obtain pictures all night long from May to July. Snow is a great aid to illumination in April, as also when it first begins to fall in November.

During the bear activity period of summer the most popular time for movement is 23.00 – 04.00 hrs. Every week there are significant deviations from this routine, with wolves arriving at 20.00 – 23.00 hrs and the last visits occurring at 06.00 – 07.00 hrs. Earlier arrivals are linked to bear activity. If no bears are visible, the wolves also keep clear of the site. Bears serve wolves in two important ways: they ensure safety, and they also tear open a carcass, enabling wolves to tuck into the feast. A bear 'persuades' a wolf to eat, stimulating the latter. In summer it is exceptionally rare to see wolves between 08.00 – 20.00 hrs.

Weekly routine: pack night

Thanks to our safari activities over the last few years we have managed to work out the weekly routine of the Russian pack. From April to October, and especially during the summer months, we have clients occupying hides almost every night and all observations are recorded at the Kuikka 'base camp'. For instance, from the 2011 autumn to the 2012 summer there have been 5 cubs from May 2011, plus 6 adults. In addition to the alpha pair there are four cub minders from previous years. Once a week a so-called 'pack night' takes place when we are able to observe either the whole pack, or almost all its individuals. Again, during the week there may be a 'zero night', when no wolves at all are seen. On 4-6 nights a week 1-7 individuals have put in an appearance. One must take into account, though, that due to our bear interest from June-September there have been 2-3 week periods when at least one wolf has been seen every night.

In summer the wolf pack has been satisfied with the carrion we have provided but in winter the wolves have been forced to kill a moose, as gnawing at frozen meat is a tough job at a constant temperature of minus 20-30 degrees Celsius. In such circumstances fresh moose is very acceptable. On several nights each summer we see moose from our hides. Even in winter, moose occur close to them. Only seldom have the wolves preyed on a moose in the vicinity, even in winter. Our observations with carrion have shown that the wolves hardly prey on moose at all. I have found that the same also goes for bears.

Once the months of bear activity are over, wolf behaviour becomes extremely difficult from the photographic aspect. Even as late as October there will be bears and wolves at the carrion together but from November to March the bears will be comatose, slumbering in their winter dens. November and the early part of December have at times been a good time for wolves, but on the short days of January trying to photograph wolves has been found to be futile. Wolves mate in February-March, creating a veritable jungle of tracks as they follow each other about, quarrel and howl. Then in April wolves and bears come together, with the inevitable bullying of the larger beasts by the wolves. Wolves are at their most touchy from January to March. Unbelievable as it seems, at that time they will not come within 80-100 metres of a hide, even when it is unoccupied.

Afternoons at the 'restaurant'

In September and October both wolves and bears tend to eat earlier and also later. Both types of mammal may arrive at 16.00 – 18.00 hrs, and as morning dawns wolves especially are around at 06.00 – 09.00 hrs. During the snowy season from November to April the best time for photographing wolves is in the morning at 07.00 – 10.00 hrs. On a few mornings every week the wolves linger awhile before their diurnal sleep. Again, every week in winter includes days that warm the photographer's heart, with lone wolves being seen on either side of noon. The problem with winter is the prolonged darkness. Through binoculars a wolf can be made out at night silhouetted against the snow but getting the animal into sharp focus is another thing entirely. For photographs to be obtained in winter it is necessary to spend the night in a hide. And to reduce one's human scent as much as possible. Should the wolves detect even the tiniest whiff of a human being, they will run away. Yet in summer when a dozen or so cameras are clicking away the wolves could not care less.

In Finland no wolves or bears are active by day. At Denali, in Alaska, this fact caused some astonishment, since both can be seen there in the daytime. In the Canadian Rocky Mountains both black and grizzly bears consume vegetation along the roadsides in broad daylight. Local guides explained that this was due to the bears needing large amounts of fat in the autumn to tide them over the winter. The nights were simply not long enough to enable them to stock up.

In winter and spring the wolf at our outdoor 'studio' in the main has been a nocturnal animal, or one associated with poor visibility. In August to October bears tend to arrive at the carrion earlier in the evening. In the late autumn the wolves begin harassing the bears at 15.00-18.00 hrs. In spring it is exceptional for either bears or wolves to arrive before 22.00 hrs.

When Wolverines encounter Wolves

I was sitting with my Swedish friend Henrik Ekman in the hide at Viiksimo in the summer of 2006. The area was already well-known to me. As far back as 1982 I had been involved in bear photography, a passion that had continued throughout the 1990s. But it was not bears that I was excited about as we sat there patiently waiting for something to happen: some members of the Kivikiekki wolf pack had occasionally paid a visit to this 'restaurant' of ours at Viiksimo, some 30 kilometres north of their regular haunts.

As we watched, a wolverine we named Aurora borealis (Northern lights) discovered our carrion. Its breast was a tapestry of yellow torches that appeared to dance about as it moved, just like the flickering lights. The obviously hungry wolverine began to tear pieces off a carcass, even to the point of delving right into the depths of the fare, while forgetting to monitor its environment. Normally a wolverine will become immediately aware of the arrival of a bear or wolf and will discretely flee.

Behind the feeding wolverine a pale young wolf now emerged. Its curiosity aroused, the animal began to walk towards the wolverine. I nudged my companion so that he could record on video an encounter between the two which might come as a shock to the feasting wolverine. I urged him to zoom in on the action for I reckoned that recording the encounter on a single frame with a still camera would not be terribly exciting. In a motion picture, on the other hand, it would be far easier for viewers to appreciate the coming confronta-

As a rule wolves will see a wolverine off. However, I have once seen a young wolf back off from an irate young wolverine which was spoiling for a fight. A tree constitutes an escape route for wolverines in a spot of bother. In the forest the animal can quickly climb up out of reach, but it may meet its fate in open ground.

tion. It was obvious to me that we were about to witness an incredibly rare natural event as it unfolded. Never before had I seen a wolf and a wolverine within a few metres of each other.

When the wolf had advanced to within less than ten metres of the wolverine, the latter became aware of its presence. Aurora borealis seemed to burst into flames, before abruptly attacking the wolf. Totally unprepared, the young wolf took to its heels in fear. My friend actually recorded just a short shot in video but on the other hand my still pictures were once again blurred and amateurish due to the gloomy conditions.

Great was our surprise when Aurora borealis and not the wolf returned to the table! Head held high, the wolverine seemed to communicate with the two of us, saying "How about that, then, chaps!"

A couple of years later I had a different kind of experience while at my usual post in Kivikiekki. A solitary wolverine was feeding at carrion in the middle of a mire. I concluded that neither wolves nor bears were in the vicinity since the wolverine had stepped boldly out into the open. But I was wrong. A long way away three wolves were sniffing at the wind. They had detected the wolverine's presence.

Wolverines are also nocturnal but they break tradition in snowy conditions to fetch carrion for storage in their private larders. Nevertheless, they have to remain alert at all times. Wolverines are not as wary of people and their photographic hides as wolves are.

Running for its life

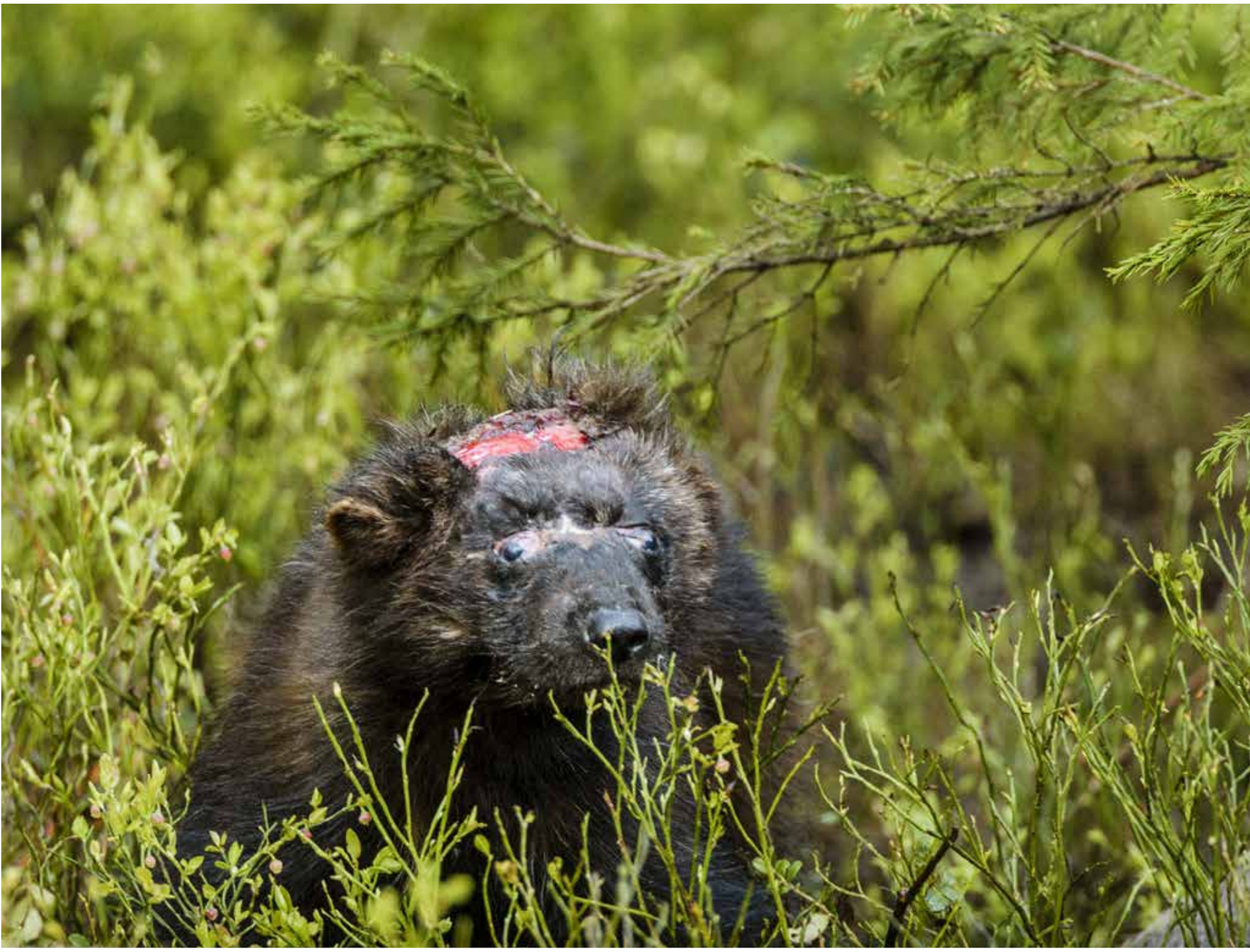
Then a dramatic chase as breathtaking as in any world cup match ensued. The wolves soon figured out that a wolverine on an open mire is defenceless and eagerly took off after it. Having only short legs, the wolverine decided to place an obstacle or two on the course. Water spurted into the air as the animal sped towards a small, dry 'island' of trees in the middle of the bog. For a moment I felt I was witnessing an incredible drama: the wolverine would surely lose the game and the wolves would tear it to pieces.

When it seemed that the poor animal stood no chance of escape, the wolverine gained the 'island', where it shot up an old pine tree like a rocket, sending down a flurry of loose bark. Unable to climb after it, the disappointed wolves milled round the base of the tree. Panting from the chase, the pursuers stayed there a short time, before realising the futility of hanging around. It was indeed a long time before the wolverine risked descending to the ground, to slip into the forest.

Surrounded by trees, wolverines can easily outwit marauding wolves. They can climb up out of reach, if necessary. Rocks and scree are their favourite sanctuaries, as they are able to hide away deep down under boulders. Wolves are unable to squeeze into tight crannies. In such situations wolverine families are safely out of danger.

I was convinced that particular wolverine had learned the lesson that open terrain is bad for the health. Other wolverines have since underscored that fact. Before the wolves appeared we had photographed wolverines from all our hides, irrespective of the environment. In contrast, in recent years we have observed wolverines in the forest and only very rarely in open, potentially hazardous country. The wolverine also has a predator's keen sense of smell, helping it avoid conflict. It has learned the wolves' schedule and avoids being out and about at the same time.

Compared to the wolf, the wolverine is a pretty useless hunter. Following wolves about in the forest may thus be advantageous to it. When wolves kill a moose there is always some offal left. Wolves do not stay next to a kill all the time. This enables a wolverine or bear to purloin some of the food.



In late April some Italian visitors showed me a ghoulish photo of a scalped wolverine. I immediately set off to study the traces of a conflict: two wolves had surprised a wolverine in the forest. The encounter had taken place 2-3 days previously, so the prints were no longer clear. Over the summer the right eye, which had been dislodged sideways, moved back into its normal position and the scalp grew back to cover the entire skull. Miraculously, this hero was still alive several months later.

Photographing Predators Becomes Tourism Product

Photographing large carnivores in Finland and generally in hunting areas does not differ in principle from photographing birds where these are shy and also hunted. With the mammals a regular food supply – bait – and camouflage are prerequisites to success.

In protected areas like the great national parks of Africa, Alaska, Canada, Kamchatka and the arctic regions animals show no fear of human beings as hunting has been prohibited for up to a century. It is enough to visit such areas and click merrily away on a camera every day.

At the end of the 1970s there were only a handful of Finnish wildlife photographers like myself interested in getting shots of brown bears. The first book dedicated to bears here was published by Seppo Saari, a Kemijärvi photographer, in 1986. Since then, more than a dozen books about Finland's brown bears have appeared, four of them published by my own company, Articmedia. Together with Pertti Härkönen, we assembled Karhu, metsien kuningas (The Bear, King of the Forest) in 1990. In 1999 there followed Suurpetomme – karhu, susi, ahma, ilves (Bear, wolf, wolverine, lynx in Northern Europe), written by Erkki Pulliainen. I explained my own philosophy in relation to bears in Karhujen kaverina (Friend of bears) in 1995 and, based on a broader range of experiences, Wild East in 2007. Wild East also featured the wolf. The first book mentioned is now out of print.

Pioneer of wildlife tourism

A fundamental change to bear photography in its initial form in Finland is that nowadays we are focusing on wildlife tourism and a Finnish brand centred round observation and photography. These days the Finnish Tourist Board (Matkailun edistämiskeskus, MEK) also promotes Finland as a wildlife travel destination. The product has been awarded prizes in both the EU and Finland as an ideal exotic experience for a wide variety of people.

In terms of wild animal tourism Finland is truly Europe's pioneer. However, I am personally guilty of assisting our competitors. For instance, in Estonia and Sweden I have lectured on bear photography and given guidance in hide building. Many people in the travel business, as well as professional wildlife photographers, have paid visits to us on fact-finding missions.

During the early years the photographers dragged dead animal carcases into the forest in the hope of securing bear pictures. Nowadays there are very few independent photographers working from hides on the eastern border. We work in the tourism

Bear photography originated in Finland on the eastern border during the 1970s. Wolverines learned to make use of the carrion in the 1980s. In Kuhmo the Russian wolf pack also took to eating the carrion in the 2000s. Nowadays there are over 150 hides along the border region from northern Karelia to Kuusamo. There are a score of family businesses eager to attract tourists to bear safaris. Aside from wildlife watching and photography our 'base camp' - the Kuikka cabin - is ideal for a wide variety of other enjoyments, such as backpacking, swimming, sauna baths, fishing, snowshoe trekking, evening socialising and camp schools.

sector, bringing over 5,000 people a year to the Finnish backwoods to appreciate our predators. Independent Finnish photographers also purchase our services in connection with photo shoots involving predators. No longer is it merely a question of nature photographers, though. Whole families, hunting lodges, enterprises, newlyweds, and many others feel the need to experience something 'primitive' and unique in conjunction with our wildlife. For some the high point of the trip is the sight of a wolf 200 metres away. Others complain about the lack of light and the sluggishness of the subjects!

Through the safaris we organise I have had a grandstand view from which to observe the world's leading wildlife photographers and to work with them in the same hide. We nature photographers are truly insatiable. The more happenings we witness in the natural world the more we dream of recording fresh situations. And if there has been insufficient light, we willingly wait for years for the same phenomenon to be repeated in conditions of better illumination. The truly top names in the sector rove the world only in the best places. Time cannot be wasted on the nonessential: every trip has to spawn pictures, otherwise there is no bread on the table.

Is a moment enough, or 35 years?

To the outsider who as a tourist sits in a hide for a few hours to catch a fleeting glimpse of an animal, it must be impossible to comprehend why some crackpot can fail to be satiated after 35 years of sitting in hides. Fresh experiences in nature and the recording of them is a constant drug. The mind yearns for something not as yet seen or for improvements to previous photos.

I well recollect my son Niko staying with me in a hide. As he prepared for a nap on the floor, the boy urged me to awaken him should a bear appear. During the night I woke him up with some difficulty. Half asleep, the boy sat in my lap, looked at a bear through the camera lens and said he wanted to take a picture. A small finger pressed the shutter button just once when a dark shape appeared for an instant among the trees. “That’s enough,” said the lad, “I’m going back to sleep.”

The advent of the digital camera revolutionised wildlife photography. In connection with the technical change I counted the cardboard boxes in my store, discovering a metre and a half stack of monochrome negative folders going back as far as 1974, and over half a million colour slides dating from 1976 onwards. Sorting and digitally scanning these would occupy too large a slice of my work time. It is far more motivating to photograph the same subjects again while in the bosom of nature than to sit at a computer console for years copying the past. I well remember a radical photographer who publicly burned his monochrome films in the town square, proclaiming he was ridding himself of a nightmare – after all, they could all have been accidentally destroyed, couldn’t they?

Patience brings just reward

Tenacity and perseverance do not always receive their just reward. In 1979 the Finnish magazine Erä ran a story relating how a wildlife photographer had succeeded in photographing a wolf coming towards him which, upon scenting the photographer, urinated on a tree stump before disappearing into the forest. According to his statement, the photographer had been observing wolves in Kuhmo for many years.

Soon after publication, Sulo Kiiveri, a Finnish border guard, informed the newspaper Kainuun Sanomat that somebody had taken

a stuffed wolf from him on approval with the intention of buying it off him, but it had subsequently been returned unsold. An examination of the photos revealed that the wolf published in Erä magazine was without question a stuffed animal.

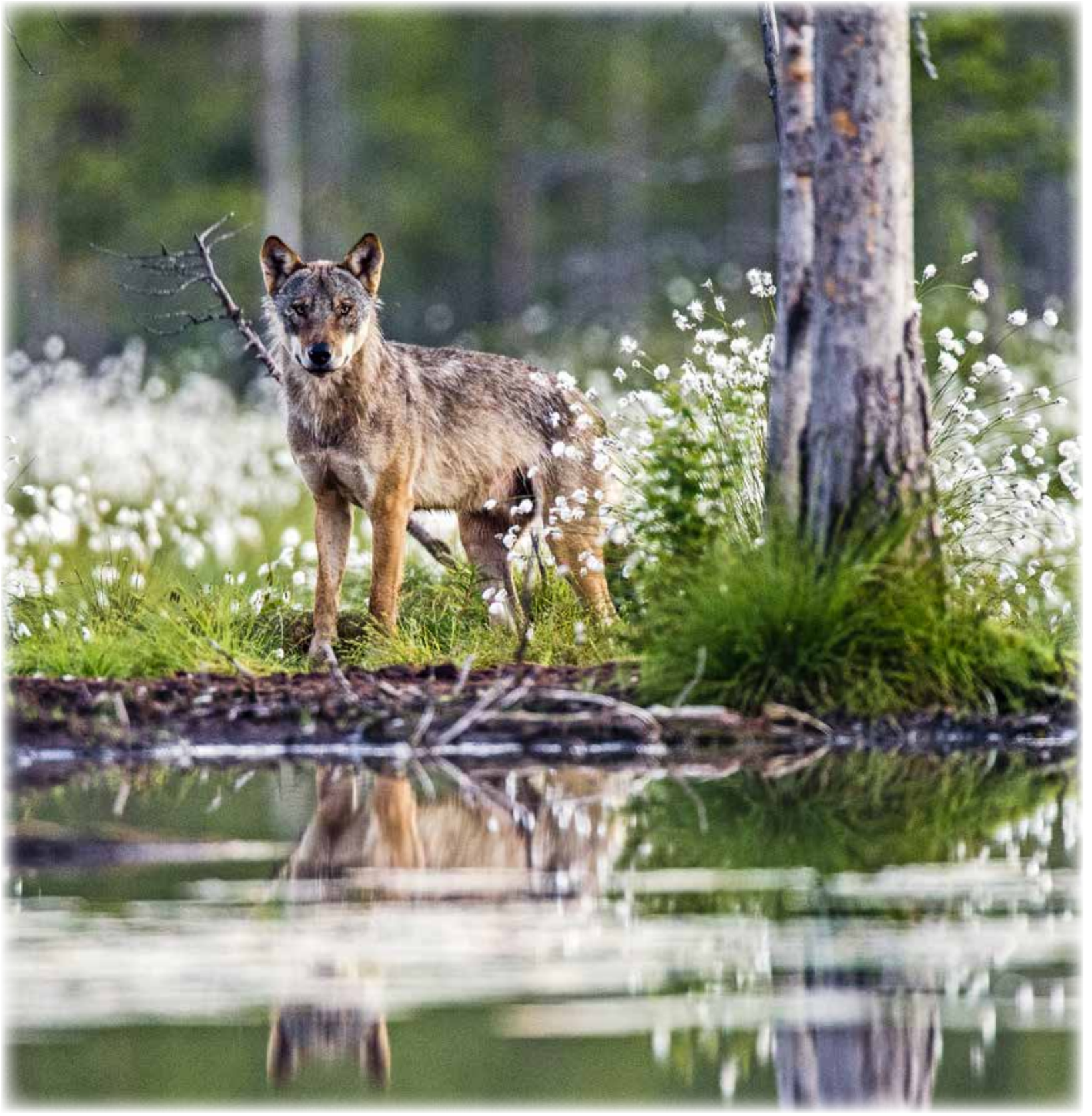
Swedish wolf movie maker Ulf Jonasson was keen to film wolves in winter at the most difficult time, i.e. January. I spent the first 24 hours in a hide with Ulf, explaining the 'ins and outs' of the system. After I left a prolific amount of fresh snow fell. The movie maker's foreign car remained close to the Russian border. The border guards called asking me whether I was aware of an abandoned car not far from my hide. I told them that a 'tough commando' intended staying in the hide for ten days while he got some shots of wolves.

Ulf saw wolves in the dark of the night. On the last short day it was depressing for the man to realise that the quest seemed impossible. Before driving back to Kajaani, he decided he would give up and pack away his equipment. When he awoke after a short nap, he noticed a pale wolf walking daintily through the snow. Excited beyond measure, the movie maker switched on his camera's brightness-enhancing 'gain' feature, causing overexposure of the film. However, his patience was rewarded with six minute's-worth of material which, when viewed later in the studio, proved screenable.

BBC duped

Not only in Finland have wild wolves proved challenging subjects to record on film. A Spanish photographer took a photo of a captive wolf called Ossia in Madrid Zoo as the animal jumped a fence. It is apparent from the picture how the wolf is staring greedily at a person offering it food. Another strange thing is that the fence is not a very long one, so that the wolf could easily have walked round it. Why would the animal jump a fence set up on a path close to the camera? The photographer's account regarding this encounter with a 'wild' animal was accepted by the BBC Wildlife photo competition jury and other experts and the photograph took first prize as the best submission for that particular year.

In October 2009 I was at a festival in Germany at a time when a German photographer showed this winning wolf photo on the cover of a book. I immediately remarked that the photo was fake, even though I was unable to say how and where it had been taken. Of course, I was branded a jealous wolf photographer! The Finnish national nature magazine Suomen Luonto succeeded in blowing the gaff on the scandal, yet it was the end of January 2010 before the BBC saw fit to inform its readers of the spoof.



There is a well-entrenched theory that a full moon causes wolves to howl. I have found no evidence of this. In fact, I have heard wolves howling at different seasons throughout the year, including at full moon. This is hardly surprising since the moon is round for 5-6 nights at a stretch. Only rarely does the wolves' concert last for more than 2-3 minutes. The July to August period brings a novelty where cubs born the same year are present: these learn to 'bark', although the sound is neither a true bark nor a wolf-like howl. There cacophony is discernable among the adults' howls as a staccato 'bow-wow-wow'. A loud yapping also cuts through the air as young wolves bicker over food brought to the litter by parents or minders.

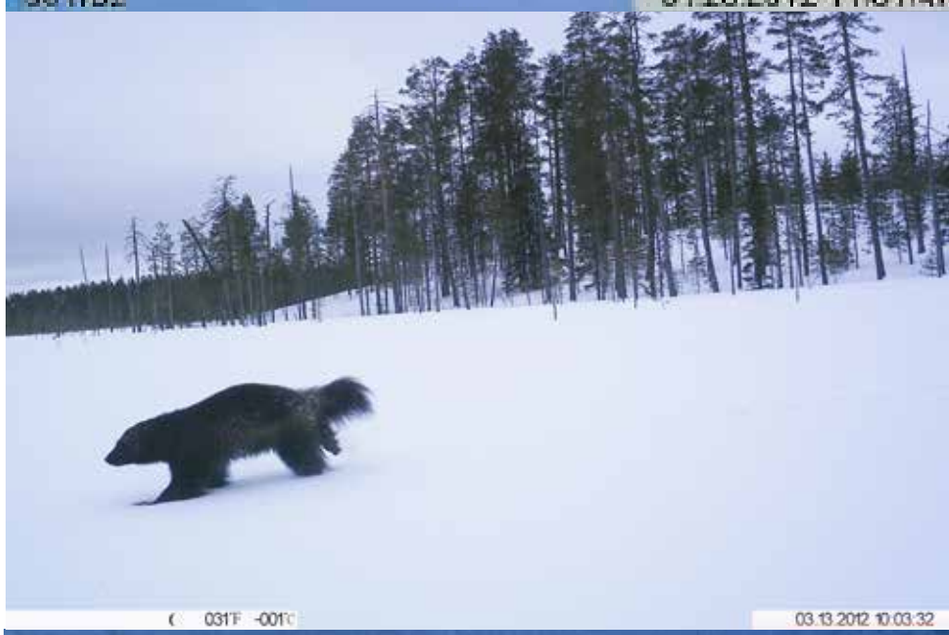
Bears aid photographer

There is a distinct difference in the shyness of wolves towards a hide in summer and in winter. In winter wolves are inevitably very wary. They refrain from visiting carrion, even when the nearby hide is unoccupied. In winter the closest they will come is 100-150 metres, rarely less. A gale or high wind serves to blot out human activity and then the wolves may approach to within 60-80 metres of the waiting photographer.

In summer bears are the photographer's most valuable assistants. Strife between bears and wolves is more important than strange scents or sounds emanating from hides. When a bear's flight takes it by chance close to a hide a pursuing wolf will ignore the clicking of a camera shutter.

The close proximity of the Russian border gives Finnish predator photographers a marked advantage. Being isolated from human depredations, the border zone constitutes a peaceful environment for the predators. Deeper inside Finland any attempt at photographing these animals is doomed to failure owing to nosy bipeds visiting hide sites at night out of sheer curiosity.

Telephoto lenses with a large minimum aperture, e.g. 300/2.8, 400/2.8, 500/4.0 and 600/4.0, with their tele extenders are ideal for predator photography. Zoom lenses like the 70-200/2.8 and 200-400/4.0 are taken along to a hide for landscape photography. In the forest shorter focal length lenses are used more often than in open terrain where animals are often active hundreds of metres away. Nikon's D3 revolutionised the market with regard to taking pictures in conditions of low illumination, while the D3S figuratively created more problems – it forced manufacturers to design video cameras of equal capability! When would the hide-bound photographer ever get time to sleep?



Game and trail cameras have yielded a lot of important information about animals visiting our carrion 'bait'. We started game camera trials on wolves in January 2012. By the summer we had no sensational photos suitable for publishing. One major problem is that the lenses become covered with snow or hoar frost. This problem can easily be overcome by fitting part of a plastic bucket as a protective cowling. Wolves' natural wariness of a game camera means that the latter has to be relocated from time to time. Mindful of the weird device with the winking red light, some wolves will choose a different route. Moreover, dry cell batteries do not last for many weeks in winter temperatures of well below zero. Thousands of photos are taken because of ravens flying past and triggering off the device. One way of overcoming this obstacle, of course, is to site the camera very close to the carrion.

Art without design

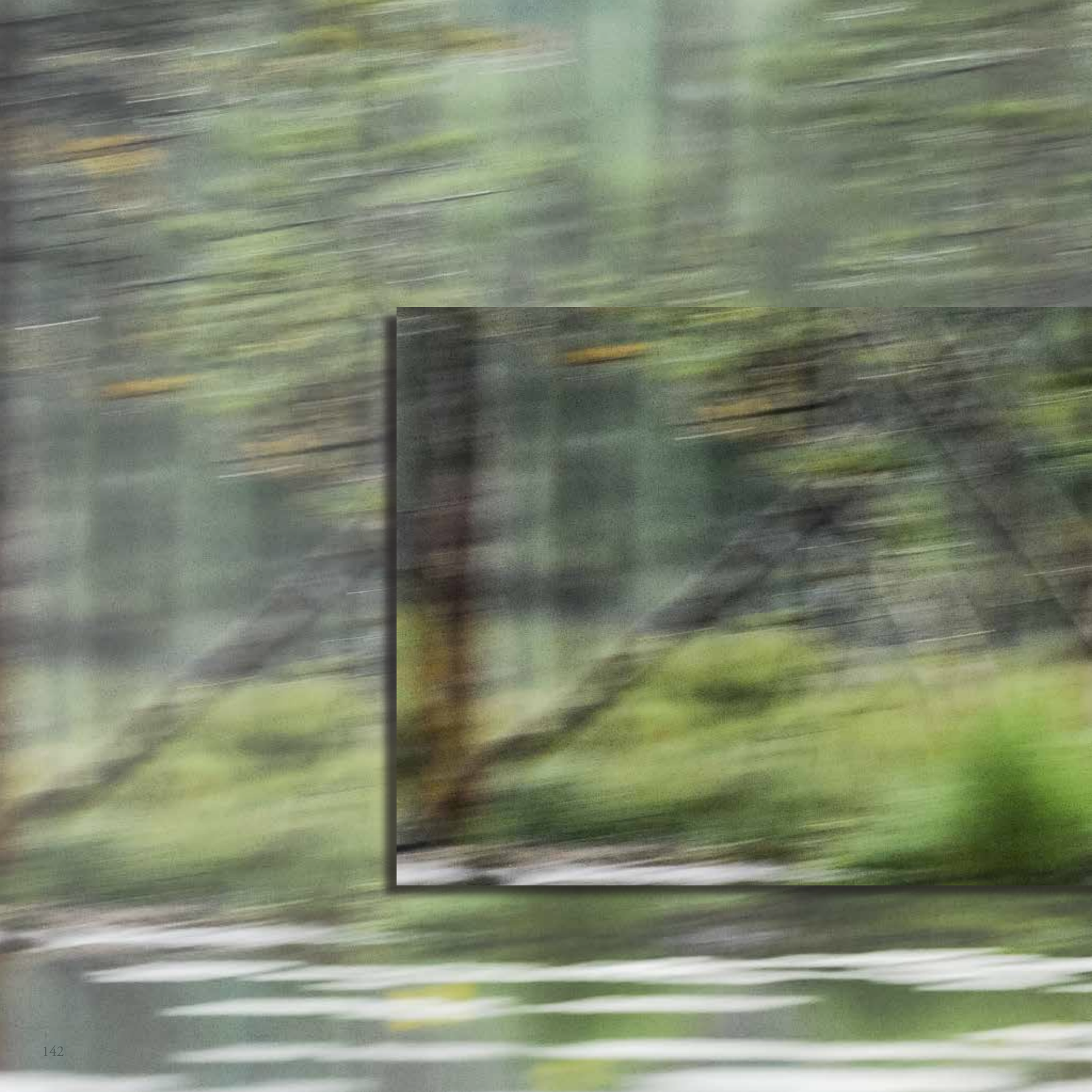
The modern photographer is caught up in a never-ending vortex created by Japanese engineering inventiveness. Hardly a year goes by without a new camera body emerging which is superior to its predecessor in terms of some vital feature. Currently, the tendency is to bring the quality of still photographs taken in extremely low light to the same high quality level as today's motion picture cameras. In this, the digital era, anything written or photographed today will be greeted with the derision reserved for other technological fossils a couple of years hence. Unfortunately, though, the wallet is simply unable to cope with the camera engineers' whims.

Photographing the large carnivores is night duty stuff. Necessarily prolonged exposures may automatically turn photos into works of art without any artistic intention on the part of the camera operator. At an exposure lasting several seconds there is no guarantee even of incontestably proclaiming an animal's identity. During the 'film era' a friend of mine in southern Finland decided to celebrate his birthday by photographing bears from my hide. The way to Art came via the contents of a whisky bottle, which my companion – alone and unaided – dispatched over the course of the evening.

At around midnight I awoke to the sounds of the artist taking pictures of bears. At the point at which he pressed the shutter button a bear was in front of the hide, but by the time the shutter closed several seconds later the animal was already behind it. The photographer

clearly had no grasp of the panning technique with a camera. Later he called me up. The films had come back from the laboratory but the shots were extremely blurred, with perhaps some faint lines that, with a bit of imagination, could be interpreted as trees or something. He could not understand where the bears had gone: he remembered having taken some shots of them. Laconically I urged him to submit the photos to a competition. They might cause quite a stir in the creativity section, as no-one would have the faintest idea what they depicted. Possibly, even, some critic or other would be at pains to analyse so unique a personal style in wildlife photography.

Photographing large carnivores takes place either in the night or at dusk or dawn. Long exposures lead to artistic results. With luck, pictures taken in poor illumination are so extraordinary that they appeal to judges in photo competitions. With the advancement of digital photography, human fatigue is the wildlife photographer's chief enemy: soon the enthusiast will not be able to sleep even on a winter's night for fear of missing a unique event.



The Kuhmo wolves

by Ilpo Kojola

In the 1990s I knew that the Finnish municipalities where wolves are to be found were Ilomantsi, Lieksa, Kuhmo, Nurmes, Tohmajärvi and Sotkamo. At the beginning of the millennium I was also aware that wolves were breeding in Parikkala, Ruokolahti and Pyhäjoki. It appeared that the wolf had conquered Finland.

The wolves were forced to vacate many parishes very soon after their arrival, yet this was not true of Kuhmo. The Kuhmo wolves became a concept along the lines of the River Tenojoki salmon and the Russian bear. A wolf is depicted on the coats of arms of Sipoo in Uusimaa, and Valtimo in Pohjois-Karjala, but not because the species occurs there. Sipoo folk are said to be descendants of the Vikings who sailed across the Baltic with a carving of a wolf's head at the prow of their ships. The one adorning Valtimo's coat of arms represents the relentless tax collector Simon Affleck aka Simo Hurtta, who roved the region accompanied by a huge dog.

At the moment the 'wolf stew' simmers most hotly in Lounais-Suomi (south-east Finland), where three packs roam the much fragmented forests of this notably agricultural area. By contrast, in Kuhmo the public furore over wolves appears to have fizzled out.

People say there have always been wolves in Kuhmo. However, during its history, even Kuhmo may have been wolf-free at times. My opinion is that this would apply at least to a year during the 1950s, when Russia's wolf population was poisoned almost to the point of extinction with barium fluoriacetate. The renowned game expert Pjotr Danilov from Petrozavodsk relates that in Leningrad Oblast (St. Petersburg county), for example, the number of wolves fell drastically over a six-year period from 850 to fewer than 60. In Russian Karelia areas close to Kuhmo the wolf population for long after World War II was extremely small. However, in the 1960s it began to increase after poisoning was banned by the authorities.

As recently ago as the 1970s IUCN experts considered the wolf an extinct species in all the Nordic countries. At present Finland, Sweden and Norway support a total population of 450 – 500 wolves, with something over 150 individuals present in Finland (2011/2012 winter).

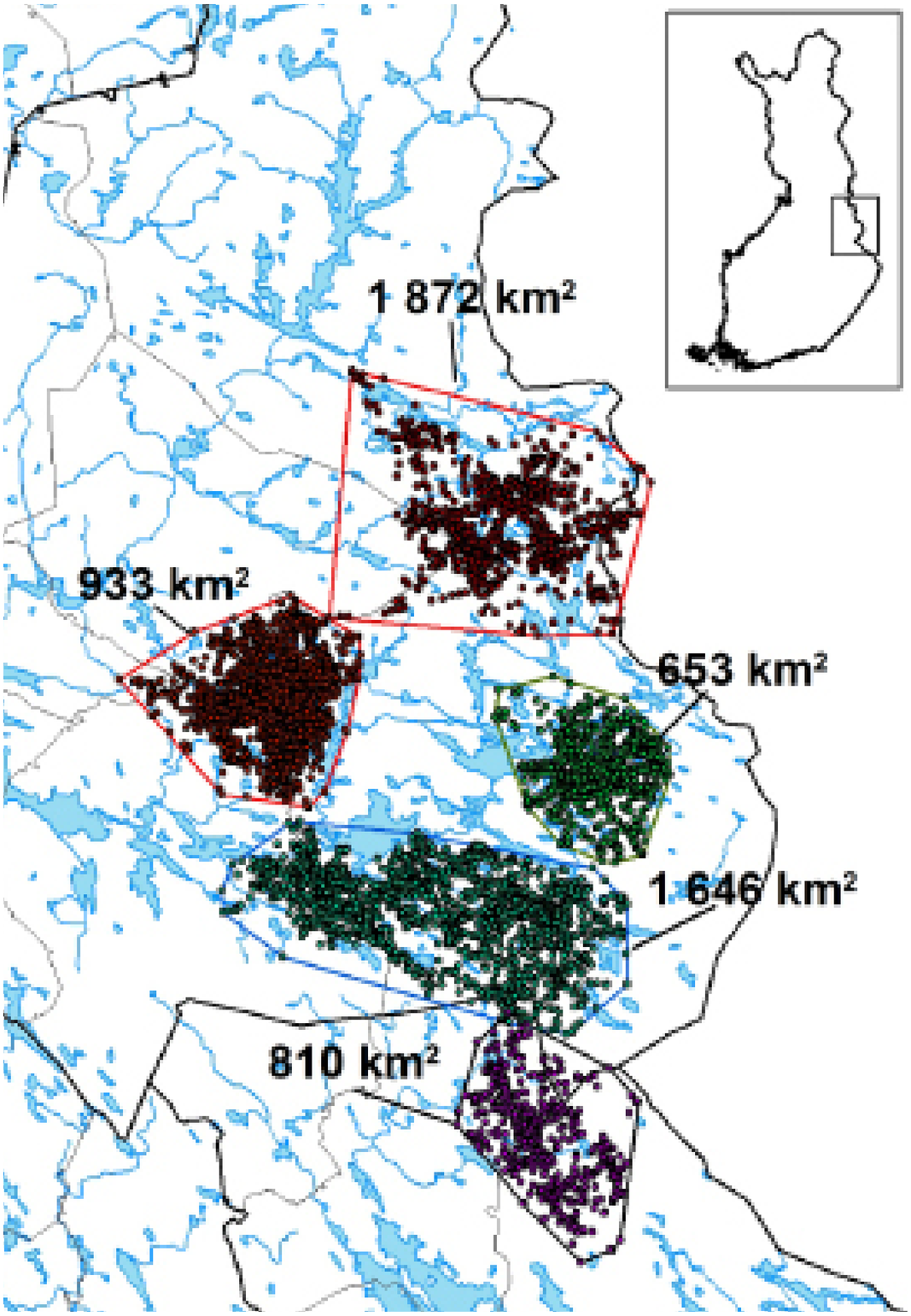
The number of wolves in the Nordic region began to increase around the mid 1990s. Population growth was most rapid in Finland, lasting for over a decade. At the end of 2006 there were 250-300 individuals, twice as many as in Sweden. Since then, the trend has been reversed, with Finland's population dwindling and the Swedish population now stronger than the Finnish one.

Wolves flocked to Kuhmo at the close of the 1990s. By this stage, following the peak years of the early 1980s the number of wolves in Russian Karelia had drastically fallen. The wolf population density, both in Kuhmo and elsewhere in Finland, no longer reflects fluctuations in the population size over the eastern border. It is based on the population's own cub production.

Lassi Rautiainen

In Kuhmo 45 wolves were fitted with radio-collars during the period 1998 – 2012. There have been 18 individuals in Kuhmo which have produced at least one cub. For tagging purposes wolves have been pursued by snowmobile in soft, deep snow. For the first time, some Kuhmo wolves were tranquillised with darts shot from a helicopter in the late winter of 2012.

Alpha pair territories in Kuhmo from 2010-2011



Size of territories of five alpha pairs

Körmy	1872 km²
Rilla	933 km²
Lentua male	653 km²
Vellu	1646 km²
Tellu	810 km²

Wolf territory size in Kuhmo has ranged from 650 to 1900 km². On a broad geographical scale territory size decreases with lowering abundance of prey. Territories in Kuhmo are ten times larger than in southern Europe, where ungulate population densities are far higher than in northern Europe. The size of neighbouring territories may also vary in Sweden but the reasons for the differences are not properly understood.

Colours and genes

Wolves differ in colour. The same pack may contain dark and light forms, grey and yellowish versions. The light or yellowish varieties are not pure wolves, says the person to whom the only criterion is fur colour. But, one has to ask, should all wolves automatically be grey?

What do Russian handbooks say about colouration in wolves? The most well-known scientific source is D.I. Bibikov, who in his classic volume, translated into both English and German, says that colour variations are a typical feature of the species. The ground colour varies from dark grey to sandy yellow. The grey shade is characteristic of wolves in northern Russia and the sandy one to those in southern Russia.

It is impossible to see genes, even under the microscope. Nevertheless, they are a better measure of purity than the colour of the fur (pelage). Different dog breeds, crosses between wolves and dogs, and wolves can be identified through molecular biological analyses. Anyone who refutes this reveals their ignorance of the possibilities offered by analytical methods.

The genetic purity of the wolves starring in this book has never been thoroughly investigated. Professor Jouni Aspin's research team at the University of Oulu has, however, analysed and typed around 300 wolves based on microsatellite dna. These animals have either been killed or fitted with radio collars in Finland in recent years. Among the research material there are dozens of Kuhmo wolves, these most likely including individuals that have separated off from the Rahkosuo pack (the one Lassi calls the Russian pack).

Based on DNA analyses it appears that the pale or yellowish colouration is not due to crossing with a domestic dog. Paler individuals have not differed anatomically from those with grey fur.

When both the colouration and the morphology of an individual are unusual, there is reason to suspect that the animal is either a domestic dog or a cross between one and a wolf. This theory has been substantiated. In 2004 a male wolf accompanying a female in Juva had some features corresponding with those of a German Shepherd dog. It proved to be the result of an interspecific cross. A wolf-like animal captured at Vuosanka, Kuhmo, in February 2010 was also strikingly different in appearance from its fellows. It, too, kept company with a female wolf.

Since the fall of the first snow there have been no transmissions from the radio collar fitted to the male wolf accompanying the Vuosanka female one year ago. When they caught the wolf to deal with the collar, the researchers were stunned to discover that this was not an 'unadulterated' wolf pair: the new alpha male was in fact a physically small, strongly patterned individual with a black back.

Ilpo Kojola

The alpha male in the Vuosanka territory had disappeared earlier that winter and the female (shown here) was accompanied by a male, which turned out to be a dog-wolf crossbreed, in the late winter of 2009-2010.

Researchers attached a radio collar to this extraordinary animal. After the analyses indicated a crossbreed, a decision was taken to remove this individual. An animal of precisely the same appearance had been recorded by a game camera the previous summer in Lieksa, close to the Russian border, around 100 km from the place

where the aberrant wolf was captured.

Ilpo Kojola

The dog-like crossbreed between a wolf and a dog which was removed after the completion of a genetic test. Crossbreeds are extremely rare in Finland's wolf population.

Master of adaptation

The wolf has a truly extensive distribution. Large litters, together with swift, sturdy limbs have ensured the species of a high potential for reproducing and spreading into new areas despite persecution by mankind.

There are wolves both in the heat of India and in the freezing arctic of northern Russia. Further west in Eurasia the species is encountered from the Arabian Peninsula to the northern parts of Scandinavia. In North America the original range of the species extended from northern Mexico to Alaska and over the northern extremities of Canada to the arctic islands, including the northern coastline of Greenland.

There are known to be 14 extant subspecies, eight of which are Eurasian. Only two subspecies, the Hokkaido and Honsu wolves of Japan, have become extinct. Their loss occurred at the end of the 19th Century. The habits, colouration and size of wolves vary from one location to the next. In the southern parts of their range wolves are physically smaller than in the north.

Finland's wolves belong to the so-called 'type', i.e. *Canis lupus lupus*, whose broad distribution covers the boreal coniferous and deciduous forest zones extending from Europe to the Pacific Ocean. In this area only the Italian wolves are regarded as their own subspecies but, for example, Spain's wolves belong to the same subspecies as in Finland. They do, it is true, appear to have shorter fur, and are some 10 kg lighter, than Finnish wolves. Thus, they appear different. An adult Finnish male generally weighs around 40-50 kg. The record weight is 67 kg for an individual shot in eastern Lapland in the 1970s. Females tend to be around 10 kilos lighter than males.

Territories

On the grand geographical scale the size of wolf territories increases from south to north. This is due to the number of prey animals gradually becoming smaller as the environment progresses towards more barren conditions. Moving, for instance, from Croatia to Kuhmo, the territory size increases almost tenfold.

Within the framework of Finland outside the reindeer husbandry region the size of territories is not correlated with latitude. In Finland the smallest known territories have covered 600 sq.km, the largest up to slightly over 2000 sq.km. Such extremes are found only in Kuhmo. The largest territories often belong to large packs.

Kuhmo's short wolf history

The wolf is the world's most intensively studied member of the wild dog kind but based on the literature one cannot progress very far with working out how to control the wolf population. The first Finnish wolf was radio-collared in March 1998. A couple of weeks earlier our group had been joined by Seppo Ronkainen who, together with Markus Suominen, captured four Kuhmo wolves – three from eastern Kuhmo and one from Vuosanka, in the northwestern corner of the parish. At the time the pack in Kuhmo's easternmost corner comprised four wolves, an adult male and his three offspring. An adult female and her female cub inhabited Vuosanka. Previously in the winter the alpha female had been hunted in the eastern part of the parish, and the alpha male in Vuosanka.

In 1998 two pairs were established in the eastern sector of the parish. One of these was composed of the area's old alpha male, nicknamed Ugri, and his female cub, Maija. The other comprised the siblings Jonna and Igor. Additionally, the wolf named Taiga had acquired a mate, Petrus. Each of the three pairs reared three cubs, making three wolf packs in Kuhmo, each with five members.

In the 1999/2000 winter a lot of snow fell, creating difficult conditions for moose, while favouring the wolves. Bogged down by snow, the unfortunate moose in Kainuu provided the wolves with an easily captured, abundant source of food. Ignoring the wild forest reindeer, the predators taxed the moose population even more severely than they normally did the deer.

This horn of plenty situation kept the females in peak condition and is the obvious explanation for the population explosion among the wolves in the spring. In the autumn there were still at least 20 cubs in three litters. The number of wolves in Kuhmo had risen in the course of a year from about 15 to up to 35 or even 40. Such figures were reached in several winters, but in that case there were more than three litters present.

Even members of the same pack may quarrel ferociously, causing serious injuries. A wolf that is trespassing in another territory may literally be torn to pieces. Bears would also gladly give a wolf a good smack in the face! The sheer force of a kick from a moose has killed both wolves and dogs.

Photo: Lassi Rautiainen

Dogs and reindeer

Recent conflicts in which the Kuhmo wolf population were involved caught my eye in September 2000. The Jonna pack became famous in an unfortunate way. The pack started killing dogs and before the turn of the year it had dispatched eight of its domesticated cousins, three of them right next to human dwellings. The next year these individuals, operating in the area between urban Kuhmo and the eastern border, again sought out 'man's best friend', slaying eight dogs.

In a study area occupied by six roving packs the overall damage done by the Jonna pack was exceptional. Whereas this particular pack was responsible for the deaths of 16 dogs, within the same period collectively only five dogs were slaughtered and eaten by the other five packs.

What could be the reason for a single pack's exceptional behaviour? Although we cannot pinpoint the cause, it certainly had nothing to do with a scarcity of moose and wild forest reindeer, nor with a higher density of dogs compared to the other study areas. A few years later the Jonna pack's tendency to prey on dogs was upgraded from unique to rare, when attacks were made on dogs in Kaavi and Kuhmoinen for the second time.

In January 2001 the Vuosanka pack set off to explore Hyrynsalmi, where easy prey in the form of reindeer awaited it. A contingent of hunters was also waiting for the wolves. The members of the pack were shot, figuratively taking with them the older, looser, hunting law. From that point on a permit became necessary for hunting wolves within the reindeer husbandry area in the same way as anywhere else in the country. This amendment to the legislation created a problem for the reindeer herders, as the predator had more time to take its toll of their stock while the permit application process was laboriously dealt with by parliament.

Lassi Rautiainen

Estimation fraught with difficulties

Even if viva voce voting and opinion polls are disregarded, a wide variety of different methods exists for monitoring a wolf population. The wolf is more easily assessed than either the brown bear or the lynx because it establishes a territory. This is an area from which wolves which do not belong to the clan are excluded. By contrast, lynx and bear litters do not have a territory: they have a home range which can be extensively overlapped by those of other litters.

Wolves do not quietly hide away out of sight. Their habit of slaughtering deer and their kin puts them in the spotlight. An extensive territory is a guarantee that the existence of a pack will come to the attention of the human population, even if wolf sightings are kept secret. In Finland a broad network of voluntary observers, together with professionals of the Finnish Game and Fisheries Research Institute, records the wolves that are occupying territories. Such wolves constitute family packs and individuals which have yet to breed.

On the other hand, most solitary wolves rove the forests without any particular home as they seek a member of the opposite sex for reproductive purposes and a suitable location as a territory for bringing up a family. The proportion of such vagrants in midwinter is 10-15% of the population. When assessments of the total population are being made, the number of wolves making up this percentage has to be added to those in established territories.

The best way of achieving accuracy when mapping an area taken over by a pair of wolves and their offspring is to attach radio transmitters to its 'permanent' inhabitants. Even a single GPS collar, carried by one of the adult pair, can reveal the boundaries to the territory. Where scientific methods are applied to the monitoring of the number of individuals, establishing population size by mapping territorial boundaries with the aid of transmitters is the most popular method used.

Genetic methods have also entered the arena in recent years. With the exception of rare identical twins, every individual animal has its own genetic profile. If DNA can be obtained from all the wolves in a study area, an accurate estimate of the number of wolves can be achieved.

Once faeces (scat) samples have been analysed to the extent that it is obvious there are no more animals in the pack, the composition of the latter becomes clear. Studies at the University of Oulu, how-

Faeces reveal the diet of wolves. In Kuhmo wolf droppings most often contain the hairs of moose or wild forest reindeer.

ever, have demonstrated that gathering sufficient data of this kind calls for such intensive field work that it is totally impractical to envisage taking the collection of faecal samples to the national level. Besides, comparative studies have shown that monitoring tracks in the snow eventually provides just as accurate data on the number of wolves in a pack. All in all, it is by no means easy to estimate pack density, however, because a wolf pack is not an immutable entity: from time to time it fragments into smaller groups, so that only dedicated monitoring exposes the precise number of members.

Like the red fox, the wolf is a wild member of the dog family. Compared to the fox, though, the wolf is a considerably more robust and social animal. British foxes sometimes form groups but among Finland's naturally occurring dog-like predators only wolves congregate in roving packs.

A wolf pack is composed of an alpha pair and its descendants. Deviations from the classic family set-up are far less common than among human beings, for example. Paired wolves rarely split up. Generally a new relationship is only established when one or the other dies.

Two cases indicate that 'divorce' may occasionally occur, however. Partners Igor and Jonna, and also Ugri and Maija, in eastern Kuhmo went their separate ways once the couple had brought up two litters. The reason for these short-term wolf 'marriages' may well have been their incestuous relationships - Jonna was Igor's sister, Maija Ugri's cub.

On average there are seven animals in a Finnish wolf pack in autumn. The highest number observed has been 13 or 14. The pack at Rahkosuo photographed by Lassi was one of the largest, made up in both 2010 and 2011 of 11 wolves.

Lassi Rautiainen

Cubs born under a spruce tree

Salla Kaartinen showed in her thesis that wolf cubs tend to be born where tree growth is thickest. Typically this will be a young stand, the kind of habitat that is abundant in Kuhmo. Mother wolves demand little from the places where they give birth, often bringing forth the litter under the spreading lower branches of a spruce tree. Exposed tree roots, or the overhanging side of a large boulder, are also acceptable, but among the thirty or so known wolf dens in eastern Finland there is only one with access via a long tunnel excavated by the mother. This was discovered in 2004 at Vuosanka, in Kuhmo, where a ten-metre long tunnel had been carved out in the side of an abandoned sand quarry.

'Caves' excavated by wolves into soft slopes or banks are commonplace in, for example, Alaska's Denali National Park. The wolves there use the same den year after year but in Finland they rarely return to the same birthing place two years running. Although the reasons for this are unclear, one possible explanation could be that in Denali when people have discovered the whereabouts of these wolf dens there has been no risk of the cubs being destroyed. This does not automatically mean that dens in present-day Finland would be demolished, but there have been times in the past when that was almost a public duty.

Cubs are born in May, or very occasionally in June. There are little data available in the Nordic region on the number of cubs in a litter. By contrast, the number surviving until the first snow falls is well-known. Even then, we are forced to restrict our count to the first litters of adult pairs, as 'loiterers' from the first litter are commonly present in the pack later on.

The so-called loiterers have acted in fact as cub minders when the parents have been out hunting. Having experienced the sharp teeth of dog puppies at play, I can vouch for this being a by no means pleasant chore. Most older brothers and sisters manage to avoid this irksome duty by quitting the pack and the place of their birth at the age of 10-12 months.

The base of a spruce tree is unsuited to more permanent utilisation. Once the cubs are a few weeks old the parents shepherd them away to another site. This should have some hollow places to use as a shelter, as well as a nearby water source. A chain of locations are normally used before the onset of autumn.

At the onset of winter in Finland there are on average 3.7 cubs in a first litter. In Sweden the average is only 3.3 cubs, due to the population being inbred. Leader of the Scandinavian wolf project Olof Liberg has succeeded in demonstrating that inbreeding reduces litter size. Pairs composed of close relatives are abundant in Sweden, as the entire population has arisen from only three individuals originating from Finnish-Russian stock. Its isolation lasted for 15 years, i.e. until a few new wolves trickled into Sweden from the Finnish side.

Many wolf cubs die during the summer from starvation and stomach diseases. The risk of dying is also high when a young wolf has departed from its natal territory and is roaming in search of an area suitable for breeding.

Emigration

At puberty a young wolf goes off on its own. It is not possible to predict how long the journey will take, nor the distance the animal will travel. Young wolves have been observed to go off in all directions from Kainuu, Ylä-Karjala and Pohjois-Savo to about the same extent. The journey has taken from one week to up to 10 months. Including all diversions, the wolves have travelled up to almost 4,000 km.

Ignoring the roving, we arrive at a fundamental question pertinent to the management of the wolf population, i.e. what is the distance between a wolf's birthplace and the location where it breeds? The average distance 'as the crow flies' covered by the 40 young wolves in the Finnish Game and Fisheries Research Institute's database is approximately 100 km, the shortest distance 50 km, and the longest 470 km. The current world record is held by a Norwegian female which covered 1,100 km from southern Norway to Sodankylä, in Finland's northeastern corner, in 2003.

In Finland deviations from a straight course are restricted in the west by the Gulf of Bothnia and in the south by the Gulf of Finland. Towards the north lies the reindeer husbandry region where the abundance of potential prey appears to convince many wolves of the folly of wandering too far away. However, a major factor contributing to the fragmentation of the wolf population is the loss of young wolves from territories to all the areas outside this domestic reindeer region, including the country's southwesternmost corner. We have noticed this tendency among young individuals in the territories belonging to our study area. The daily distance covered by such a vagrant, or more correctly the nightly one since wolves tend to rest up by day, is normally around 15-20 km. As a consequence, a wolf seems to appear in a new place as if by magic.

Ilpo Kojola

Moose and wild forest reindeer

The primary prey of wolves are large ungulates, moose and reindeer largely figuring on the Kuhmo wolves' diet. When the wild forest reindeer population was at a peak at the beginning of the millennium, the reindeer accounted for 20% of the wolf pack's diet and 75% comprised moose meat. A modest five percent of the diet was made up of smaller prey like hares, beavers, grouse and voles.

In Kainuu the wild forest reindeer population crashed during the early 2000s. Data gathered by Kauko Kilpeläinen on the structure of domesticated reindeer herds which were being corralled in winter revealed a remarkably low number of calves. Radio-collar studies indicated that the most dramatic mortality rate occurred among the calves during the first three months after birth.

The return of wolves appeared to be the chief reason for the plight of Kuhmo's wild forest reindeer, since the proportion of calves in the winter population was lowest in those years when there were more wolves on average. However, I may have overstated the effect of wolves on drastically reducing the number of wild reindeer, since the density of other large carnivores was on the rise as the reindeer population slipped into decline.

Possibly the wolf played a more prominent role in the fall-off than the other predator species but our detailed studies on wolves fitted with GPS devices in the wild forest reindeer area have eroded the irrefutability of the conclusions. Intensive monitoring began in 2005. A female wolf living with her cubs in the wild reindeer's summer grazing area killed a total of 25 calves in June and July. The total was exceptional, as data amassed in later summers only included two or three reindeer, the wolves concentrating on the finer points of hunting moose.

What, then, is the effect of the wolf on the moose population? If other important prey animals, like wild forest reindeer or white-tailed deer, are not present in the wolves' territory, a wolf will bring down 15-16 moose during the course of a year. In summer a wolf pack will kill a moose twice a week, in winter once a week. The reason for this seasonal difference is that moose calves are smaller in summer than they are in winter.

When other ungulates are scarce, preying on moose has to be reduced by 30-40%, if the prey population is not to be forced into decline in the wolves' territory. On a national level, the wolf population only removes approximately 4% of the annual moose population increment.

Lassi Rautiainen

When the moose is the only ungulate prey, a wolf pack will kill a moose at 5-7 day intervals. In summer the pack will take down two moose per week. This seasonal difference is due to wolves preying on the youngest age class of moose and the calves being much smaller in summer than in winter

Lassi Rautiainen

A wolf usually dies because it is killed by human beings. Wolves in Finland are not very old. Data collected on mortality (364 wolves) in 1996-2012 showed that about 70% of dead wolves were less than two years old. In Yellowstone National Park, where the wolf population is not controlled by people, fights between packs is the main cause of death. In Finland even traffic kills more wolves than the conspecifics do.

The wolf's future

Recent years have seen a slight trend from positive to negative in regard to the public's viewpoint and attitude towards saving the wolf population. The proclamation resulting from a meeting of experts taking place in Sweden in 1973 underscoring the wolf's right to existence among the wild fauna whether it is useful to mankind or not now seems far away. The manifest was supported by researchers from countries like (the then) Soviet Union, the USA, Poland, Italy, Sweden and Finland.

When, at the end of the last decade, I was privileged to take on the agreeable role of large carnivore researcher, attitudes towards the wolf were more positive than they are today. At the moment I feel that perhaps the most important reason for the radical change in attitude is the increase in the species' population density and its penetration into areas beyond its traditional backwoods haunts.

A wolf can kill a person but the risk of a wild wolf doing so is extremely small. This reality has no relation to the senseless fear whipped up by public discussion in the media, where emotions replace rational probabilities or statistics. Is the wolf an attractive, caring, social, cub-nurturing ideal - a suitable role model for human beings, perhaps? Or is it a cruel, bloodthirsty killer that will slaughter a slower animal not for food but just for fun?

As a simple-minded game biologist I shy away from anthropomorphic definitions. At its best the wolf is a fine animal that delights the eye but so are the fox, stoat and three-toed woodpecker, for instance. Despite the prejudice against the species, a wolf is stunning to behold. Lesser, more ordinary sights are unable to delight the eye so predictably.

The conflict between wolf and mankind has come to a head, especially in part of southwesternmost Finland. Wolves wandering north from Kuhmo and elsewhere in southern Kainuu burden reindeer husbandry. Thus, the minimum target of the Wolf population management scheme of 2005, i.e. 20 litters a year in Finland, in the light of developments over recent years would appear to be somewhat unrealistic.

Lassi Rautiainen and Barbara Rudin with their German Pinscher, Emilie.

Lassi Rautiainen

Born 6.2.1957, Ala-Vuokki, Suomussalmi

Summer journalist with Salmelainen newspaper	1975-78
Matriculated from Suomussalmi Higher Secondary School	1976
High school teacher at Suomussalmi High School, upper level	1977-79
Student at Kajaani Teacher Training College	1979-83
Freelance photojournalist	1978-89
Poetry Week Kajaani event photographer	1985-87, 89-91
Articmedia advertising and photo agency	1988-
Treasurer, Luontokuva (Nature photo) magazine	1992-99
Nature Photographer managing director, Kustannus Oy Luonnonkuvaaja	1994-00
Art manager, Kuusamo Nature Photo	1996-2010
Wild Wonders of Europe project photographer	2009
Nikon Ambassador photographer	2009-2011
Photographer for approx. 25 books	
Photo presentations in approx. 15 countries	
Photo exhibitions	1978-
Compére at wildlife photo events	
Pioneering work for “Wildlife Photography in Europe”	

Associations

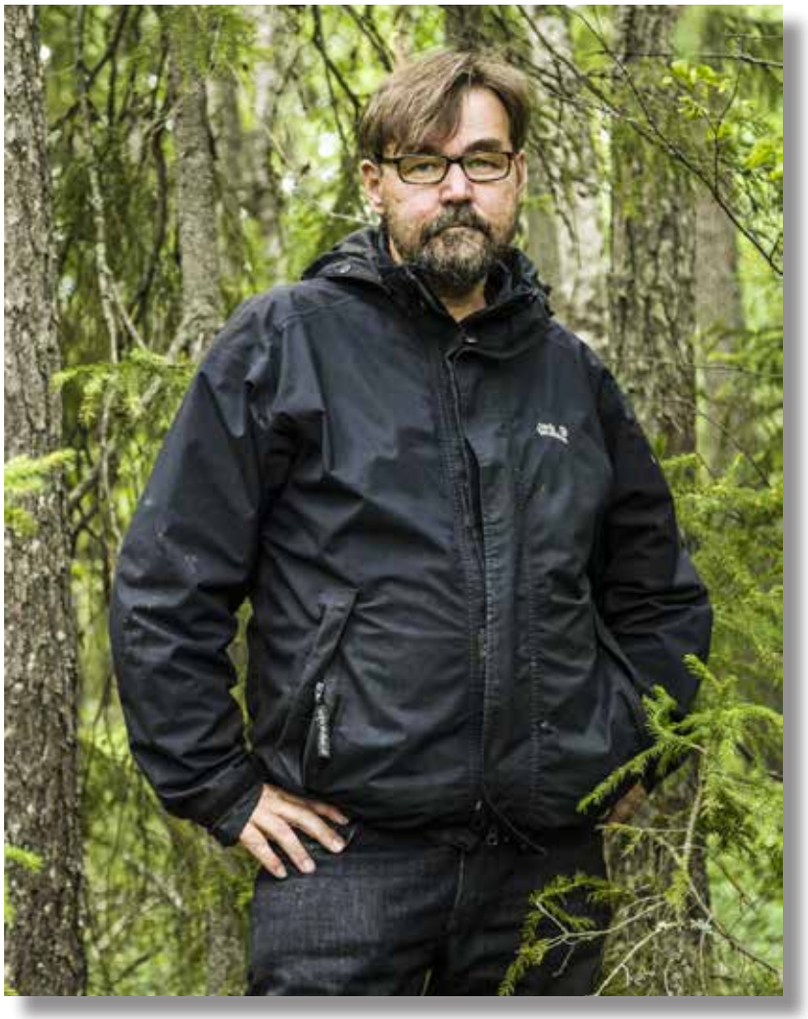
- Member, The Finnish Nature Photographers’ Association	1978-
- Professional Nature Photographers of Finland, board	2009-
- Kainuu cultural association, board	2010-
- Idän Taiga association, president	2011-

Photography Prizes

- Highly commended in Photo of the Year competition (Finland)	1991
- Main prize (in same competition)	1993
International Council For Game And Wildlife Conservation / XVth international wildlife photo competition	
- 2nd prize	1994
2nd Kajaani international wildlife photo competition / colour slides	
- 2nd prize Nature Photo of the Year	1996
Highly commended 6th Kajaani international wildlife photo competition, prints	2001
- Europe’s best bird picture	2005
- Europe’s best mammal picture	2005
- Nature Photo of the Year	2007
- Nature Photo of the Year competition, honourable mention	2008

Recognitions

- Finnfoto prize	2008
- Kajaani culture prize	2008
- Finnish Cultural Foundation, Kainuu branch, special prize	2009
- Suomussalmi ‘Artist of the Year’	2009



Ilpo Kojola

Dr Ilpo Kojola (Ph.D. University of Jyväskylä 1989; docent University of Jyväskylä and University of Oulu) is a researcher at the Finnish Game and Fisheries Research Institute, where he has specialised in the study of large carnivores since 1996. The author of 85 scientific papers, Dr Kojola has contributed to many books about Finnish wildlife and wild places. He also writes regularly for publications in the sector and is currently vice-president of the Finnish Mammalogical Society. Within the Finnish Game and Fisheries Research Institute Dr Kojola has led research projects on the wolf and brown bear since 1998. In addition, he has served as an external examiner of Ph.D. dissertations in Sweden, Norway and France. In 2010 he was nominated Finland's communication professional of the year by The Finnish Broadcasting Company YLE in Oulu.

Many thanks to Jani Hyvönen at Grafimatik
for putting the book into its final form.

Bitten by the urge to photograph those elusive masters of the art of survival – wolves – wildlife photographer Lassi Rautiainen made pilgrimages to Estonia, Russia and Alaska. Then, in the 2000s, Russian wolves suddenly began to appear at Lassi's outdoor photographic 'studio' in Finland's Kuhmo with increasing regularity. Cubs were born in Kuhmo almost every year. Now Lassi's 'wolf studio' is globally well-known, safari clients witnessing conflicts between brown bears and wolves in summer every week. The wildlife photographer has thus acquired a second profession in the nature tourism sector. The base camp in Kuhmo is the Kuikka cabin, already familiar to nature lovers from around 30 different countries.

Fighters is based on Lassi Rautiainen's often amusing personal observations and unique photographs. It is also a factual handbook. Nowhere else in the world is there a chance to see a bear, wolf, wolverine, sea eagle and golden eagle all on the same day from the same hide.

Towards the end of the book Finnish Game and Fisheries Research Institute researcher Dr. Ilpo Kojola discusses the Kuhmo wolves from the scientist's viewpoint.

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Fighters

Lassi Rautiainen

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