

# **Is the Brown Bear Dangerous?**



**The Scandinavian Brown Bear Research Projekt**

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This booklet is the result of an idea by **Sven Brunberg**, responsible for the fieldwork of the Scandinavian Brown Bear Research Project, and is built on his experience and knowledge that has been gathered within the project. The text has been written by the author **Jan-Erik Olson**, who also has translated it into English.

The facts have been checked by the project leaders, **Jon Swenson**, professor of ecology and natural resources management at the Agricultural College of Norway and **Finn Sandegren**, researcher at the Swedish Hunters' Association.

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## MUM´S LITTLE OLLIE...

The most famous encounter between a human and a bear actually never took place. It is sung about in the ballad by Alice Tegnér and has imprinted the picture of the bear encounter on generations of Swedes as the bear as a sly and dangerous creature.

When mother was watching little Ollie in the light glade with the huge animal close to him, she shouted to high heaven; the mother´s scream has made a lasting impression and still can be heard by all, even those who never have seen, nor met, a brown bear in wild conditions. For most of us never get closer than to the bruin in a zoo, standing behind the fences on its backlegs with peering eyes, waiting for slices of apple and popcorn.

**But, is the brown bear dangerous for man?** Shall we fear the woods, when we get out there and try to get a glimpse of this impressive animal, which has increased its numbers in Sweden during recent years?

The purpose of this booklet is to try to give the answer based on the results of relevant research.

The facts in this description are mostly collected from the book: *Björnen, viltet, ekologin och människan* by Finn Sandegren and Jon Swenson, published in 1997 and *Er den skandinaviske björnen farlig?* by the same authors together with several others from the Scandinavian Brown Bear Research Project, published in 1996.



*Untorparn is the oldest marked brown bear. He is 30 years old and was supplied with a transmitter for the first time in 1986.*



*A collar containing the radio transmitter has a cotton spacer that disintegrates after about two years.*

## THE SCANDINAVIAN BROWN BEAR RESEARCH PROJECT

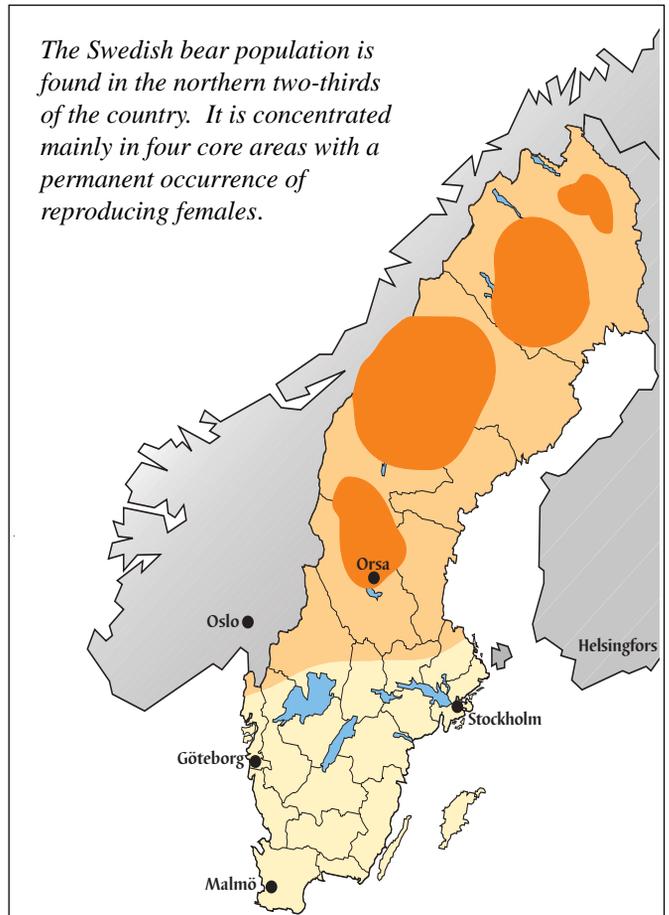
The Scandinavian Brown Bear Research Project started in 1984 to collect and evaluate the facts about the ecology of the brown bear. Up to this day more than 200 bears have been equipped with radio transmitters and have thereafter supplied us with information. The Scandinavian Brown Bear Research Project is a co-operation between Sweden and Norway, and has a number of different goals such as studying the bear's choice of food, weight development, patterns of movement, colonisation of new areas, choice of den, social behaviour, mortality and reproduction. Even the interplay with other species, such as moose and domestic livestock has been investigated, as well as the sensitivity of bears for human disturbance and the bear's own danger for humans.

The Scandinavian Brown Bear Research Project has published more than 100 scientific articles, reports and popular science publications.

# THE SCANDINAVIAN BROWN BEAR

More than 1000 wild brown bears are now living in Sweden, according to estimates made by the researchers in the project. This means that the population has trebled in size in the country during the last sixty years. At the beginning of the century the bear was close to extinction, at the least only 130 animals remained. The Swedish Parliament then passed a law to protect the remaining individuals. The bounty was repealed and the bear was made "the game of the Crown". Nobody should have any economic advantage from bear hunting and harsh restrictions were introduced all over the country. From surviving in certain areas in the mountains at the last turn of the century the brown bear is now found throughout the northern two-thirds of the country.

The Brown bear never disappeared completely from four different areas. The population has expanded from these core areas for reproduction, and it is also there you can find most of the bears. Two of four core areas are in the county of Norrbotten, one includes Jämtland and parts of Västerbotten, and the southern most area is in Härjedalen, Hälsingland and Dalarna. Outside these areas there are few females. But the core areas change, which means that more and more bears are observed outside them. Mostly younger males these are who have dispersed in order to establish themselves in new areas.



During the reproductive season in May-June a male bear often moves 20 kilometres a day and there are examples of longer movements. One bear moved 270 kilometres in nine days. When the breeding activity has declined late in the summer, the males reduce movements to about 10 kilometres a day in September. The females are less mobile whatever the time of the year.

The activity of the bear during the day changes a lot during the snow-free period. During the breeding season the males are most active between nine to two at night. They rest during the daytime. Late in summer and during early autumn, the bears are far more active during daylight and eat large amounts of berries to build up the fat reserves they need for the long hibernation in the winter den.



*One example of a long movement by a male bear, 3 years old.*

# ENCOUNTERS BETWEEN PEOPLE AND BEARS

There are many testimonies of unexpected encounters between a human and a bear. A summary has been made of individuals that were injured or killed by bears in Sweden and Norway. During a period of more than 200 years, 1750-1962, 75 cases are documented; 27 deaths and 48 injuries. Since most of the incidents happened long ago, you have to accept the figures with some reservation, especially the deaths. Medical care in the countryside often was primitive and the cause of death sometimes can be due to complications from bad sanitary conditions.

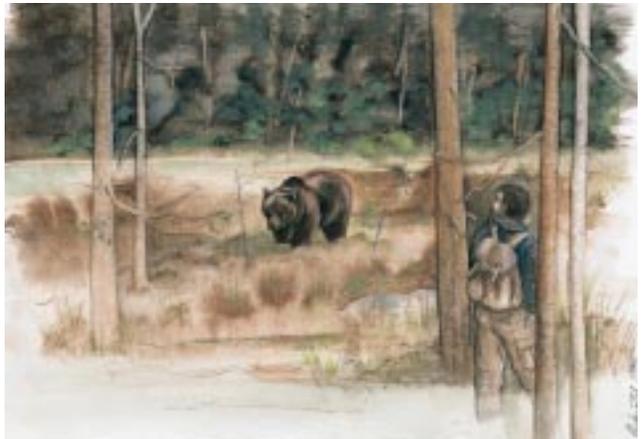
It's a hundred years ago since anyone was killed by a bear in Sweden. It happened in Jämtland in 1902, when a bear-hunter was attacked by a wounded bear. The last time an unarmed human was killed was in the beginning of the 1800's, when a young girl in Värmland surprised a female bear with cubs at the den.

In Norway the latest death occurred in 1906, when a shepherd boy at 13 happened to surprise a bear at a carcass. The boy was hurt and died from meningitis a month later.

Of the 27 deaths that are reported between 1750-1906, 7 cases occurred in connection with some form of hunting and 10 took place while shepherding. In olden days a cow or a sheep represented such a value that some shepherds even tried to defend their cattle physically. That could be an explanation to the relatively high number of cases. Five of the deaths were berry pickers, but in the remaining 5 cases the conditions are not known.

The overwhelming majority of the 48 cases of people who were hurt, reported during the same period, occurred in connection with hunting. The bear was hunted in 33 of the cases and was often shot at or wounded when it attacked. In

*In the past*



*The brown bear doesn't attack unless it is provoked.*



*A surprised bear at a carcass can be aggressive and defend its meat.*

5 more cases there had been a hunting situation where hunters had been moving around in the forest and possibly had a dog with them.

If you change perspectives and proceed from the situation of the bear in the 75 cases where humans were killed or injured, you get a rather clear picture: In 38 cases the bear was shot at or wounded. In 14 cases the bear had been surprised at a carcass, and in 11 cases the incident took place at the den. In 5 of the cases a female bear with cubs had been surprised by a human and in remaining 7 cases the conditions were unknown.

The conclusions from this historical material are: The most dangerous life was lived by an unskilled hunter or one who used too poor ammunition. Those who tended their livestock in the forest and perhaps defended their animals by using sticks against the bear also lived dangerously. People were also at risk when they came too close to a female bear with cubs or a bear at a carcass.

The recovery of the brown bear during recent years also means a greater risk for unwanted encounters between humans and bears in the Swedish forests. Recently a report was published investigating Swedish and Norwegian magazines between 1976-1995. Twenty-one examples of man-bear encounters were found. In 7 cases the man was hurt, 6 of these were hunters actively hunting. In the remaining 14 cases no one was injured but the situation was still experienced as dangerous by the people involved.

*In the present*

Among factors that may have increased the aggressiveness of the bear in the 21 denounced cases can be mentioned that a dog was involved in 9 of the cases. At 7 occasions, of which 6 were hunting situations, a female with cubs was involved. In 4 cases, finally, the encounters took place in the forest of berries. No berry pickers were hurt.

The 21 encounters between a human and a bear resulted in the deaths of 9 adult bears and 4 cubs.

During the 15 years since the Scandinavian Brown Bear Research Project started, 114 cases have been documented where people involved in the project have encountered a bear. Here we have individuals with a great experience with bears who have described the conditions of the bear encounter in detail. In about 80% of the cases the behaviour of the bear was interpreted as non-aggressive. Most of the bears disappeared immediately after noticing the human. In about 10 cases the bear continued towards the human, without seeming threatening. No attacks took place. On the other hand, 5 false attacks were launched by the bears, which were apprehended as threatening by the observers.



*Research has increased the knowledge about bears. Bears with transmitters can be located without being disturbed.*



*If the bear follows a dog in the forest, it can result in sudden and close encounters between a human and a bear.*

No human was hurt in any of the 114 cases reported, in spite of the fact that about half of the encounters contained one or more "factors increasing aggressiveness", such as presence of cubs, dogs or a carcass in the neighbourhood. It also was in connection with some of these factors that the bear launched a false attack or acted threateningly. The presence of cubs was the most usual cause of the aggressive behaviour by the bear, followed by presence of a carcass and lastly presence of a dog.

In Russian investigations similar experiences have been made. Altogether 704 encounters have been documented in three Russian reports from recent years. The results are in full concordance with the Swedish experience: In 80% of the cases the bear immediately departed as soon as it had become aware of the presence of humans. In the remaining cases the bear stayed and observed the human. No personal injury was documented apart from one occasion when a female bear with cubs was surprised by a man who received a blow from the bear, which destroyed his backpack. However he managed without wounds.

Finland had been spared from mortal incidents during the last century. But during the work with this booklet, a tragic case took place in June 1998, which has been given great attention in media.

A man in his forties was out on a jogging tour in the forest outside Ruokolahti in Southeast Finland. From information received in the media he surprised a female bear with a cub close to the jogging track. The Finnish carnivore researcher Ilpo Kojola commented the case in *Dagens Nyheter*:

"Joggers are exposed to bears in a special way. They have soft shoes and run soundlessly on the jogging track, and if the wind also blows towards the jogger, he can run into the bear before it discovers him. Then the bear begins to panic, it's completely natural, all animals do."

Since there are no witnesses, there is no detailed information about how the jogger behaved at the encounter. The autopsy showed that a vein in the neck was perforated and air had entered into the circulation of the blood.



*In four encounters out of five the bear departs as soon as it detects a human.*

# IS THE BROWN BEAR DANGEROUS?

If you try to answer this question by referring to the analysis of the 800 documented encounters between man and bear from recent years, the answer is easy: No, the Scandinavian brown bear is not dangerous!

No humans lost their lives, no humans were hurt. In a very few cases the bear carried out false attacks without physical contact. However it must be stressed that the individuals involved in the encounters were persons with knowledge of bears; fieldworkers, students, biologists, all of them involved in ongoing research projects. On the other hand: Humans have been killed by bears, in the Nordic as well as in other countries.



*It is not in order to threaten someone that a bear stands on his legs. The reason is to get a better smell or sight.*

And people have been hurt, scratched and bitten by bears. There are many examples of that.

It's time now to take a closer look at the conditions under which a bear can develop some threatening and dangerous behaviour for humans. But before we do that it is proper to put an end to a myth about the danger of the bear that belongs to the world of horror films: The bear standing on his hind legs! Nothing, absolutely nothing, indicates a threatening behaviour of the bear, it is rather a demonstration of some physical weakness of the bear, its weak eyesight. By standing on his legs the bear tries to survey the surroundings to confirm what the good sense of smell and the sharp hearing already have informed him about.

But you must agree that a bear two metres tall, standing on his hind legs and filmed from below, is a terrifying sight!

## WHAT CAN LEAD TO DANGER?

Most encounters between a man and a bear end undramatically, the bear disappears from the place. To avoid an approaching human can be seen as the natural pattern of reaction of the bear. In the few cases when the bear still remains and shows some form of curiosity or more obvious hostile behaviour, most probably there are one or two factors of increasing aggressiveness in the background. The researchers in the Scandinavian Brown Bear Research Project have listed 6 different factors of aggressiveness in decreasing grade of danger:

- 1. A wounded bear.** A wounded bear is the most dangerous situation. During 1976-1995, 7 persons were hurt in Sweden. Six were hunters. In 5 of the cases there had been shooting.
- 2. A female bear with cubs-of-the-year.** Especially if you surprise a female bear with cubs, she can start an attack. That happened to the forest assessor who was among the 7 injured in Sweden during the given time period.
- 3. A bear at a carcass.** A bear eating on a carcass, a killed moose or offal can react aggressively if someone comes too close. The bear wants full access to the carcass for himself and challenges all who lay claim to the food.

**4. A surprised bear.** Suddenly coming upon a bear at close range can frighten the bear as much as the man and cause defence reaction.

**5. A bear at a den.** A bear awakened from the hibernating den or surprised outside it in the early spring or in the autumn can be dangerous.

**6. Dogs.** The bear can be irritated by dogs in the neighbourhood; the level of aggressiveness depends on the circumstances: If it is a hunting situation, the sex and age of the bear, how the dog reacts, if there are cubs or a carcass close to the place and so on.

If you consider the factors above and evaluate them with human eyes and sense, you must find them rather reasonable. It is reasonable to get angry at someone if he shoots a bullet through your body, if he gets too close to your kids and threatens them, or if he tries to steal the good food from your plate, if he wakes you up from your deep sleep or just sets a yapping dog on you. It is reasonable. Actually, it is human!



*Most bears use abandoned anthills as hibernating dens.*

## HOW TO ACT IN THE ENCOUNTER

The most usual question that people ask is this: What shall I do, if I stand face to face with a bear? We will not consider that maybe most encounters take place when people are in their cars. In such a case the advice is simple: Just stay in the car and enjoy the sight! Don't go out and try to tap the sweet tumbling bear cubs in the ditch bank. The car is a safe protection against a suspicious female bear who still hasn't detected any scent of humans.

But if you are out in the forest, fishing in a lake or picking berries on a clear felling, and a bear suddenly turns up: How do you deal with this unexpected situation?

As we already know, it is not a problem in most cases. The normal instincts of the bear have already made him to seek a way out. Since the senses of smell and hearing are far more better than those of a man, most of the times when a human and a bear are close to each other the encounter will never take place. The bear has discovered the man first and has already left the locality. But the knowledge of this is a poor consolation for someone who faces an unwanted bear encounter and who tries to deal with the situation. If the bear still hasn't noticed the presence of a human, it is wise to quietly and cautiously withdraw from the place. Do not run! But if the bear has noticed you, it is important to signal your peaceful intentions, to *announce yourself*. Don't try to scare the bear with threatening gestures and uncontrolled movements. Retire cautiously and show clearly that your intentions are not hostile to the bear. For the bear does not attack unless provoked.

At the same time the behaviour of the bear must be interpreted correctly. If the bear takes an upright position it is not because of hostility but of curiosity, to be able to gain an overview. If however the bear gives a roar, snorts or utters sounds reminding of murmurs or whistles this can be a sign



*A bear uncertain of the surroundings often takes a standing position.*

of a carcass or a cub in the neighbourhood. You should then retire slowly and carefully. Don't run!

If you have a gun. Don't shoot! If you shoot a nonkilling shot you expose yourself to danger. In five of the six cases where people were hurt by bear in Scandinavia during the period 1976-1995, shootings took place and in two cases the bear was certainly wounded. If the bear is not wounded at the encounter, you have probably a much greater chance to escape safe and sound if you don't use the gun. All experience confirms this.

For remember: A wounded bear is a dangerous bear!

Often dogs are involved in the encounter. What role the dog plays is decided by how well trained the dog is in meeting bears. A skilled hunting dog can be advantageous in the forest, by discovering the bear in time and avoiding problems. An unskilled dog or a pet however can make the situation worse. It can, after having discovered the bear, rush directly

to the owner to seek protection with the bear after it. Then the bear seems threatening even if the aggression is directed towards the dog. Therefore it can be a good advice in well-known bear areas to keep the unexperienced dog on a leash.



*A wounded bear can be dangerous.*

## IF THE BEAR ATTACKS

If the attack, in spite of all precautionary measures, comes and the bear is aggressive and proceeds straight towards you. What do you do then?

Since there are so few experiences in the Nordic countries, there is no unambiguous answer to be given. The recommendation in international studies is to make a last effort to distract the bear, put something on the ground in front of him, a fishing rod or the berry pail, but not the backpack. And try to climb a tree. If there is no tree of sufficient height and the bear carries on its attack, the only remaining thing to do is to play dead. To lay down on the ground, in foetal position or on the stomach, hands around the neck. And stay still. The backpack can be a good protection. To play dead has been a successful way of surviving bear attacks in the past in



*Even bears can climb the trees to seek shelter.*



Scandinavia. The bear probably attacks in order to prevent or neutralize a threat, not in order to kill. If you stay still on the ground, you minimize your own menace and the bear can walk away.

There is though a complication and a question that no one can give a reassuring answer to. How does a bear used to human-provided foods act in such a situation? A bear that has learnt to associate the smell of offal and the scent of humans. But this will be discussed more in the next passage.

# HOW TO MINIMIZE THE RISK OF UNWANTED ENCOUNTERS BETWEEN MAN AND BEAR?

Bears are mostly shy of humans. To maintain this shyness and avoid close confrontations between man and bear is important, especially in a situation when the population is growing and the possibilities of encounters increase.

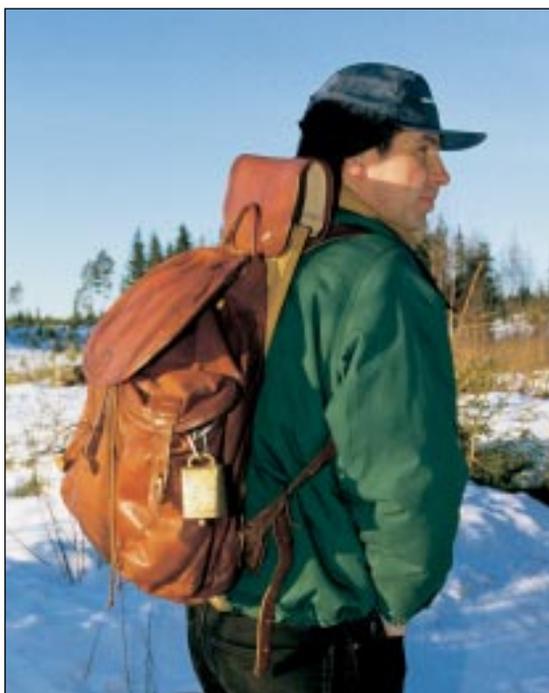
By increasing the public knowledge about the behaviour of the bear we can diminish the risk of bear-man conflicts. And people in bear areas can take steps to prevent undesired events, direct confrontations that can lead to personal injury. The most important thing here is to avoid placing food that attracts bears in composts, in garbage cans, at slaughterhouses or as hunting baits in the forest or close to settlements. It is also important to keep the population of bears at a reasonable level by hunting, the population should not increase too hastily. Much evidence suggests that hunting as such makes the bear shyer.

We have already stated that the danger of bear increases if it is wounded by shootings, when surprised together with cubs or when protecting its food. The bearhunter should be very cautious in the shooting moment and only shoot from the side, at the lunge part of the bear, at a reasonable distance. If it's not a bearhunting situation, an intrusive bear turns up and you have a rifle: Don't shoot at the bear to start with. Try to frighten the bear by shooting in the air. Remember: A bad shot to kill is worse than not having any rifle at all!

A bear surprised at a carcass can become aggressive. This includes carrion, offal bait that is put out by people to attract bears for hunting or photographing, which has become more common in Sweden in recent years. The great danger with this is that bears get used to associating the smell of food with the scent of humans. The shyness of the bear for human scent can probably decrease when the bear connects the smell

of man with a tempting mound of meat in the wood. These baits also can expose unknowing people to danger, if they surprise the bear at the bait, something that the baiters don't have to risk. Another problem with this is: how does a bear used to baits act when it confronts a person playing dead? How does the bear deal with that situation? Can it apprehend the human as a piece of food? We know very little about these things today.

In this context the most important thing is to avoid placing food in the wild. People living in bear areas also should not



*A bell on the backpack makes the bear aware of the presence of man.*

put odoriferous garbage in the garbage cans. The bear detects the smell from the can, be sure of that! A man who happened to put some waste from shrimps in his garbage can, it was at night in the autumn in Dalarna, was met by a grand spectacle the next morning. The garbage can was upset and the garbage was looked through in detail and widespread. The bear had come during the night and it returned four times during the year afterwards and overturned the bin again, now in company with two cubs. But the bear didn't find any shrimps or other delicacies after the very first time.

If you visit known bear areas and you don't want to come close to a bear, the best way of preventing an encounter is to be heard, to talk, or why not sing a tune! You can also tie a bell on your backpack to make

sounds when you walk. Then a normal bear will have enough time to retreat. If you, lastly, brings a dog with you, it should be put on a leash, especially pets and unskilled hunting dogs. They can panic when encountering this strange woodland bumpkin and provoke its slumbering hunting instincts.



## ...STROLLED IN THE WOOD

If you don't want to take the risk of meeting with a bear in the wild you shall not leave your home or your car. You shall not go to see areas where the bear has its haunts. But if you, after all, persist in going to the woods to pick berries, photograph, hunt or just take a walk, you must realize that there is a possibility to meet with a bear sometime. The probability is certainly insignificant. There are lots of people who have lived a life in bear areas without having had a glimpse of any bear. But the possibility, and the risk, is there. That this rare meeting also could lead to injuries is

microscopical. The overwhelming number of encounters between bear and man end in an undramatic way. The bear leaves the place. In a very small number of cases a human is hurt. Seven such cases have occurred in Sweden during the



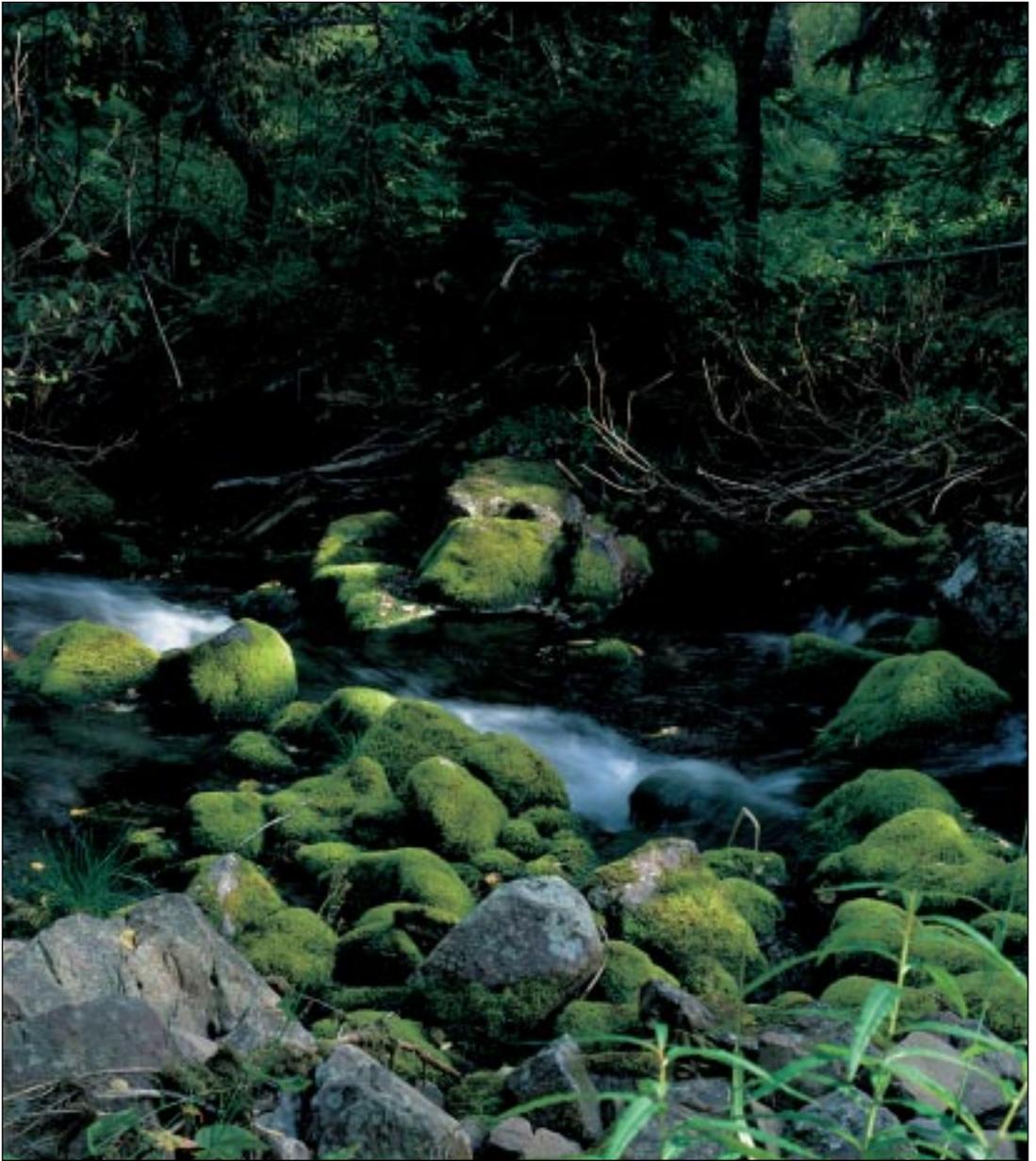
*Blueberries are good! Research in the United States has shown that bears can eat a third of its weight in blueberries, every day.*

twenty year-period referred to earlier. In most of these cases it is the man, most often unawarely, who was the indirect cause to his own injury. If you treat the bear with respect and do not threaten or hurt the animal, the bear returns its respect by withdrawing. And that is also the morals in this little piece of writing.

So, at last, to the question of Mum's little Ollie.

Did his mother really need to be afraid of an attack from the bear against Ollie? Was the bear a threat to him? Probably not.

Little Ollie stayed calm and didn't disturb the bear. He was natural. And the bear didn't show any behaviours indicating that there was some kind of threat, rather the bear was signalling an obvious curiosity about that little towhead who was sitting in the blueberry bushes, quietly prattling.



There was no need for Mummy to give the famous scream. At least not for the sake of little Ollie. The bear probably would have withdrawn anyway.

But then, on the other hand, we wouldn't have had a song to sing.



The most famous encounter between a human and a bear actually never took place. It is sung about in the ballad by Alice Tegnér and has imprinted the picture of the bear encounter on generations of Swedes as the bear as a sly and dangerous creature.

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