



# Biber Berti

## Mountain Forest in the Alps

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# Mountain Forest in the Alps

## The story

### **We have to leave now!**

The sun has come out again after a few rainy days. But it is still very wet outside. Beaver Berti leans on a tree with his feet dangling in the cold water of his stream.

Then his friend Kilian the crow flies in and lands on Berti's belly.

He calls out excitedly, "Come on, wake up, our friend Stani the alpine ibex is missing. High up in the mountains it has been snowing and I can't find him anywhere."

Berti jumps up and calls out, "Maybe he has got stuck in the snow. Or, even worse, he is caught in an avalanche!"

Kilian answers, "Yes you could be right, he could be hurt."

"I will get my backpack," Berti says.

Berti goes into his beaver's lodge to get everything he needs for a hike in the mountains. He packs a warm jacket because it can get cold up in the mountains. Then he packs a compass, a pocketknife, and a first aid kit. He also packs a map, which is very important. He quickly refills his water bottle with some fresh water from the stream. Now they can go.

The two friends march over the meadow. Soon they arrive at the edge of the forest.

Berti says, "Hey, our friend Hanne lives over there. Let's go ask her if she wants to come with us. Together we can find Stani faster."

"Yes, that is a good idea," Kilian said. "I will fly ahead and tell her what we are going to do. So that when you get there, she will have all of her things already packed."

### **Hanne and Randy**

Berti watches Kilian enviously fly over to Hanne. Berti has to march all the way up the steep meadow. When he finally gets to Hanne, he is so exhausted that he drops onto the grass.

"Hey, Berti, where were you?" Randy asks and laughs. "Kilian has been here for a while, he told us everything."

"Hello Randy," Berti says, "Kilian can fly! But I had to walk all the way up the steep path. What are you doing here? I thought you live down near the river!"

"That's right but I am here visiting Hanne," Randy tells him.

Here Hanne comes carrying a glass of cold herbal tea. Berti is happy to have a cool drink. Both girls have already packed their backpacks. Now all four friends make their way to the mountains.

The forest begins right behind Hanne`s cave. They all know this part of the forest well. It is known for its rich soil. Many things grow here like mosses, bushes, the best berries, and mushrooms.

Berti likes the trees best. He knows almost all of them, of course not personally, but only by their names. Miss Fir, Mr. Spruce, Mr. Beech, and Miss Maple. Berti points at his favourite tree. He runs up to the tree and hugs it. Then he says completely in love, „This is Hilda, my favourite tree. I played under this tree when I was just a little beaver.”

Randy, Kilian, and Hanne smile at Berti, their tree friend. Now it is time to keep on walking. They do not see how many animals are playing in the forest. Little fox puppies are playing in front of a foxhole. High up in the treetops squirrels are jumping from branch to branch.

### **Dangerous oncoming traffic**

After a while, they come to a small clearing. Berti takes his map out of his backpack. He wants to see if they are on the right path, but when he is unfolding his map, he hears a noise of scratching and rustling.

Berti calls out to the others, “Can you hear that too?”

They all stop and start to listen. Now they can hear the noise too, grunting and squeaking.

“Come over here, behind this big tree!” Hanne orders.

They all run and hide behind a tall oak tree. While running, Berti loses his map. At that moment, a big wild boar appears. It is Wilma and her six piglets. All four friends hold their breath. They do not want Wilma to see them. Wilma is always grumpy when she is taking care of her piglets. Then the piglets find Berti`s map. They have fun playing with it. They start biting it and it rips. Berti runs up to save the map.

“Go away!” he calls, but it is too late.

The map is ripped into little pieces. Wilma grunts.

Then she smiles and says, “We did not know that this piece of paper was so important to you.”

Then the wild boars go back into the forest. All that is left of the map are just a few bits of it. Berti stares at the map. He is completely paralysed and pale.

He yells into the forest, "You naughty piglets! How are we going to find our way through the forest now?"

"Surely we will find our way Berti," Kilian says to his friend, "I know my way in the forest and on this mountain very well."

Berti sighs and looks sadly at the rest of his map.

"Come on, we have to get going," Kilian says to his friends.

### **Rustling everywhere**

After what just happened, the friends silently walk up the mountain.

Randy calls out, "Look here, I found some mushrooms!"

They all run to Randy to see her nice mushrooms.

"That will make a delicious soup," says Randy happily.

"Are you sure they are not poisonous?" Kilian asks.

"I know all about mushrooms", Randy answers.

Randy takes her pocketknife out to cut the mushrooms. Randy also finds some herbs to take.

Slowly the sun goes down behind the mountaintops. The forest is getting dark. Good thing they reach the cabin in time. They have been here often. They can spend the night here.

There is a water spring near the cabin. Hanne gets fresh water. Randy uses it to cook mushroom soup.

Once the soup has been finished, everyone is hungry and starts to eat. They also eat the bread Hanne took with her. After they have eaten, they go to the water spring to wash and brush their teeth.

In the dark forest, they hear all kinds of creepy noises and animal sounds. In the forest, many animals wake up when it gets dark. Owls, hedgehogs, badgers, and weasels. They all start looking for food when it gets dark.

Suddenly bats are flying over their heads whirling between the tree trunks and looking for moths and bugs to eat. They are happy to see a group of fireflies.

The fireflies look like little lights dancing in the forest. Back in the cabin, the friends get into their beds and fall asleep.

### **Fire alarm**

The next morning, they hike up the mountain near a stream. Mountain streams are an important home for many animals like fish and crabs. Tiny water snails

and mussels also live there. We can also find many insects and their larvae in the water.

Soon they see a big anthill near a tall tree. They are surprised at how busy the ants are. The little ants are carrying little beetles, leaves, and twigs up into the anthill. Then they disappear in the interior of the anthill. The ants' nest is under the earth. That is where the queen lays her eggs. The young ants grow up here too.

Berti is still not sure that they are on the right path.

“Yes, Berti we are on the right path, but for your peace of mind I will fly up and look around for you,” replies Kilian.

Kilian flies up to the sky to look at the whole area. Suddenly he sees smoke rising. That can't be good. He flies back to his friends to tell them about the smoke he sees ahead. Everyone starts running. After a few minutes, they discover an abandoned campfire.

“Fortunately the fire has not spread because a fire like that can burn down a whole forest,” Berti says.

“It is also forbidden to make fires in the forest,” Hanne says.

They all throw soil on top of the fire. Soon the flames are extinguished. The fire is not dangerous anymore.

Randy is angry, “What kind of people leave a campfire still burning when he goes away?”

Hanne points to the ground, “Look at all the garbage lying around.”

They all collect the garbage together. Hanne puts it in her backpack. Berti has found a piece of bark and writes *‘Fire forbidden’*. Everyone is shocked about how careless some forest visitors are.

### **Looking into the face of a cow**

The three heroes march further up the mountain.

“Soon we will reach an Alpine hut,” says Kilian. “We can rest there.”

“That is great!” Berti is happy.

“Are you getting tired again?” Randy teases Berti, “You need to do more sports!”

Berti replies, “Pff! I never get tired. I will be first to get to the Alpine hut!”

Quickly he marches on into the underbrush. Then the friends hear Berti scream. They all run to him. They see Berti standing scared. Right in front of

his face there is the big mouth of a cow. Everyone starts to laugh at Berti. Obviously irritated by the intruders laughing out loudly the cow runs back to the other cattle.

“You can’t be serious Berti.” Hanne calls, “Now you are afraid of a cow.”

“Oh, go on and laugh,” Berti answers, “I just was very shocked. Suddenly I had a big pink nose in front of my face.”

Randy pats him on the shoulder and asks, “Everything is ok now?”

Berti nods with his head.

“The Alpine hut is right behind that hill. There we can rest and eat,” Kilian says. Finally, they can see the Alpine hut. Kilian flies ahead and sits on a seat in front of the hut. He cheers Berti on, “Hopp, Hopp! Berti, you are almost here! Keep going!”

Berti is tired but he gets to a seat on the bench.

Randy and Hanne are there too. They all go to the stream to drink the clear fresh water.

Berti puts his backpack down. Then with a big splash, he jumps into the stream.

The water splashes high on Hanne and Randy. Both of them jump up surprisedly.

Kilian sees all of this from far away. He laughs so much that he falls on his back and holds his belly.

### **Butter, cheese, and yogurt**

Here comes the friendly dairymaid out of the hut.

“Welcome to my Alpine hut,” she tells them. “My name is Maresi and I am always happy to have visitors. Do you all want to eat something? I am making fresh cheese now.”

The friends are happy to meet Maresi.

Berti calls out, “This is wonderful, we are all so hungry!”

Maresi brings the tired friends butter, cheese, and yogurt.

She made it all from the cow’s and sheep’s milk.

Then she gives them fresh milk and bread. They eat up all of the delicious food.

“Tell us Maresi, how high up on the mountain is your Alpine hut?” asks Berti

“Our hut is 1500 meters above sea level,” she answers. “If you walk a little higher up, you will reach the timberline.”

“Then we will soon be at Stani’s home!” Berti says happily.

Kilian answers, “By noon tomorrow we will be in the high mountain region.”

“Maresi are you up here all alone?” Randy wants to know.

“No,” she answers, “I am here with 12 dairy cows and 19 young cattle. There are also 25 sheep that spend the summer up here with me.

Slowly the sun moves behind the mountaintop. Maresi shows the tired adventurers where they can spend the night in the hayloft. They fall asleep quickly. They all dream about Stani.

### **The proud Red deer stag**

The next morning the friends say good-bye to Maresi and start hiking. Soon they are gone into the forest. The crowns of the trees are so big that they only let a little bit of light through to the ground. Early in the morning it is also foggy. It all seems a little spooky.

After a while, they come to a clearing. The friends sit on a fallen tree and get their water bottles out of their backpacks. Then they see a huge stag coming out of the forest. The friends stare at the huge animal with his big antlers. The stag stops for a moment and looks down on the four hikers. He lifts his head and walks across the clearing. Without looking back, he disappears into the forest.

“That was a huge red deer stag,” says Berti

“Such a snobby and arrogant guy!” Kilian says annoyed

“Quiet Kilian!” says Randy full of astonishment. “Did you see those great antlers?”

Then Hanne remarks, “Why did his antlers look so soft and furry?”

“Maybe mister stag is cold, and he had a hood on his antlers!” scolds Kilian.

“No!” Berti tells them, “I read in a book that with stags new antlers are growing every year. While the antlers are growing, they need this fur on them. It is called velvet. Around the end of July, it starts falling off.”

“Enough talking. Come on let us keep going. We have to find Stani.” Kilian tells his friends.

### **An iron fence in the forest**

They are all hiking again. Berti wants to show everyone how super fit he is. He hurries through the forest taking big steps. Suddenly there are no more high trees, just young trees about 2 to 3 meters high. The trees are so close together that it is hard for Berti to find his way. Then he bumps into an iron bar. In pain he yells, Auuuua! What is this?"

His friends hear him yelling.

"I will look for him," Kilian says flying ahead.

He finds Berti right away and calls Hanne and Randy, "Here he is!"

Berti is sitting on the ground holding his forehead.

"What happened? How did you hurt yourself?" Hanne asks worriedly.

"Was it a cow again?" Randy jokes.

"Ha, ha! I bumped my head very hard," Berti tells them, "someone built a big iron fence here."

"This a special protective fence to stop avalanches," answers Kilian. "These fences are called snow bridges or avalanche barriers. Years ago, I saw how workers from the Wildbach- and Lavinenverbauung (Service for Torrent and Avalanche Control) built these fences. Later the people from the forestry service planted young trees between the fences. When the trees are older, they will serve as a protection against avalanches."

Berti takes his hand off his forehead and Randy sees that he is injured.

"Hey Berti, you are bleeding," she says surprisedly, "does anyone have a first aid kit?"

"It is in my backpack," Berti answers.

Randy gets the first aid kit out and takes care of Berti's wound.

### **Berti's new friends**

The four friends go back into the protective forest with the big trees. They have been marching up the mountain for two hours. Then Berti sees a coniferous tree that he does not know.

"Who knows this tree here?" asks Berti. "You all know that I love trees, but I have never seen this one before."

Kilian answers, "That is because you have never been this high up in the mountains before. You cannot find these coniferous trees down in the valley."

Berti is amazed at this huge tree.

"What is your name you great tree?" he asks.

“It is a larch,” Kilian answers.

Berti touches the larch tree and says, “Dear Miss Larch, your bark is rough, but your needles are so soft. They sit in little bunches on thin branches.”

Right near the larch tree, he sees a stone pine tree. This is another tree, that he has never seen before. The stone pine tree also has rough bark. On its branches Berti sees long pointy needles. Berti is so happy that he gets to know two new coniferous trees.

### **Snow in summer**

Soon they see fewer and fewer trees. All around them are grasses, moss, bushes, and very few trees.

“This here is the timberline,” Kilian says. “Further up the mountain there are no trees at all anymore. This is what experts call the timberline.

“Why is it like this?” asks Hanne.

“I can tell you why,” says Berti, “the higher we get up the mountain, the colder it gets. Even the summers are short and very cold. You can see snow over there and it is June. For trees the climate is too rough and cold at this altitude. Only these small trees can grow up here. They are called mountain pines.”

The friends walk a little more. Then they all get stuck in deep snow and can't move any more.

“This is bad, we are sinking in the snow,” Randy calls out, “how should we find Stani now?”

Berti calms her down and asks, “Kilian, where did you last see Stani?”

“There, higher up in the mountains.” Kilian answers.

“Higher up, where there are no trees you should be able to see Stani,” says Berti.

He looks through his telescope down the mountainside.

“We cannot go any higher,” Hanne says again.

Kilian shakes his head and says, “You are right. The snow is too dangerous for all of you. You could cause an avalanche.”

“Kilian have you looked on the other side of the mountain?” Berti asks. “Stani once told me that in the winter, the alpine ibex go to the southern slopes of the mountain. It is warmest there.”

Berti takes out his compass and shows everyone where the south of the mountain is. Kilian looks in that direction.

“No, I have not looked over there!” he says shaking his head. “Alright, I will fly over there and have a look. Hopefully, I can find him.”

“We will go back down to the forest”, Berti says, “Here we cannot walk any further.”

“And it is wet and very cold”, Hanne adds.

“Ok good! We will meet a little later at the three big stone pine trees”, Kilian says.

Berti nods. Kilian flies away. Then the others walk down the mountain into the forest.

### **Rolling rocks**

Kilian flies very high. High enough so that he has a good view at the summit region of the mountain. He still cannot see Stani. Even on the south side of the mountain, he cannot see Stani. Kilian doesn't want to give up looking for his friend and is searching for him doggedly.

Hanne, Randy, and Berti have reached the thick forest. Then they hear a loud rumbling and crashing.

“Hide under the trees!” Berti calls out to the girls.

Rocks and boulders are already rolling down the mountainside. With unbelievable force they jump and roll into the forest. The large boulders roll right over the small trees and break them. Then they crash against the big strong trees and stop. Now it is quiet again.

Berti says, “Oh my goodness! That was a rockslide.”

“Without the forest the big rocks could roll down to the valley,” Randy says.

Berti goes up to the tree that held the big rock back. Then he says, “Dear friendly tree, now I know why your bark is so rough and thick.”

Hanne says, “You trees protect us, so no rocks reach our valley.”

### **Where is Stani?**

After the dangerous event with the rocks, they all walk to the three stone pine trees. Berti watches his friend Kilian through the telescope.

Kilian is still flying around the mountain calling, “Stani! S t a n i!”

Then Kilian finds the little alpine ibex between the stone pine trees. The little crow flies down a steep turn to Stani.

Hanne, Randy, and Berti see him too. They all get to their friend and hug him.

“Stani, finally we have found you,” Berti is very happy.

“Where were you? Why didn’t we hear anything from you?” Kilian asks.

He doesn’t even offer Stani an opportunity to say a word.

Stani is deeply moved and says, “I am so happy to see you all. I can’t believe you came so far to look for me.”

Now they all sit down and Stani begins to explain, “Every spring we alpine ibex go high up into the mountains. There are no trees or bushes up there. You can easily find me there. This year winter came back in June. The strong snowfall forced us to go back down the mountain. There was less snow further down the mountain.”

“I looked all over the mountain. I could not find you anywhere,” says Kilian. “I am sorry I brought you all up here.”

Stani looks at his friends and says, “I am sorry that you all came to the high Alpine region for me.

“Don’t think about it. Take a look around. It is so beautiful up here,” says Berti, “look at the wonderful view.”

Berti, Hanne, and Randy have never been so high up the mountain before.

They look down at the valley amazedly. It is great that there is a protective forest. It protects the valley from avalanches, rock falls, and landslides.

The end

# Mountain Forest in the Alps

know how

## The Forest in Austria

Half of the Austrian surface area is covered with forests. The forest area is becoming larger. Luckily, more natural forests are developing again.

## What is a mountain forest?

Large parts of the Austrian forests are in the mountains, the Alps. That is why these forests are called mountain forests or Alpine forests.

## Protective Forest

Many mountain forests are protective forests. They grow on the mountainsides above villages, roads, and railways. They protect the people living in the valley from rockfall and landslides. The forest soil soaks up rainwater. That prevents flooding in the valley. In the winter, the trees hold back the snow and prevent avalanches in this way.

### Animals in the forest

The Alpine forests give many animals protection and habitats. The animals live in all levels of the forest: treetops, bushes, and the forest ground.

### Animals in the treetops

In the treetops we see many different songbirds. There are all kinds of mammals like squirrels, weasels, and mice. Bats fly through the mountain treetops in the night sky.

### Animals in the bushes

Many insects live in this area. Different bees and butterflies fly around. The Alpine longhorn beetle is one of the most beautiful insects in our forests. The stag beetle is the largest beetle in Austria. Little mammals like mice live here too.

## **Animals on the forest ground**

Not many mammals live in the mountain forests. You see fewer the higher you go up. Most mammals live in the ground: mice, rabbits, badgers, hedgehogs, foxes, wild boars, deer, and red deer.

The rich soil provides many animals with food. You can find lots of insects here. You can also find other animals like lizards, frogs, salamanders, and snails. Some animals find protection and shelter underground.

## **Trees**

### **Deciduous trees**

Deciduous trees have leaves. In Europe these trees lose their leaves in winter. Without leaves they can survive the cold winter.

Beech trees, oak trees, maple trees, and linden trees are the most popular deciduous trees in the mountains.

### **Coniferous trees**

The leaves of the coniferous trees are long and thin. These leaves are called needles. The needles do not fall off in winter. Coniferous trees are green all year round. The most important coniferous trees in the Alps are spruce trees, fir trees, pine trees, Swiss pine, and larch trees.

## **Different kinds of forests**

There are forests with only **deciduous trees**. There are forests with only **coniferous trees**. If a forest only has one kind of tree, it is called a **monoculture**. If there are different kinds of trees growing in a forest it is called a **mixed woodland**.

## **Natural Forest**

This is a forest with a mixture of older and younger deciduous and coniferous trees. There are all kinds of trees here beech, maple, ash, pine, spruce, fir, and others. Trees and bushes in all different sizes.

You can also find various other plants here like herbs, ferns, and mosses.

They grow on the forest ground. Because of this biodiversity, the forest stays strong against diseases and pests.

## **Fruits of the forest**

If you go for a walk in the forest, you can find many fruits. You can find fruits, herbs, and mushrooms that you can eat. It is important that you only pick and eat fruits that you know are safe! Always wash the fruits before you eat or cook them.

## **The forests hold water**

When the rainwater starts to fall, the first raindrops are caught by the treetops. The rainwater gets absorbed by the leaves or evaporates. The drops that fall to the ground get soaked up by the soft forest soil. The forest ground can soak up to 200 liters of water on a surface area of one square meter (200 liter = 20 buckets of water).

## **Natural Disaster**

In strong thunderstorms, such extreme amounts of water can fall that the protection forest cannot absorb it. That is when floods and landslides happen.

## **What does a protective forest do?**

### **Protection against erosion.**

The roots of trees and bushes strengthen the ground in steep mountain terrain. That is how erosion is prevented. Erosion in the Austrian mountains causes landslides, mudslides, and rockfall.

### **Protection against avalanches**

An avalanche is a large mass of snow that slides down the mountainside. A protection forest prevents avalanches. The snow is held back by the trees. Avalanches that happen high above the timberline cannot be held back by the protection forest.

### **Flood protection**

The forest ground is like a sponge. It soaks up rainwater, slowly spreading it into the environment.

## **Endangered forest**

Alpine forests have to withstand a lot. Natural events like storms, snow, avalanches, extreme cold, and rockfall have been going on for thousands of years. The problem is that most recently humans have been causing more and more damage to the forest.

## **What would happen if there were no protective forests?**

Without Protective forests in the mountains, all of the rain and snow would flow down into the valley. Mudslides and rockfall would destroy our homes, roads, fields, and pastures. Noone could live in the Alps.