

Written by **Karolína Hrušková**

Illustrated by **Veronika Čihulová** and **Karolína Hrušková**

Stories About Endangered Plants

PLANT WARRIOR MINERVA THAT OVERCAME ICE, SNAKE STONE AND HUMAN DESTRUCTION



About the book series "Stories About Endangered Plants"

Before you lie a children's book brought to life through the collaborative efforts of the COST Action ConservePlants. Comprised of dedicated researchers from Europe and beyond, ConservePlants is at the forefront of protecting endangered plant species. Our researchers are committed not only to their scientific work but also to sharing knowledge with people of all ages, especially children. And what better way to captivate young minds than through stories!

Within this collection, we proudly showcase the captivating tales of endangered plants, lovingly penned by our passionate researchers. These stories offer a unique window into the lives of these remarkable plants, providing valuable insights into their importance and the challenges they face. Each narrative is crafted to both entertain and educate, fostering a love for nature and promoting conservation.

Join us on an exciting journey of discovery as we explore the wonders of the natural world through these stories. Immerse yourself in the captivating narratives and vivid illustrations that bring these endangered plants to life and embark on a quest to protect and preserve the remarkable biodiversity of our planet.

Živa Fišer, ConservePlants Action Chair



This publication is based upon work from COST Action CA18201 - An integrated approach to conservation of threatened plants for the 21st Century, supported by COST (European Cooperation in Science and Technology).

COST (European Cooperation in Science and Technology) is a funding agency for research and innovation networks. Our Actions help connect research initiatives across Europe and enable scientists to grow their ideas by sharing them with their peers. This boosts their research, career and innovation.

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Stories About Endangered Plants

*PLANT WARRIOR MINERVA THAT OVERCAME ICE,
SNAKE STONE AND HUMAN DESTRUCTION*

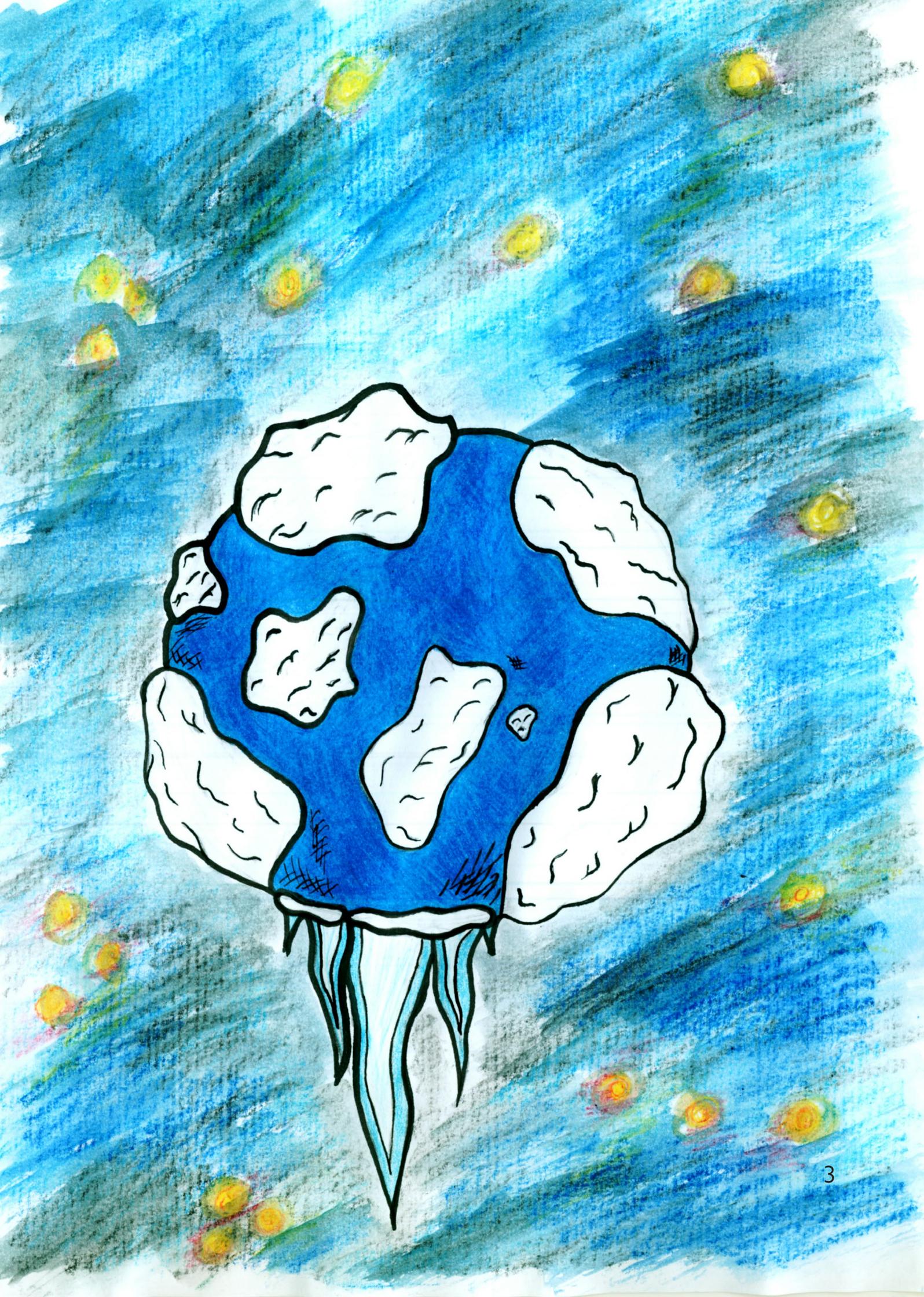
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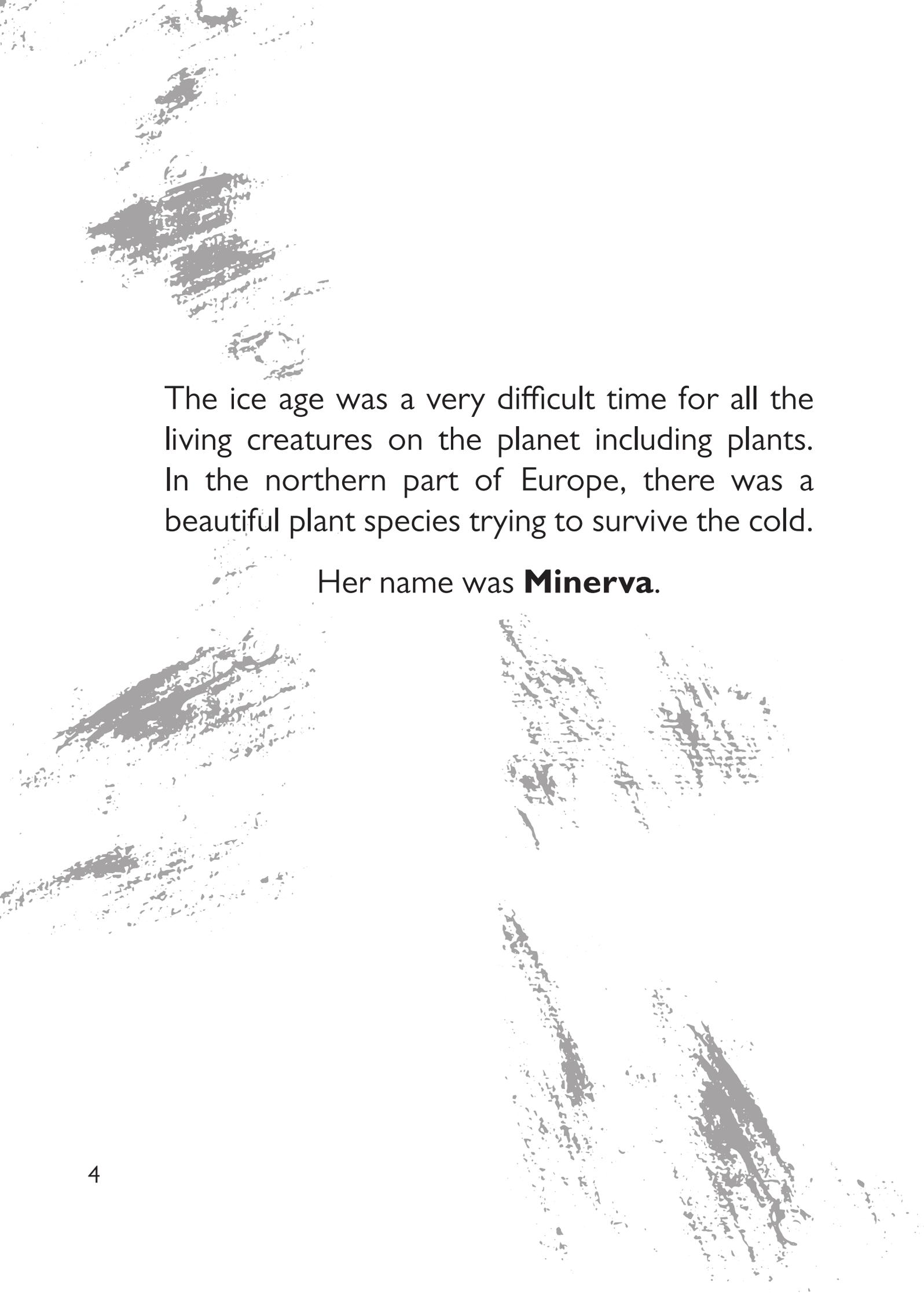


Thousands of years ago, our planet was cold, inhospitable, and covered with ice and snow.

We call it the **Ice Age**.







The ice age was a very difficult time for all the living creatures on the planet including plants. In the northern part of Europe, there was a beautiful plant species trying to survive the cold.

Her name was **Minerva**.





"Hello, my name is Minerva!"

"Great. My babies can go out into the world. And I will go on a winter rest so that I can bloom again in the spring."

Every spring, when the sun appeared, Minerva grew back from her root and bloomed. Her beautiful white flowers were waiting for bees and small beetles to come by and pollinate it. After pollination the flowers turned into capsules full of dozens of tiny seeds, tiny Minerva's baby. Her mission was completed.



Even though the Minerva was done for now, the adventures for her seeds, for her little children, just began. They had a different task: they needed a perfect place to establish and germinate.



They wandered through the snow and the ice. Ugh, how hard it was for the seeds to swim in the cold water. Or even they were blown away by the wind. Especially, the strong wind could blow them far, too far away.

So, where should the seeds start a new life?



"Let's go!"

"Moving!"

"Let's find a new home!"



"It is impossible to germinate here."

"We have to keep looking, do not worry seeds!"

"That forest is too dark."

"That water is too cold."

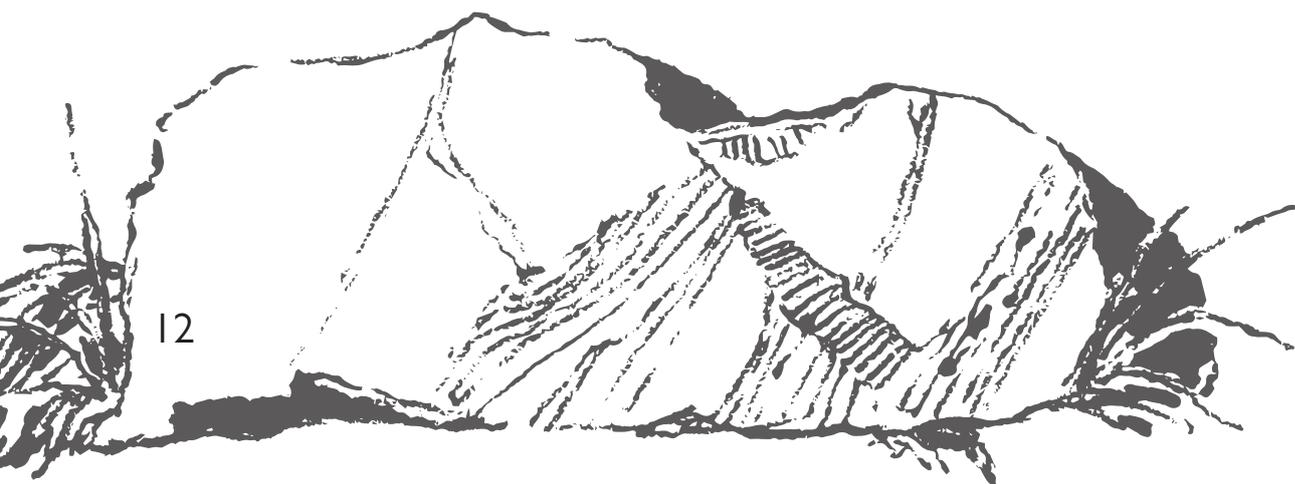
"Ah, the grass is too thick."

Some of them stayed close to their mother Minerva
but, others travelled across Europe thousands
of miles away.

The journey was long and difficult. Many years and springs
passed by. It was tricky for seeds to find a suitable place
for living.

The little seeds of the Minerva were satisfied nowhere.

One day the seeds arrived at a place full of rocks. These rocks were made of an interesting stone. This fascinating stone shines like a huge sleepy snake.





"Yes but look at those snake stones!!"

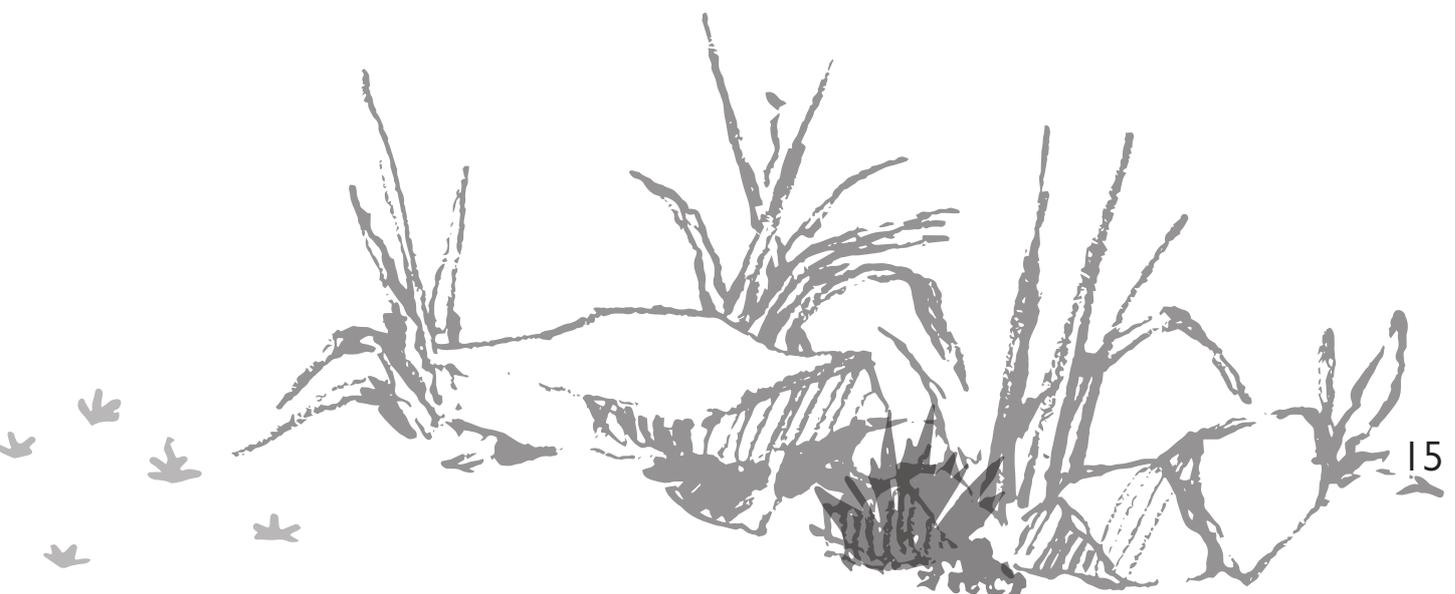
"This is a beautiful place!"

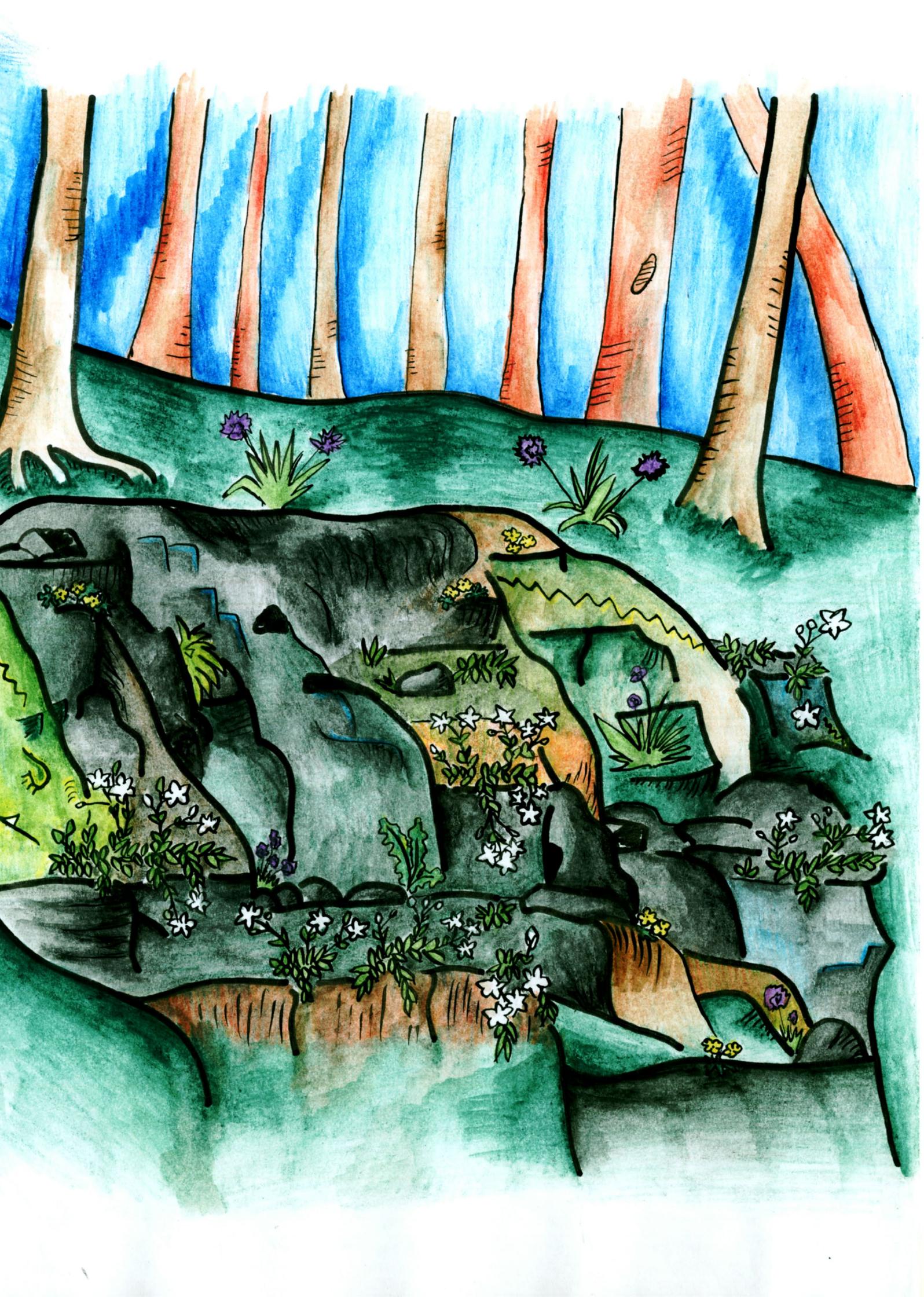
"Is it a good idea to settle here? What do you think seeds?"



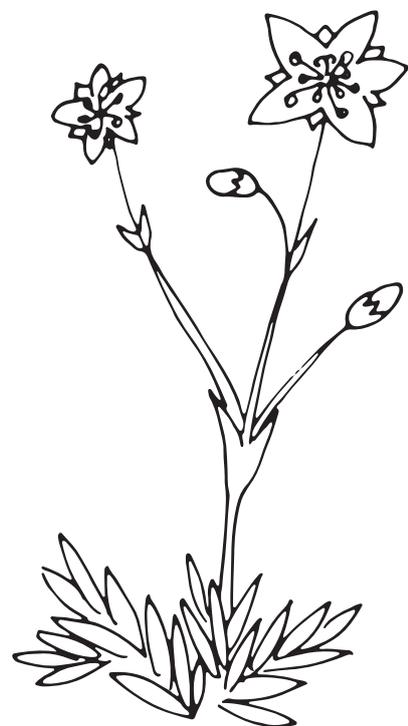
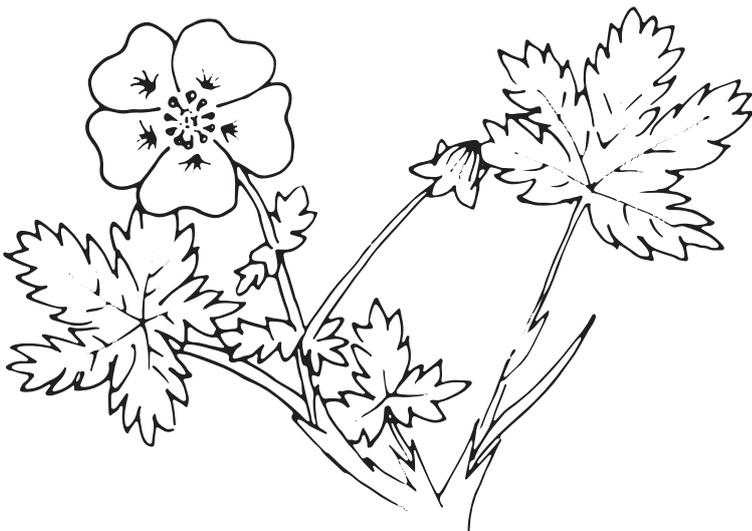
The little seeds of the Minerva plant had been traveling for a long time. They were tired and wanted to find a place to grow. They decided to stay here and try to germinate and grow on these rocks. They knew it would be hard, but they were determined.

And so, they started to grow on snake stone. They grew and grew and became the first generation of a new kind of Minerva plant. Today, we call them snake stones Minervas!”



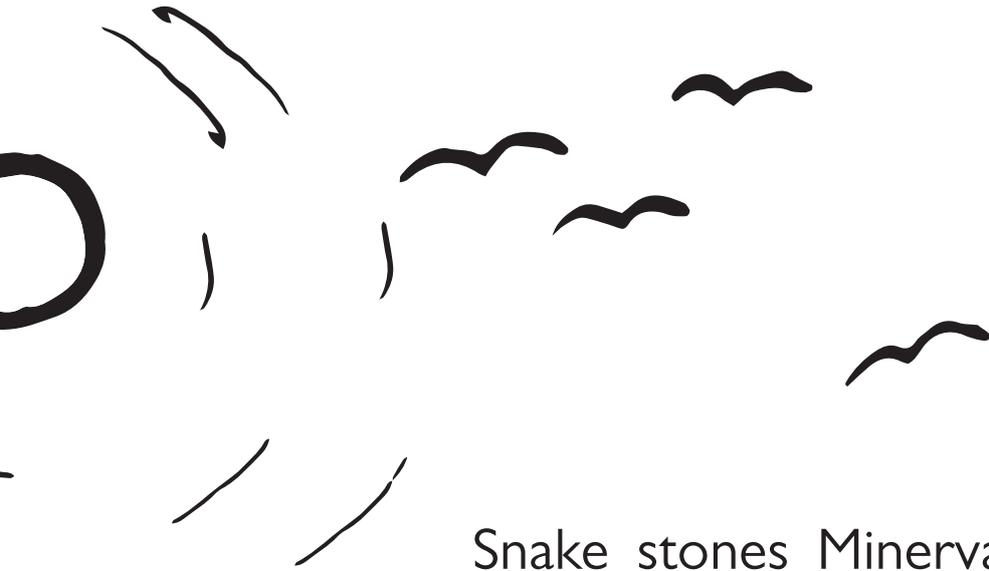


Over time, the new generations of snake stones Minervas adapted to their rugged rocky environment and even came to like it. They did not mind the cold. The lack of trees did not bother them. They even got along well with the other flowers that grew on the snake stone too.



These new snake stones Minervas were very different from their ancestors who lived in the north. Their great, great, great grandmother had leaves and stems with fuzzy gray hair to protect her from the cold and frequent frosts. But the snake stones Minervas did not need that kind of coat anymore, so they stopped using it.





Snake stones Minervas grew on stones that looked like snakeskin for hundreds of years. As time passed, the world around them began to change. The snow and ice levels lowered, and more plants and animals appeared, including humans. People started to build villages and towns in the valley, and sometimes they would graze sheep and goats on the snake rocks.



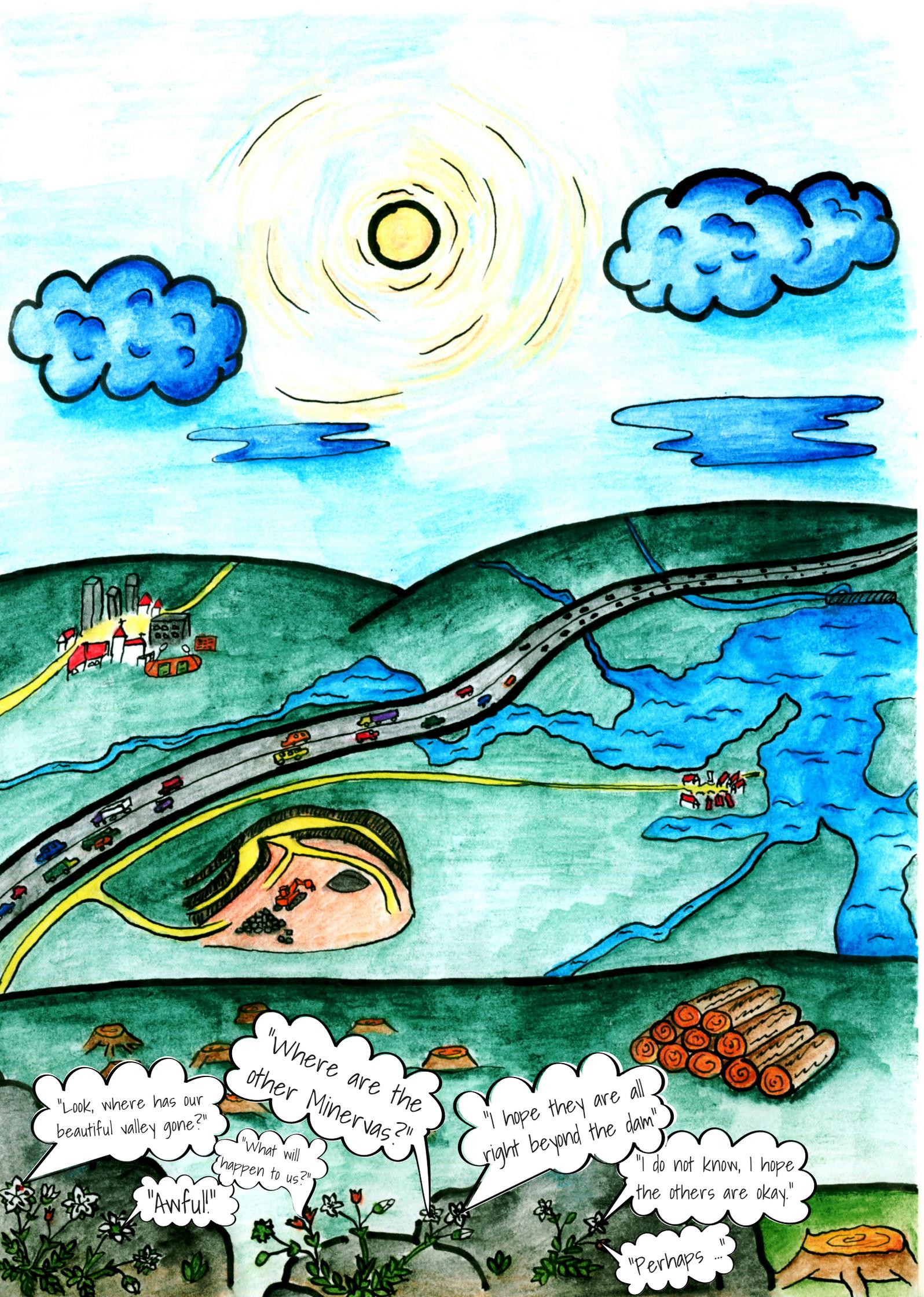




"Oh, my leaves!"

The animals liked the snake stones Minervas very much,
and they often ate these beautiful plants.

In addition, not only the animals but people like the snake stones Minervas too. They loved the pretty Minerva's flowers and wanted to have them in their own gardens. But the plants did not like being away from snake stone and did not live very long in the new places. Therefore, the large community of snake stones Minervas began to slowly shrink.



"Look, where has our beautiful valley gone?"

"Where are the other Minervas?"

"Awful!"

"What will happen to us?"

"I hope they are all right beyond the dam"

"I do not know, I hope the others are okay."

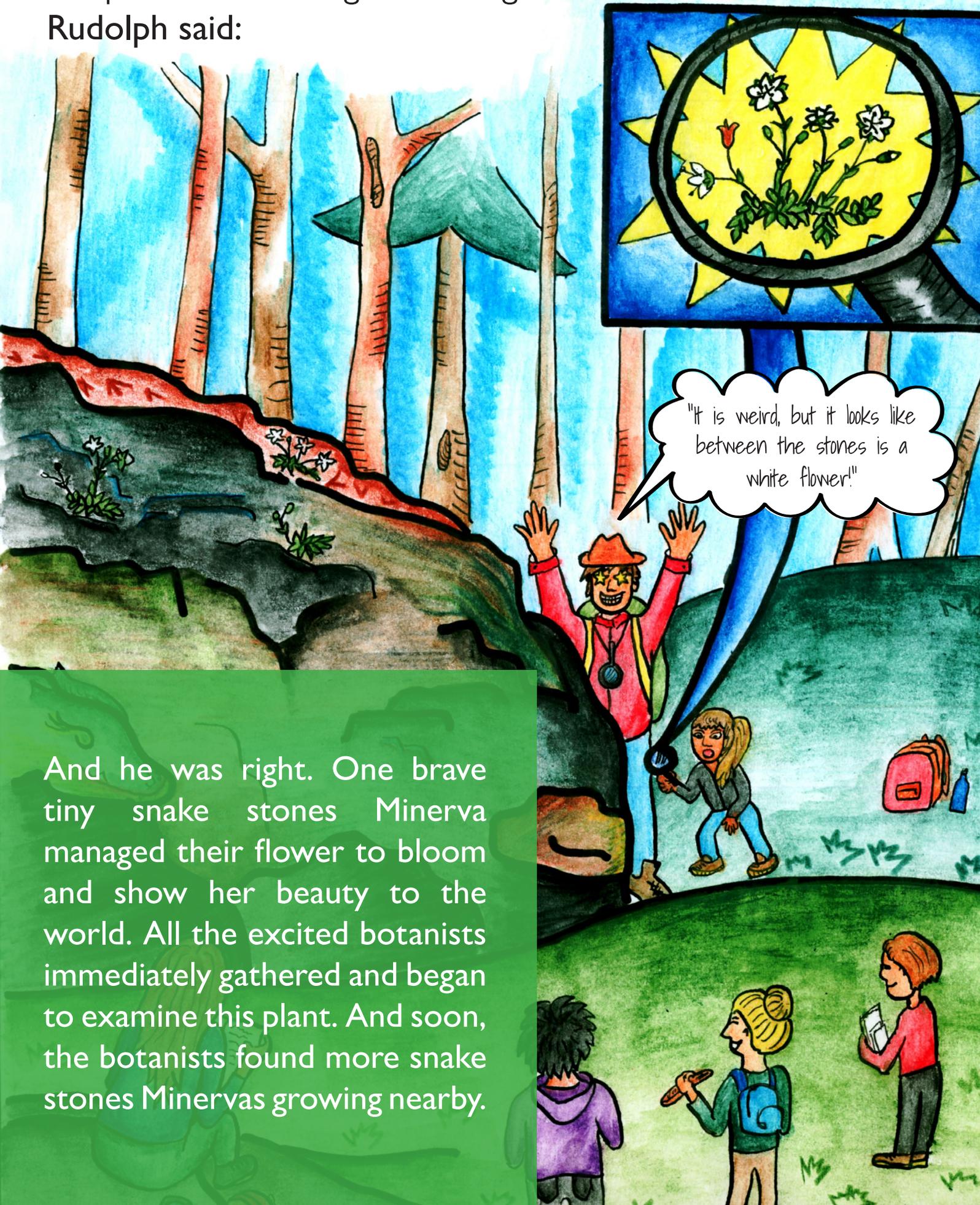
"Perhaps ..."

People even decided to build a large and noisy highway over the snake rocks so that they could move from place to place faster, and the beautiful valley where the family of snake stones Minervas lived for thousands of years was filled with water and turned into a water reservoir.

One day, when the snake stones Minervas were about to give up, feeling lost and forgotten under the dust of passing cars, they were found by chance on the rocks by humans. These people were botanists. Botanists are people who study plants. These botanists were on a trip exploring strange snake stones.

One of them was botanist Rudolph. Rudolph was a botanist who loved flowers, insects, and rare stones. He studied snake stones in his free time and was always seen wearing a sun hat, carrying a magnifying glass, and a big bag for nature treasures. Rudolph brought his daughter Elena with him on his trip to teach her about nature.

While he was having his lunch, sitting on the snake rocks, he spotted something interesting. Rudolph said:



And he was right. One brave tiny snake stones Minerva managed their flower to bloom and show her beauty to the world. All the excited botanists immediately gathered and began to examine this plant. And soon, the botanists found more snake stones Minervas growing nearby.

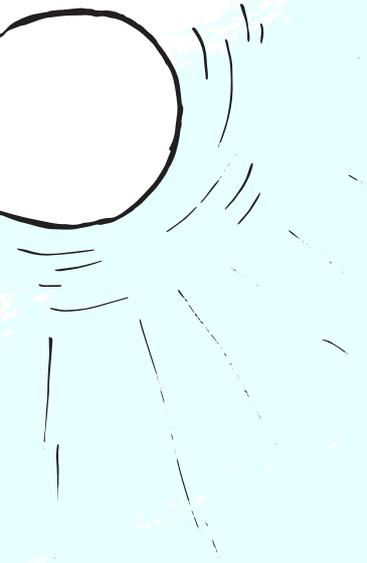
Like a miracle, the snake stones Minervas were discovered and a mission to rescue them began. Rudolph, Elena, other botanists, and people who love plants worked together to help the snake stones Minervas. But how did they do it?

With love and perseverance.

They watched the snake stones Minervas which made them grow healthy and strong. Also, they helped spread the seeds to places that were hundreds of meters apart due to the highway and the water reservoir. They also made sure no animals would harm the Minervas.

Finally, Rudolph with Elena and the botanists tried to show its beauty to the world!





Since then, snake stones Minervas have grown happily under the protection and enjoying their fame as the unique plant of its kind in the world.

What about the snake stones
Minervas now?

"From the last hidden plants, there are thousands of us friends, again! Hurrah!"

"We are a big family again and under the protection of botanists we do not have to be afraid!"



"And the animals no longer eat us."

"It is great that no one takes us to their gardens anymore, because it is hard for us to live without a snake stone."

"I am no longer afraid to bloom and attract bees, butterflies, and bugs. And hopefully we will manage to have a lot of seeds!"



Photo: Karolína Hrušková



Photo: Karolína Hrušková

Scientific note

Have you ever heard of a plant species called *Minuartia smejkalii*? It is a real plant that was the main hero of our story. The Minerva's plant only grows in the Czech Republic on a special type of ground called a "snake stone". This plant is tough and can survive in loose pine forests, rocky slopes, and rock crevices. But here is the interesting part: this plant is a glacial relict! That means that during the ice age, its seeds traveled with water and glaciers to the Czech Republic. Because of the "snake" substrate and being separated from its original population, it changed and became a new species of plant.

But now, *Minuartia smejkalii* is in danger. It is considered a critically endangered species protected by law, and it only grows in two locations in the Czech Republic. Since the 1960s, the places where it grows have been affected by humans. A water reservoir was created and flooded a part of the snake stones in their home area, and more than that, the motorway was built there too, causing more fragmentation of the area.

Luckily, the Botanical Institute of the Academy of Sciences of the Czech Republic and the Czech Association of Nature Protectors Vlašim are working hard to take care of this special plant. So, let's take care of *Minuartia smejkalii*, the unique plant warrior that overcame ice, snake stone and human destruction!

Also, Rudolph and his daughter were real people from Czech history. Rudolf Dvořák (1874-1945) was a teacher who loved learning about plants, insects, and he studied the snake stones. In the Czech Republic, he studied snake stones and the plants that grow on them.

About the author

Meet Karolína Hrušková! She is a cool lady from a small village in the Czech Republic who really loves plants! She went to a special school called Charles University to learn all about plants, and she even wrote a scientific paper about a special plant called *Minuartia smejkalii*! She spent 6 whole years studying this plant and she likes this plant very much. Because the plant is unique in the world, Karolína's goal is to inform as much as possible about this unique plant.



Photo: Martina Lokvencová

But now, Karolína has a different job. She works in a place that is all about science, but not working with plants. She helps other smart people do their science work in the physics field.

When Karolína is not working, she loves to do sports! She is good at gymnastics and helps teach other kids how to do it too as their coach. She also loves to explore nature and take care of her garden.

Even though Karolína does not study plants as much nowadays, she still hopes to learn more about them and share her knowledge with all of us. So maybe someday, you can be a cool botanist expert just like her!

These stories about endangered plants form a collection that is the final result of the project "Children's book as a strategy for plant conservation" raised from the original idea of Sissi Lozada Gobillard, to whom Karolína is very grateful for getting her involved. Karolína is also very grateful to all the other authors and illustrators of all stories, and to people from COST Action CA18201 who contributed to make the project real. The author is also grateful and would like to thank her great friend Veronika Čihulová, who illustrated this book and to all colleagues from the "Life for *Minuartia*" project. Finally, Karolína would like to thank her family and boyfriend Jakub for their support in her work and for checking the texts.

About the Illustrator

The illustrator of this book is Veronika Čihulová. She is a 22-year-old lady who loves to draw and paint. Her favorite technique is pencil drawing and acrylic painting on canvas. But this time she tried something new and that is to illustrate this book for you. She is still figuring out what she wants to do as a profession, but one thing is for sure, she loves art!



Photo: Veronika Čihulová

Veronika started drawing when she was little, and she got really good at it all by herself. Her great grandma even helped her learn how to color in coloring books for small children.

But one day, something scary happened to Veronika. She had to have an operation on her brain because of a cyst. After that, she did not feel like she can draw anymore. But then, her friend Karolína asked her to help draw pictures for this special book just for you, our readers!

This is Veronika's first-time drawing illustrations for a book, but she is super excited to share her drawings with all of you. We hope you love them as much as she loved making them.

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Snake stone and Human Destruction**

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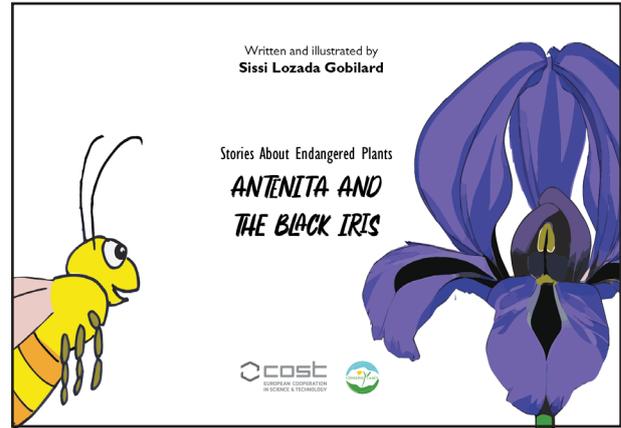
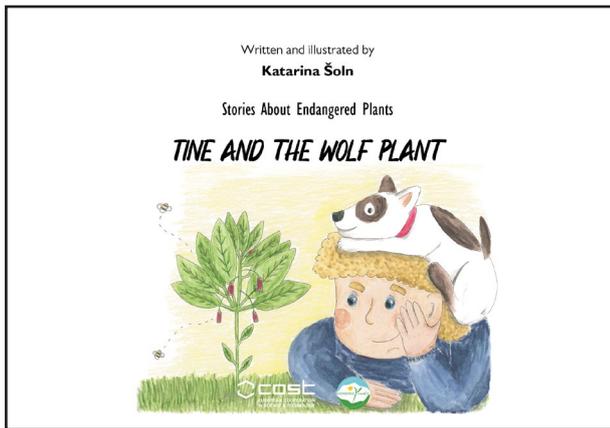


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