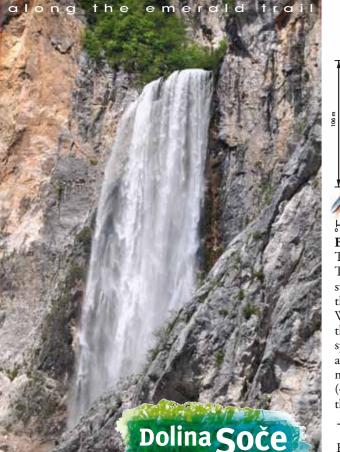


the secret trails of the Kanin karst waters

# BOKA WATERFALL



## **Bovec** Žaga

### NATURE TRAIL THE HIGHEST SLOVENE WATERFALL

The water of the Boka Waterfall arises as a karst spring at an altitude of 725m, and runs along a rocky ledge for about 20m before dropping down 106m. The second drop, with the water running down a steep slope, is 30m high (total waterfall height: 136m). What makes Boka so glorious is the sheer height of its source (altitude of main road: 362m) and the fact that water falls over the edge almost immediately after rising out of the cave.

#### How was the waterfall formed?

With its caves and vertical shafts, the area of the Kanin high karst plateau and Goričica in front of you contains the typical topographical characteristics of a karst landscape, features formed from the dissolution of limestone rock by water containing  $CO_2$ . Geologists believe that the exact position of the source is to be found where Upper Triassic limestone (above) meets a layer of dolomite rock (below). As dolomite is less permeable than limestone, it does not allow the water to flow through it, redirecting the fluid instead into a horizontal stream that leads out into the open.



Cross-section of the Boka waterfall and karst spring as well as the cave behind it The Boka water comes from an underground cave, which is completely under water in this section. The last attempt to swim across the cave and its siphons was made in the year 1996, but so far divers have only managed to explore the first 800 metres of the cave.

#### Boka is most powerful in the springtime

The Boka waterfall has a very changeable water regime. The deep snow cover lying in the winter time on the karst surface of Kanin stops the inflow of water, which causes the Boka to almost completely dry up in wintertime. With the melting of the snow at the highest positions of the Kanin mountain range in the spring-time, the karst spring and waterfall appear again. During this time and after each instance of heavy rainfall the waterfall is at its most powerful. The average annual water temperature  $(4.5^{\circ}C)$  is a result of the high position of the source and the fact that the waterfall is mostly fed by snowmelt.

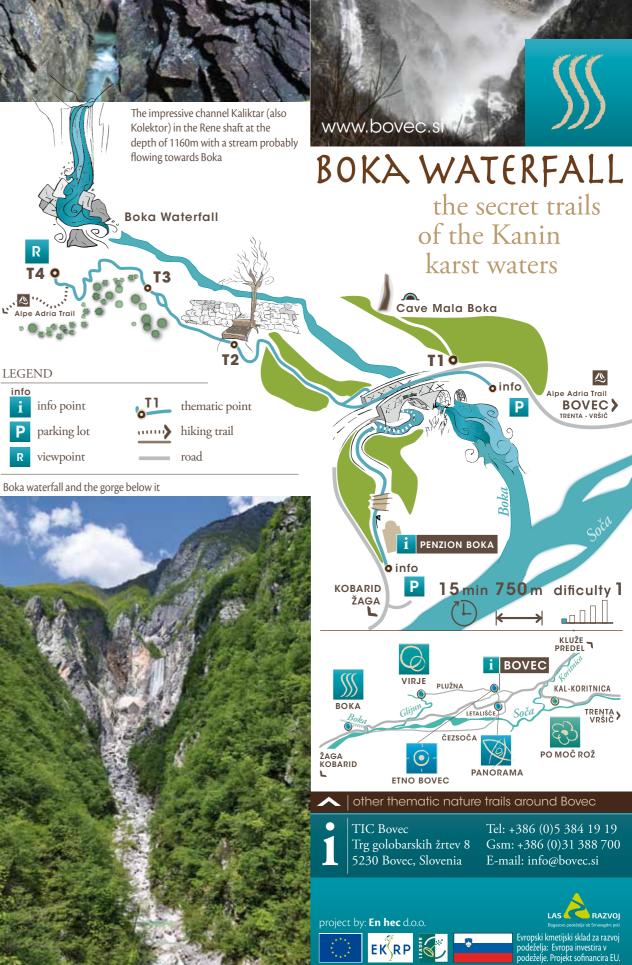
#### THE RENE SHAFT

Exploration of the ways in which water reaches the karst spring of Boka has so far been most successful in the Rene shaft just below the summit of Kanin, at a height of 2257m. It descends in several steps to a depth of 1071m, where gentler sloping passages start, which allowed cavers to discover the flow of water directed towards the Bovec basin, or the karst spring of the Boka.

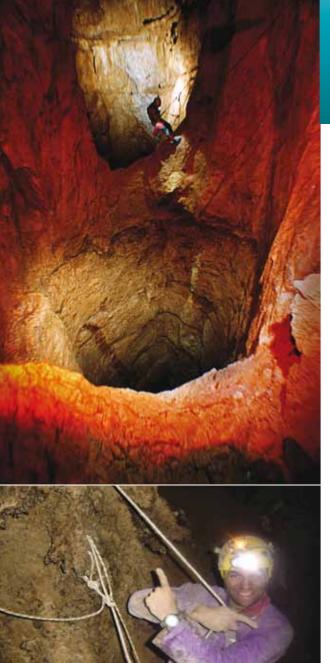
At a depth of 1238m an underwater lake of Kopakabana prevented them from moving forward. Between the 9th and 13th of November 2011 the caver and diver Matt Covington performed an extremely demanding dive in the search of the path that would bring them further.

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A caver in the Galerija dobrega upanja (Gallery of good hope) in the Cave of Mala Boka – BC4

#### THE CAVE OF MALA BOKA – BC4

A look in the direction of the Boka Waterfall reveals the entrance to the cave of Mala Boka - BC4 (Little Boka - BC4), originally called Golobja jama (Pigeon cave) or Lantornova jama (Dragon cave). It is located in a deep notch to the right of a torrential gorge at the foot of the waterfall, unusually low and close to the karst spring of Boka. The altitude difference of 1319m between its bottom (450m) and top entrances (1769m) is the second highest among similar caves in the world. Exploration of the cave system was difficult from start to finish, since it was not clear where the 8168m of discovered channels led to. In 1972, cavers from Tolmin managed to establish a passage between blocks of rocks that took them deeper into the mountain. By 1978, they had measured over 5km of tunnels that extend far and rise to a height of 1000m. In the year 2005, Polish cavers unravelled a big mystery - the fact that the 800m deep chasm BC-4 is in fact the upper part of the Mala Boka cave.

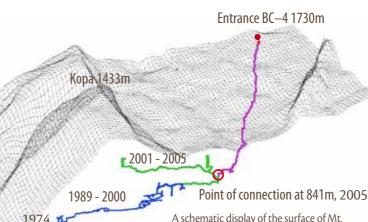
Location of the connection between the upper part of the BC–4 cave and the cave of Mala Boka in 2005.

#### THE LEGEND OF MALA BOKA

Residents of the surroundings know the story of a dragon in the cave of Mala Boka. The young Blaž Kenda explains that in the past, life on the isolated farms of the Boka Waterfall was hard. There was always a lot of work and a lack of time, so the children had to be obedient. Their parents tried to keep them close to the farms by telling them the story about a dragon living in the nearby cave of Mt. Kopa. The monster was said to have seven heads and to devastate the nearby slopes by breathing fire and stretching its long claws far to the bottom of the dry beds of the creek of Sušec. Within periods of heavy rain, this creek in fact turns into a powerful water source, almost impossible to cross.

Left: Karst spring arising from the bottom entrance into the Mala Boka – BC4 cave at high water level. Below: Illustration of the dragon of the Mala Boka





Entrance Mala Boka 433m

A schematic display of the surface of Mt. Kanin as well as the courses and connection of Mala Boka cave with the BC–4 shaft. The years of discovery and connection from the year 2005 are colour-coded.

Globina jam	A caver Jamar in the Brezno spečega dinozavra (the
> 1000 m	Sleeping Dinosaur Shaft)
▼ 500 - 1000 m ▼ 200 - 500 m ▼ 100 - 200 m	The position and depth of the chasms on the
▼ 20 - 100 m ▼ < 20 m	Slovenian side of the Kanin Mountain Range.

A caver on the Kopalnica traverse in the Mala Boka – BC4 cave

**Probable link between the Rene shaft and Boka spring** A digital model of the western part of the Kanin Mountain Range shows the entrances into some of the caves and shafts. The broken blue line indicates the probable continuation of the Rene shaft towards the source of the Boka Waterfall.

Legend: probable continuation of the Rene shaft the cave Mala Boka – BC4 (1-2) the Rene shaft (3) karst springs Ο 1 Mala Boka 2 BC – 4 3 Renejevo brezno (Rene shaft) 4 Skalarjevo brezno (Skalar shaft) 5 Brezno pod velbom 6 Češka jama (the Czech cave) 7 Vrtoglavica 8 BC 10 9 Srnica 10 Brezno spečega dinozavra (the Sleeping Dinosaur Shaft)



