



HUNGARY



ROMANIA

CROATIA

SERBIA

Krupajsko vrelo *Vrelo Mlave*
Veliko vrelo

BOSNIA & HERZEGOVINA
Perućac

Sopotnica
Vrelo Raške

Krupac-Modro oko

MONTENEGRO

Kosovo*

BULGARIA

NORTH MACEDONIA

Country	MIKAS springs	Coordinates / Nearby City	Spring discharge (Q in l/s,min/av/max) / tapped or not	Criteria* in order / Main justification */ H-historic, A-aesthetic, S-scientific, E-Economic, Ec-ecologic	Data collected by
Serbia 	1. Vrelo Mlave	N 44° 11' 29.63" E 21° 47' 1.98" Z = 321 m asl Žagubica	270/1900/16500 Not tapped, used for fishpond	S, H, E, A, Ec <i>The main source of river Mlava, and the largest karst spring in Carpathian karst of eastern Serbia. This is typical vauculian spring with deep siphon explored by divers till depth of 73m. It is most studied spring in Serbia, started by Jovan Cvijić, the founder of karstology, who conducted here his first explorations (1889-1896), including measuring of lake and siphon depths by cannon ball. Mlava karst aquifer contains large reserves stored in deeper aquifer sections and has great potential for possible engineering interventions for regulating its minimal flows. Spring with clean blue water is located under limestone cliff surrounded by big trees. Entire catchment belongs to natural reserve area – National Park Kučaj-Beljanica.</i>	Zoran Stevanović
	2. Perućac	N 43°57'17.11" E 19°25'35.77" Z= 254 m asl Perućac, Bajina Bašta	450/1500/9800 Not tapped used for fishpond	S, A, E, Ec <i>Vrelo Perućac, gravity spring located in the foothill of Tara Mt. is one of the largest springs in the Dinaric karst of western Serbia. From the point of emergence masked by thick rock debris the spring forms a stream that empties into the Drina River via beautiful waterfall formed on travertine deposits. The stream is only 365 m long and been named the Godina (Year) River. Perućac spring was studied for building underground dam and utilize its storage capacity for energy production. Spring supports Drina River baseflow, downstream of Bajina Bašta dam and reservoir. Vrelo Perućac is situated at the northern edge Tara National Park, Drina River canyon is inscribed into list of geoheritage protected sites of Serbia.</i>	Zoran Stevanović
	3. Vrelo Raške	N 43° 6'54.10" E 20°22'35.82" Z = 713-733 masl Novi Pazar	920/2500/4280 Group of springs: The main is tapped for water supply of Novi Pazar	S, E, Ec, A <i>The largest spring in Dinaric karst of Serbia concerning its minimal discharge. It drains the Pešter Plateau the major karstic polje in Serbian part of Dinaric karst. The polje and its margins are highly karstified and characterized by many dolines (sinkholes), ponors (swallow holes) and caves. Vrelo Raške provides potable water to about 100.000 citizens of Novi Pazar municipality. Spring's overflow is diverted to small HE Power Plant. Raška River which is originating at Vrelo Raške is one of major rivers in SW Serbia. Spring, cave system and surrounding area with Medieval</i>	Zoran Stevanović

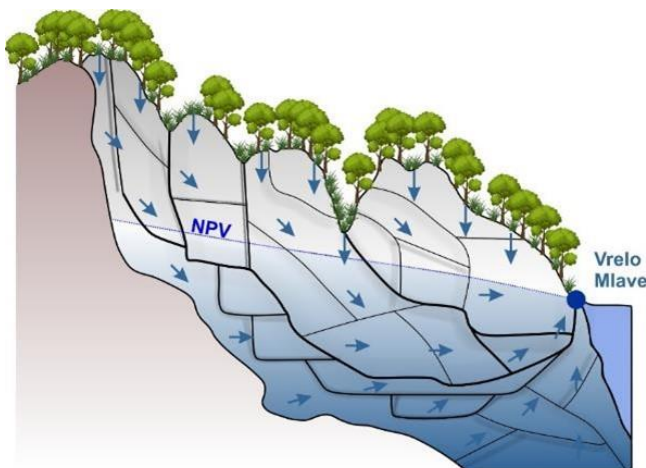
				<p><i>Sopoćani Monastery (XIII Ct., inscribed in the UNESCO cultural heritage list) represent frequently visited touristic area.</i></p>	
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MIKAS - Vrelo Mlave

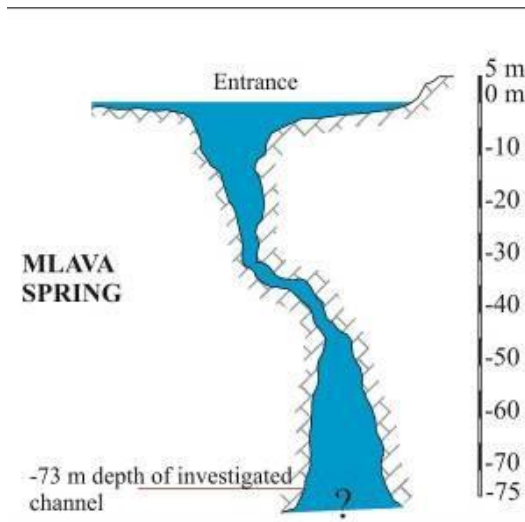
Photos by Zoran Stevanović



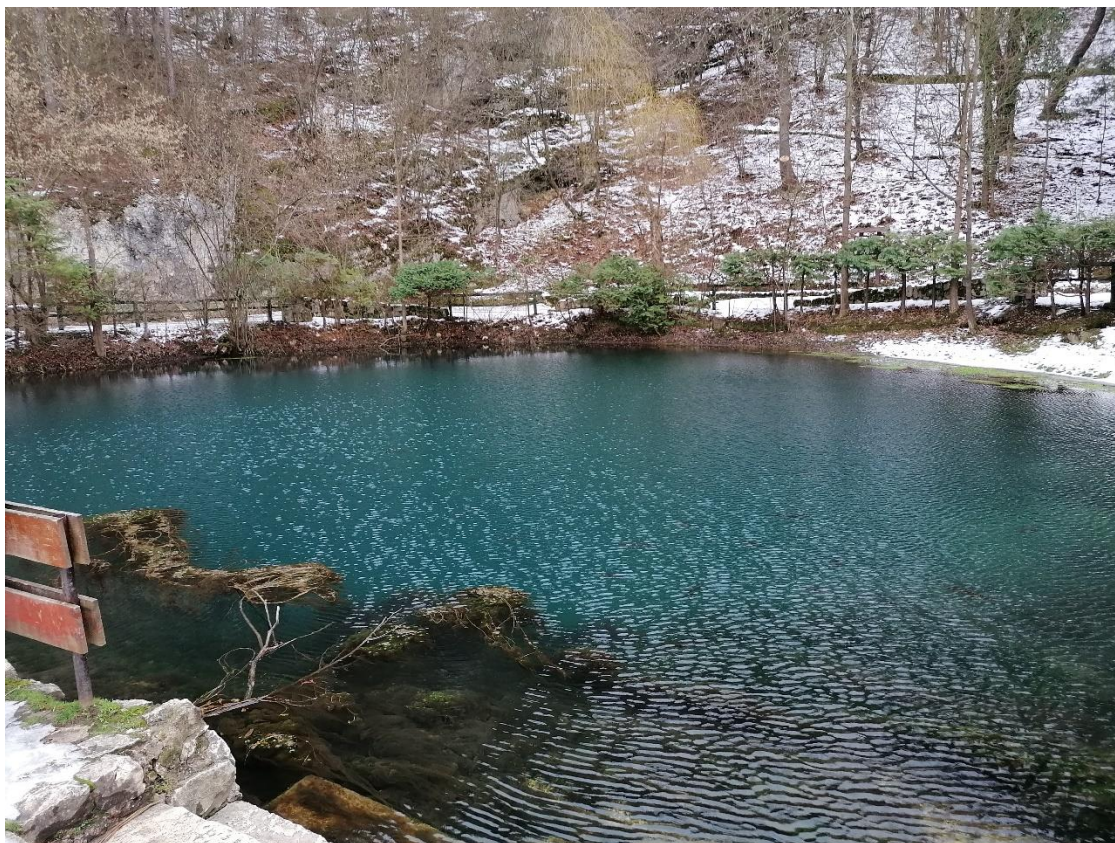
Vrelo Mlave spring (summer)



Schematic cross section (after Vasić, 2017)



Vrelo Mlave, siphon section (Milanović, 2010)



Vrelo Mlave spring (winter)

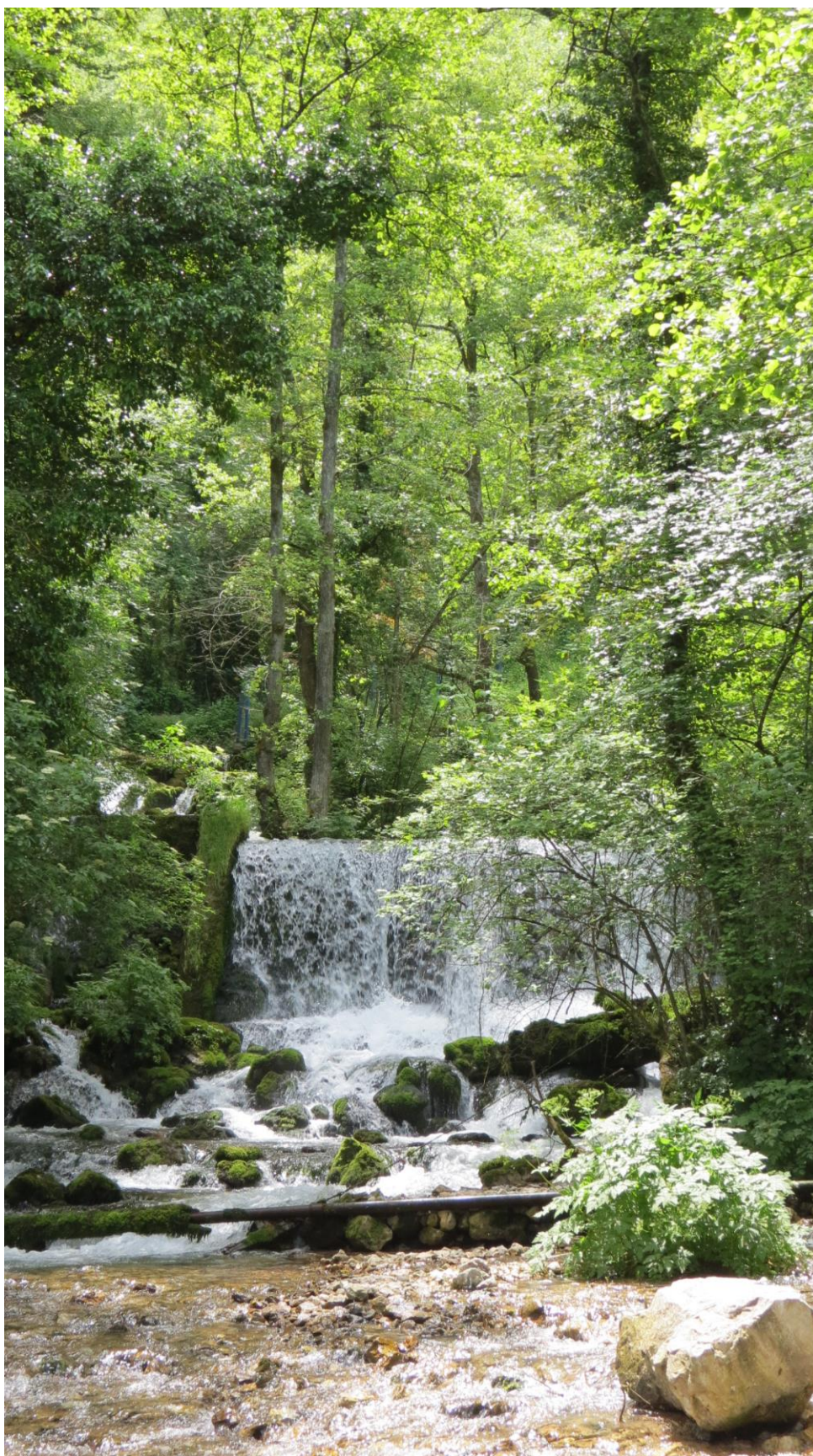


Vrelo Mlave, panoramic view

MIKAS - Perućac (Perućačko vrelo)



Perućac spring waterfall at the mouth to Drina River (<https://tara.rs/sr/perucac-odmor-pored-jezera-i-reke-drine/>)

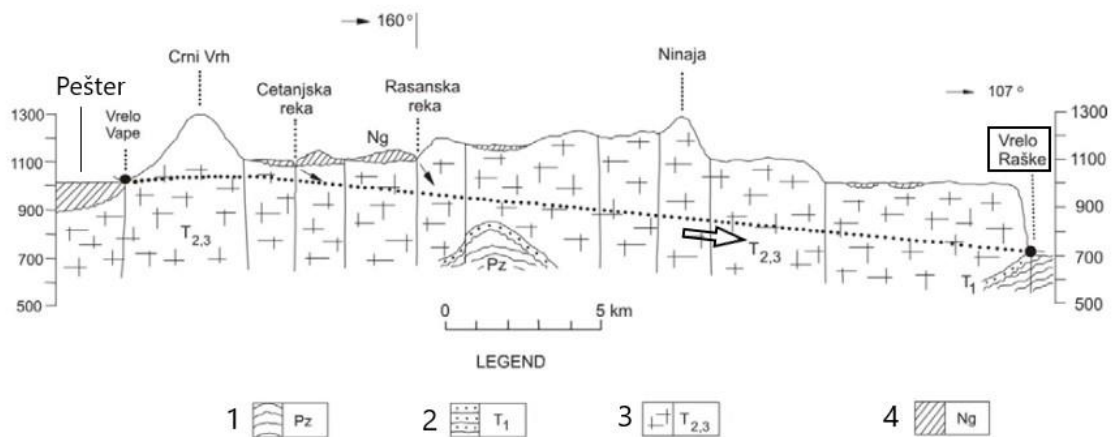


Perućac karst spring (photo by Z. Stevanović)

MIKAS - Vrelo Raške



Intake and overflow of the Vrelo Raške (Photo Z. Stevanović)



Schematic cross-section Pešter – Vrelo Raške. Legend: 1. Paleozoic schists, 2. Clastic rocks of Lower Triassic age, 3. Middle and Upper Triassic limestones, karst aquifer, 4. Neogene deposits (after Ristic Vakanjac et al. 2014)



Entrance of the cave with upper flow of Vrelo Raške (Photo Z. Stevanović)



Ponor Boroštice – one of several ponors (swallow holes) at the Pešter karst polje (Photo Z. Stevanović)