THE HISTORY OF GEOPARKS IN ROMANIA

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The European Geoparks Network today

The Network consists of 94 Geoparks in 28 European countries (February 2022)
www.europeangeoparks.org

June 2000
4 geoparks in Europe

November 2022
94 geoparks
in
28 European countries

10 July 2023
195 UNESCO geoparks
in
48 countries worldwide

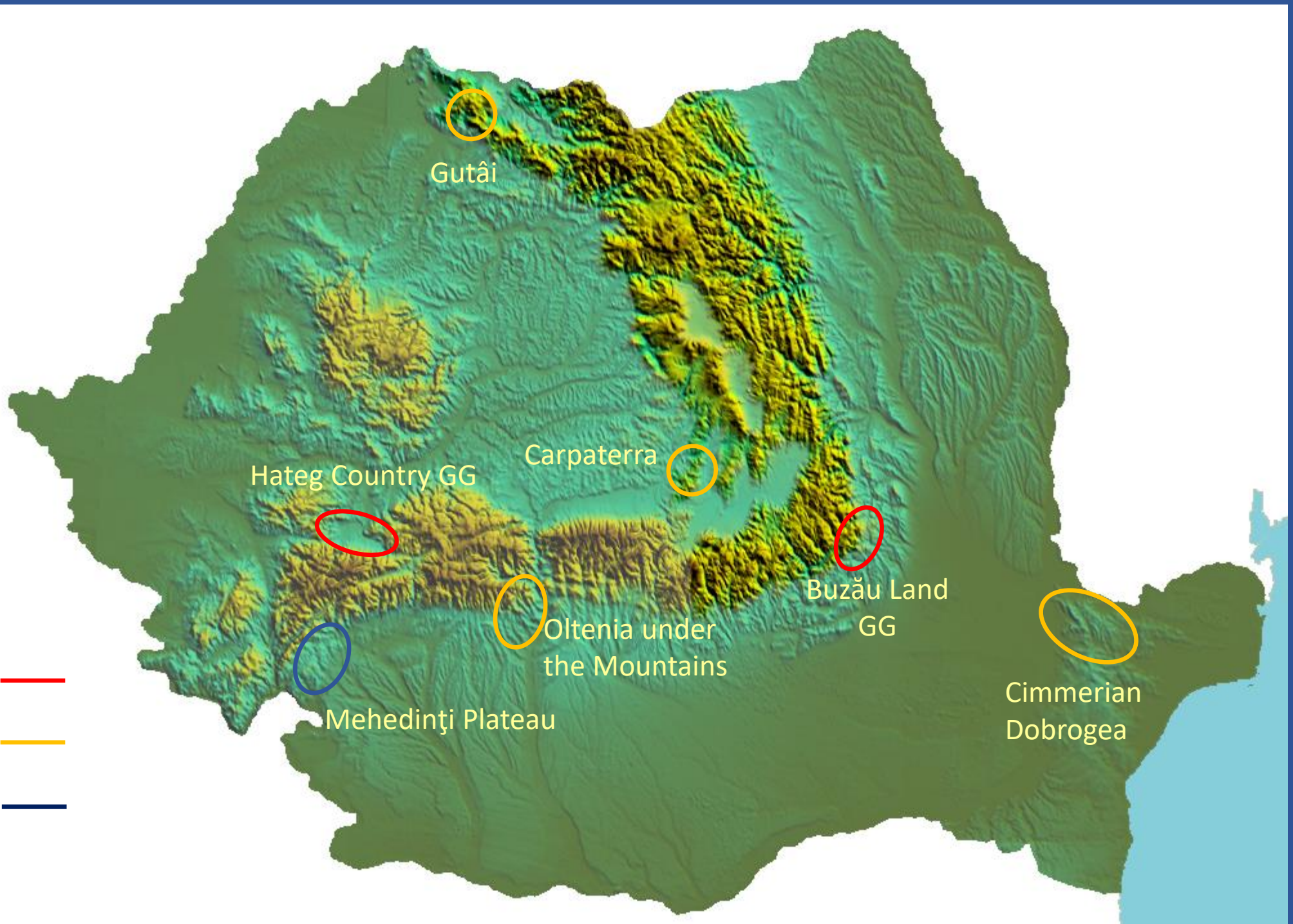
Creation of the European Geoparks Network

ProGEO 1998 meeting in Belogradchik, Bulgaria

Bill Wimbledon informed on GEOSITES – an international collaborative initiative of IUGS

Geosites and Geoparks – a new project initiated by UNESCO and IUGS was presented and discussed in a special workshop at ProGEO ‘98

Geoparks in Romania



UNESCO Geopark
Aspiring Geopark & Geopark initiative
National Geopark (natural park statute)

Haţeg Country UNESCO Global Geopark

Balaur bondoc
life size reconstruction by Canadian artist Brian Cooley

- **2001** – Geopark established as Haţeg Country Dinosaur Geopark, based on world famous fossil fauna of dwarf dinosaurs
- launched as grass root efforts, coordinated by the University of Bucharest
- **2005** – joined the EGN
- management and funding ensured by the University of Bucharest – team of 6 people
- **2018** – accepted in the GGN as Haţeg Country UNESCO Global Geopark

Places to visit in the Haţeg Country UNESCO Global Geopark

12 localities
35.000 inhabitants
110.000 ha

Geological heritage

Pui geosite

Continental deposits with dinosaur and micromammal remains

Reptilian paleofauna at Tuştea

A paleontological reserve with dinosaur egg clutches

1877 - 1933

Baron Ferencz Nopcsa von Felső-Szilvás

discoverer of the dwarf dinosaurs

Born in Deva, Transylvania (Austro-Hungarian Empire)

Studied geology and took his PhD at the University of Vienna

Spy for Austria-Hungary in the first world war

Lost all his posessions after the war

Head of the Geological Institute in Budapest in 1925

Established in Vienna

Sold his dinosaur fossil collection to the Natural History Museum in London

Father of paleobiology (palaeophysiology)

Author of the theory of cursorial origin of flight – birds evolved from land-dwelling dinosaurs

Author of the theory of insular dwarfism or the island rule

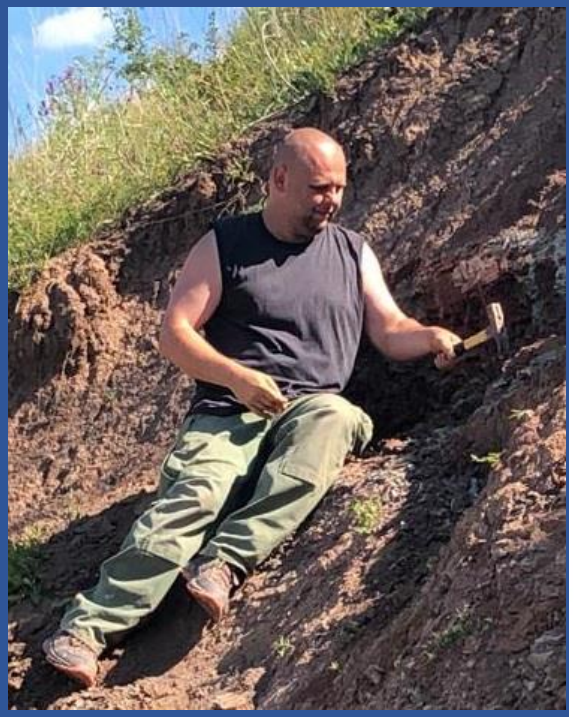
Theory of sexual dimorphism in dinosaurs, published in 1926

Baron Franz Nopcsa von Felső-Szilvás

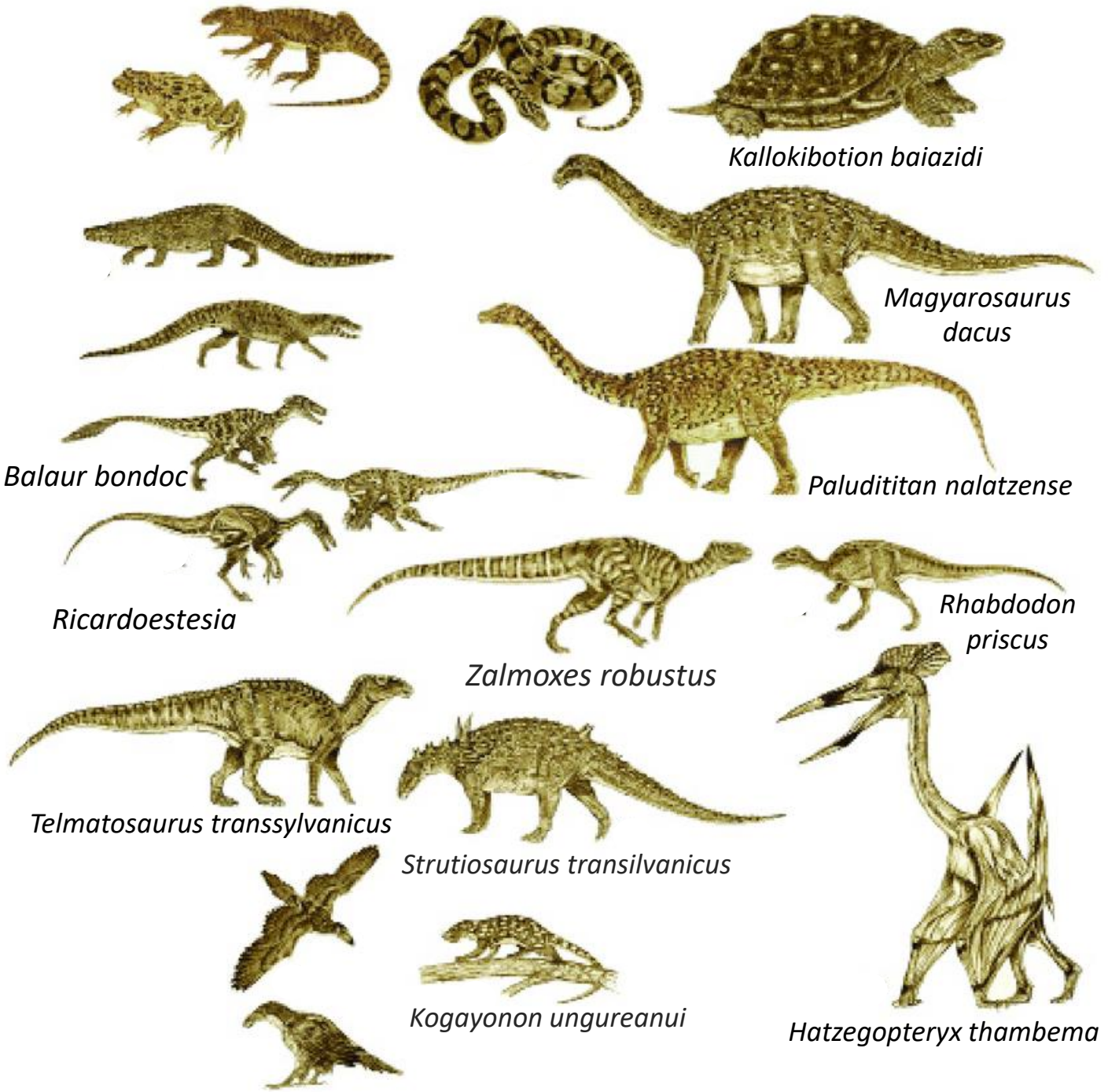
1877 - 1933

Ferencz Nopcsa discovered the new sauropod species, *Titanosaurus dacus*, but Friedrich von Huene realized it was also a new genus, renaming it *Magyarosaurus dacus,* in honour of Nopcsa who was Hungarian

Haţeg island fauna



Jakub Kowalski reconstructions
on display at the *School of crafts and dinosaurs* in village Sânpetru



The Haţeg fauna was dominated by herbivore dinosaurs – sauropods, ornithopods and hadrosaurids

Predators were small-sized theropods

Top predator – a flying reptile, *Hatzegopteryx*

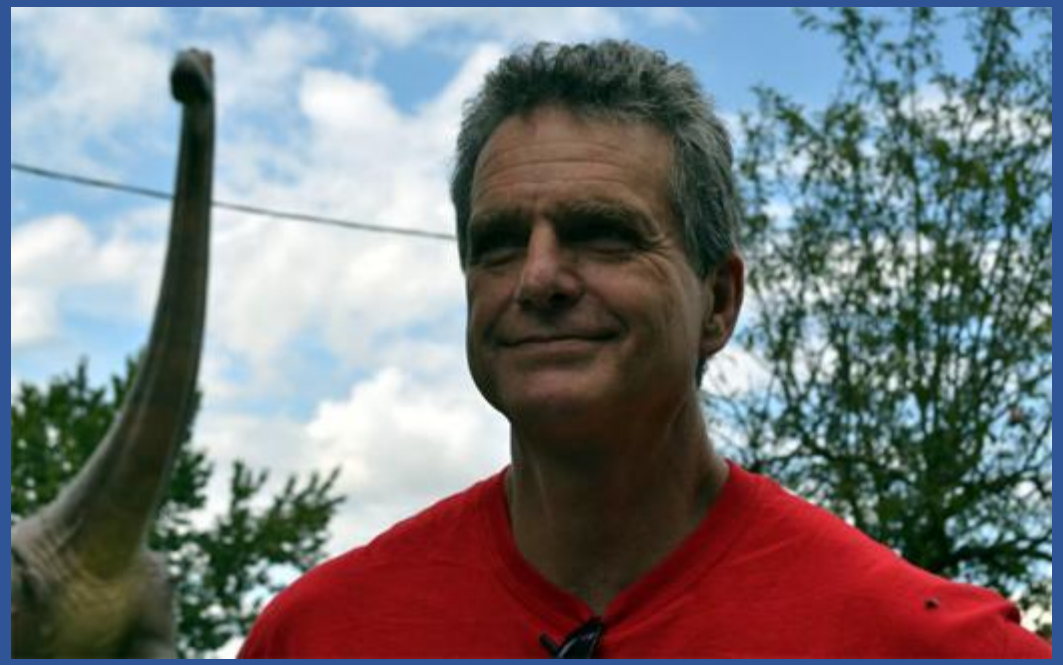
Dinosaurs coexisted with turtles, primitive crocodilians, snakes, birds, fishes, frogs and multituberculate mammals

Real size museum quality dinosaur reconstructions of Brian Cooley

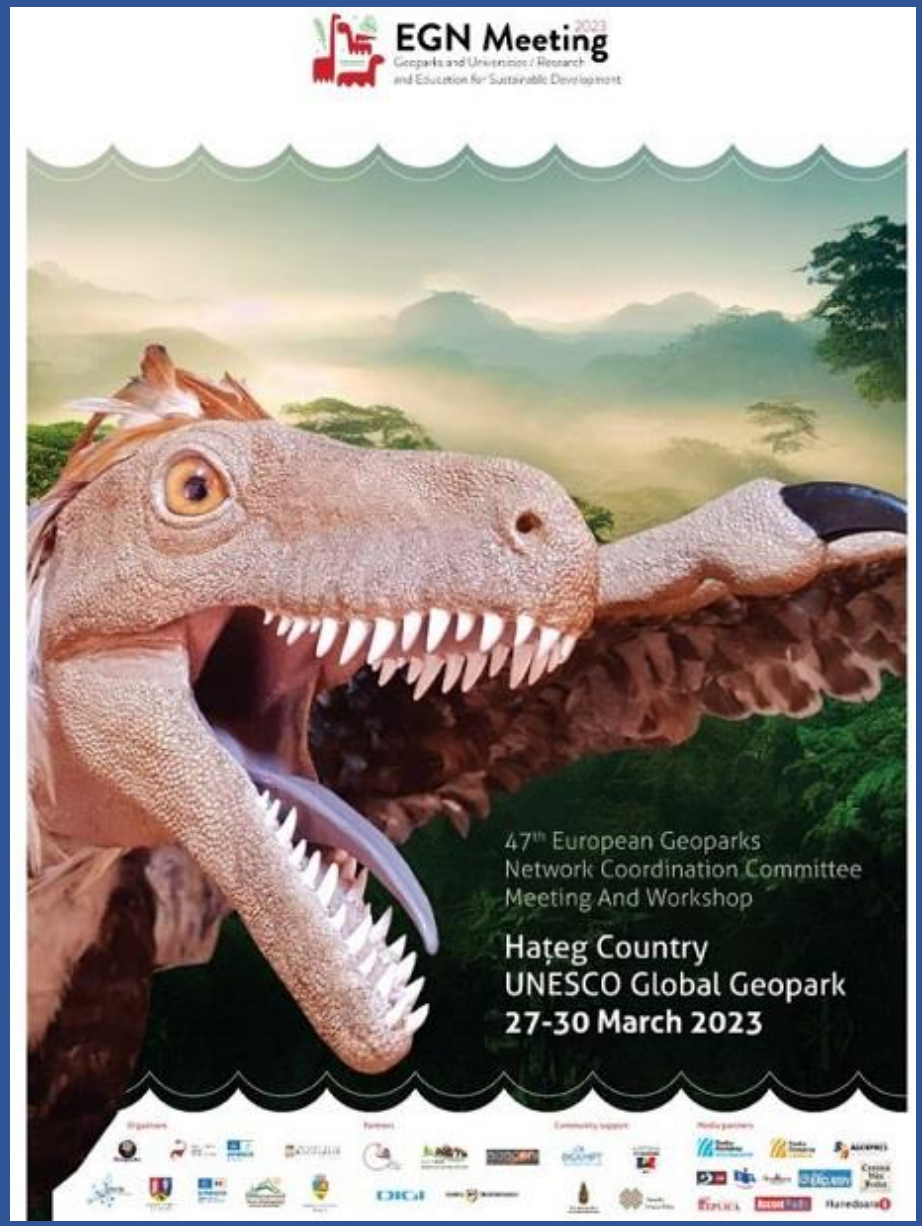
Geopark volunteers at the EGN2023 meeting in Haţeg

Local Geopark coordinator Cristian Ciobanu

Using dinosaur sculptures for Geopark events



Canadian sculptor Brian Cooley

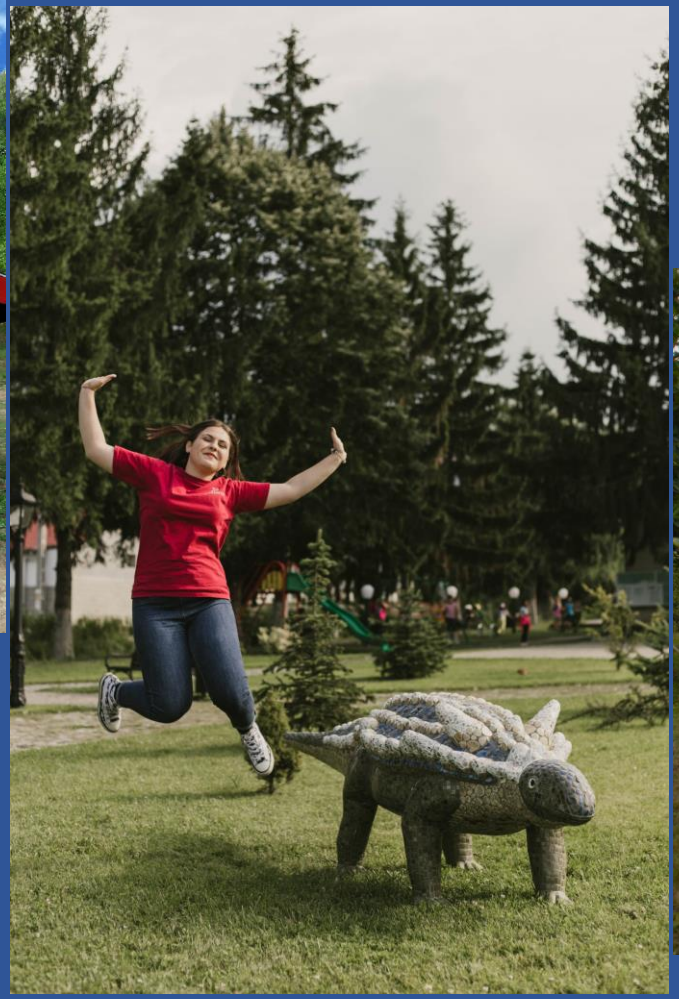


The real size, museum quality dinosaur reconstructions of Brian Cooley are used to various activities and events in the Geopark area

Haţeg Geopark – main concepts

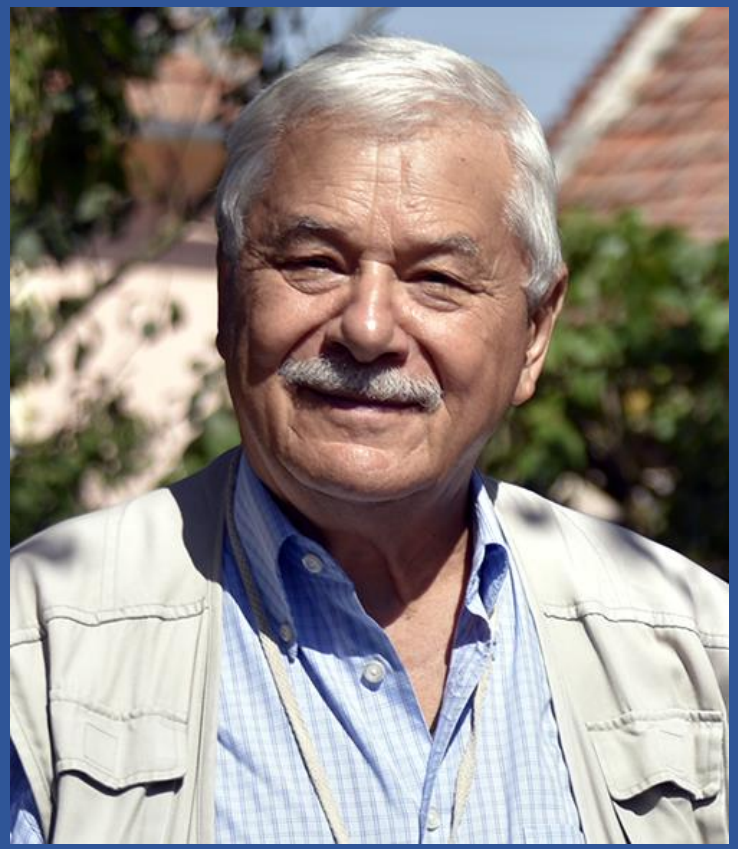
Geopark houses

Dinostops



Geopark Ambassadors

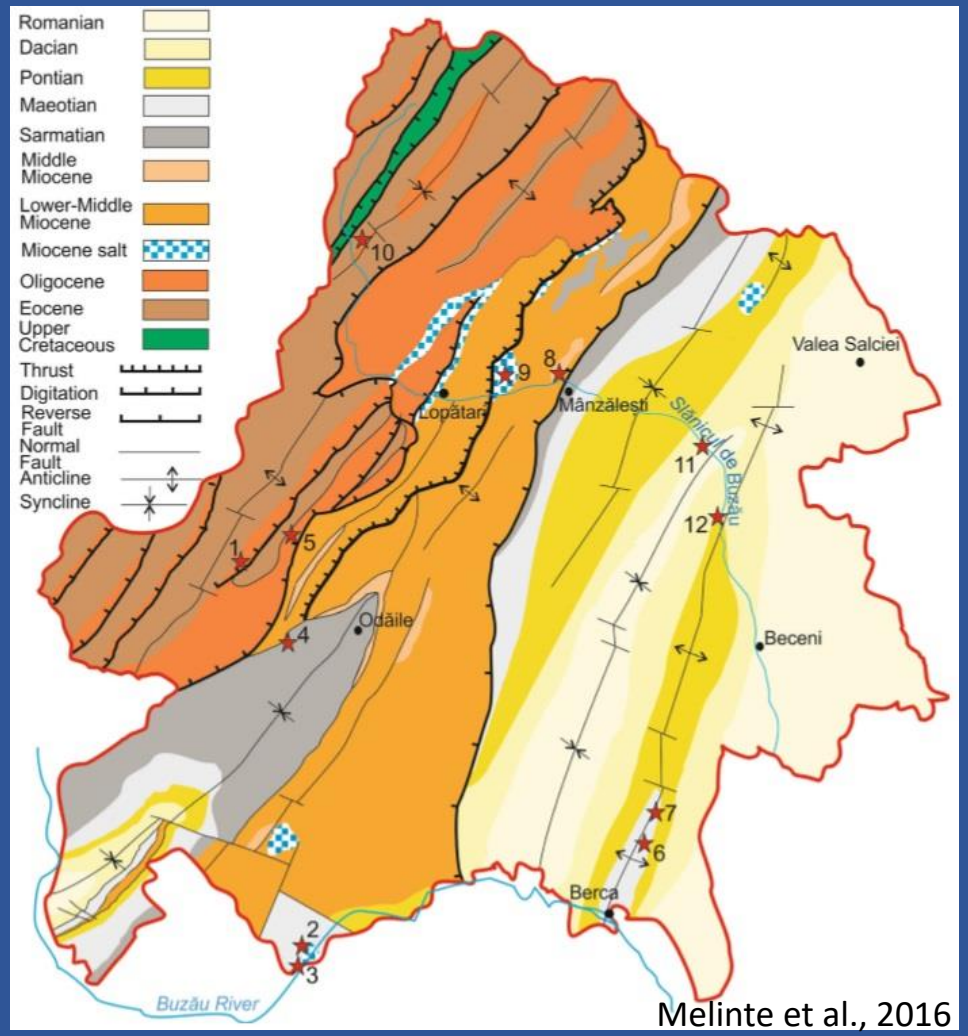
Haţeg Country Geopark initiators



Prof. Dan Grigorescu
Director of the HCDG 2001-2013

Dr. Alexandru Andrăşanu
Director of HCGG – 2013-present
President – Romanian Geoparks Forum

Buzău Land UNESCO Geopark



Melinte et al., 2016

Geological map showing main geosites

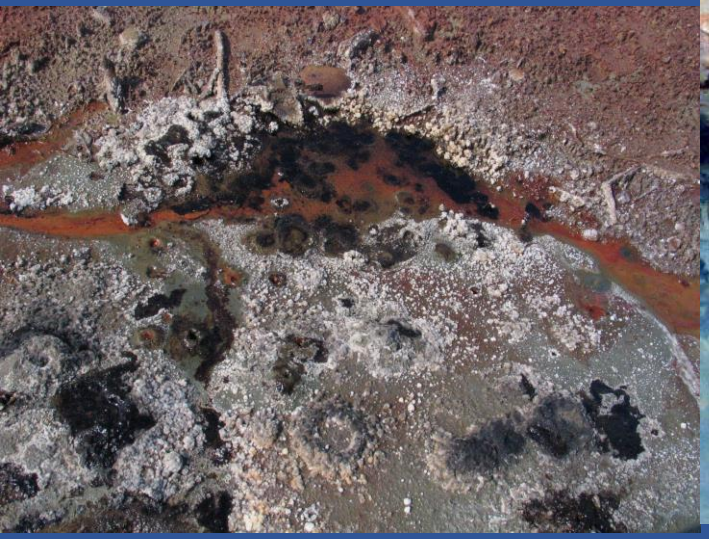
- **2007** – the geopark project is launched by the Buzău County Council and the University of Bucharest
- **2010** – the County Council accepts the geopark's strategy, developed by the University of Bucharest after multidisciplinary studies and public debates
- **2014-2017** – the GeoSust project, funded through EEA Grants, has set the management objectives and the Buzău Land Association as management body
- Funding is ensured by the County Council within a renewed partnership with the University of Bucharest, as well as through various smaller projects
- **2022** – the Buzău Land becames member of the UNESCO Global Geoparks Network

Nature reserves

Pâclele Mari mud volcanoes, nature reserve

Pâclele Mici mud volcanoes nature reserve

Geoheritage and geosites



Sulphur springs, Păcuri

Mineral springs, Fişici

Petroleum seeps, Păcuri

Everlasting fire, Terca

Geoheritage and geosites

Amber, variety Rumanit
Amber Museum, Colţi

Sandstone concretions
Babele – old ladies – from Ulmet geosite

Nature reserves and geosites

Salt mountains, salt canyons and salty creeks
Meledic Plateau nature reserve

Salt spring, Căneşti

Nature monuments and geosites

Miocene volcanic ash
Nature monument White Stone La Grunj

Stratotypes of Dacian and Romanian stages and various fossil sites

Small museums created by the Geopark team

Time of Man Museum

7 Fairytale Places Museum

https://tinutulbuzaului.org/despre-noi

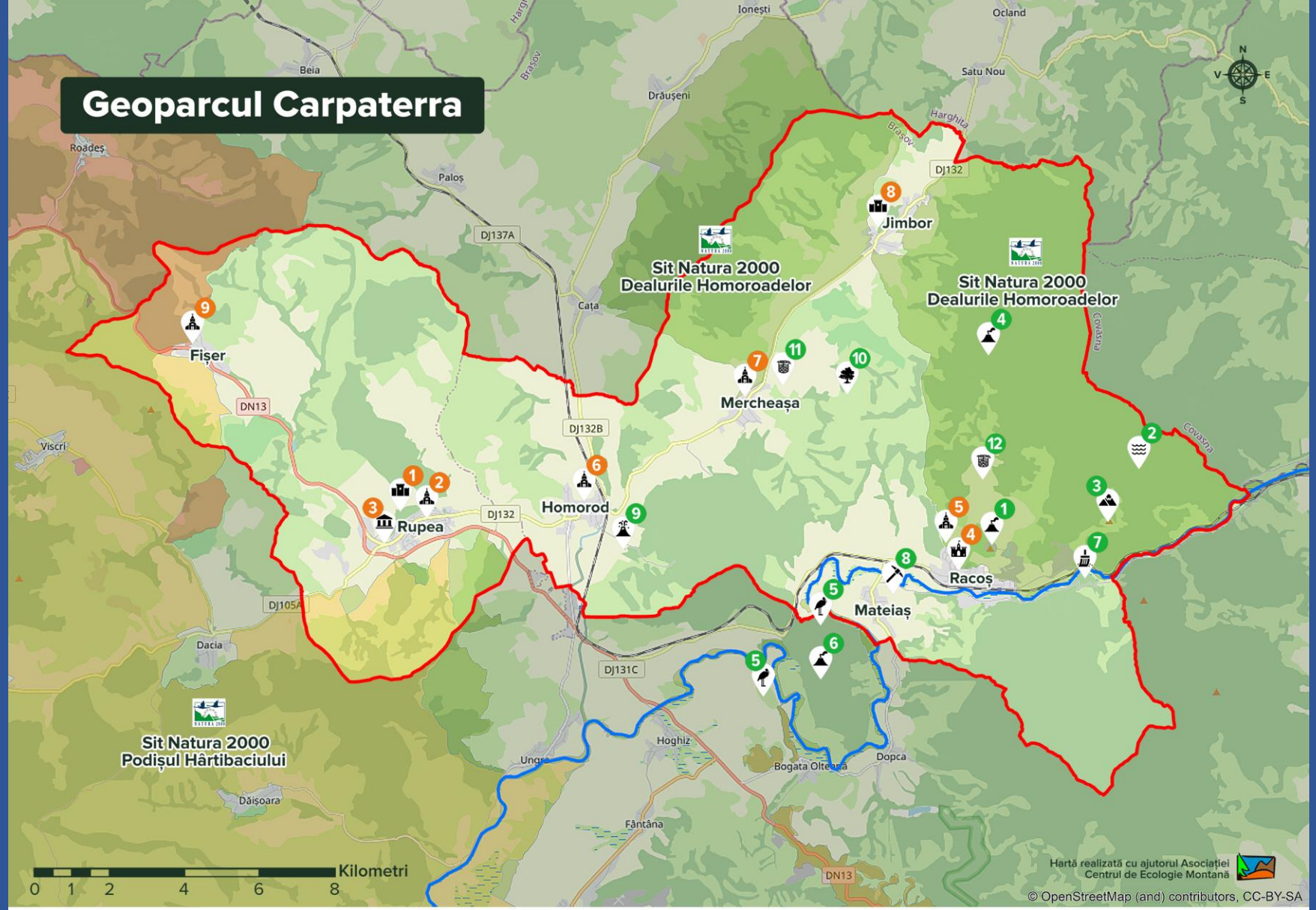
Management team – 6 people

Dr. Răzvan Gabriel Popa

Dr. Alexandru Andrăşanu

Alice Popa

https://tinutulbuzaului.org/despre-noi

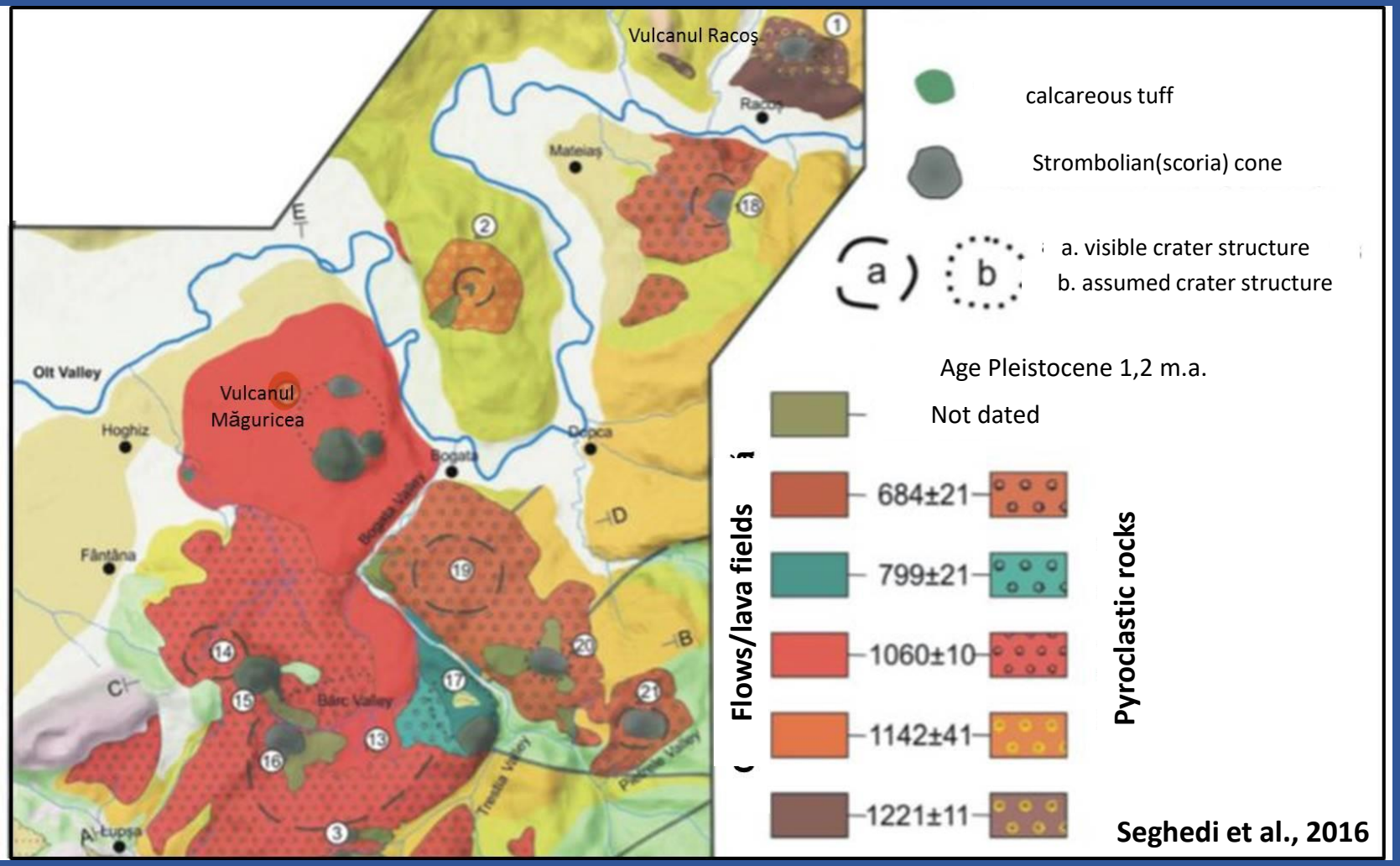


Carpaterra Geopark

- **2008** – initiated as the Perşani Geopark project

  Initiator: Perşani Geopark Association
- **?2015** – becomes Carpaterra Geopark, with a territory reduced subsequently to four mayoralties
- managed by a partnership between NGOs, mayoralties and educational entities
- successful educational, tourism and promotion projects
- **2023** – mature geopark, preparing its application for UNESCO

Volcanological map of the Perşani Mountains Volcanic Field



Maar type volcanism, 1,2 m.a.

- Initial phreato-magmatic phase
- Strombolian phase
- Effusive phase
- Minor intrusive phase

Racoş volcano

Lava flows

Pyroclastic deposits

Strombolian cone

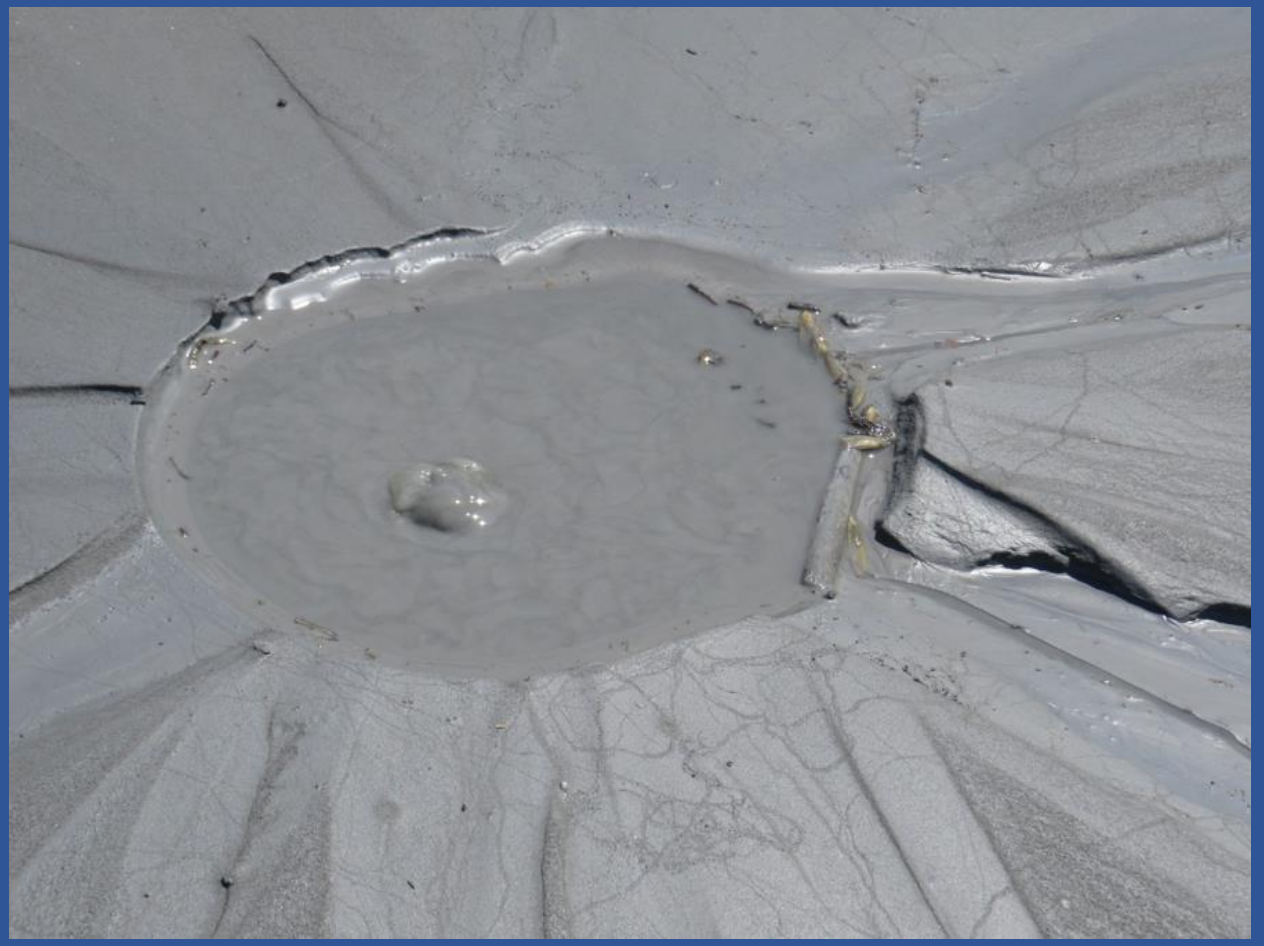
Geoheritage of Carpaterra Geopark

Racoş volcano

Racoşul de Sus geological complex – geological reserve

Nature monuments

The basalt columns at Racoş



Mud volcanoes at Băile Homorodului

Nature monuments

Basaltic cliff at Rupea

Large block from a debris avalanche of the Neogene-Quaternary volcanic chain in the East Carpathians

The Stone Day at Racoş volcano, 2022

http://www.carpaterra.org/ro

Microfest at Hoghiz microcanyon, 2022

Activities for children and concerts

www.carpaterra.org

Management and participation in exhibitions and fairs

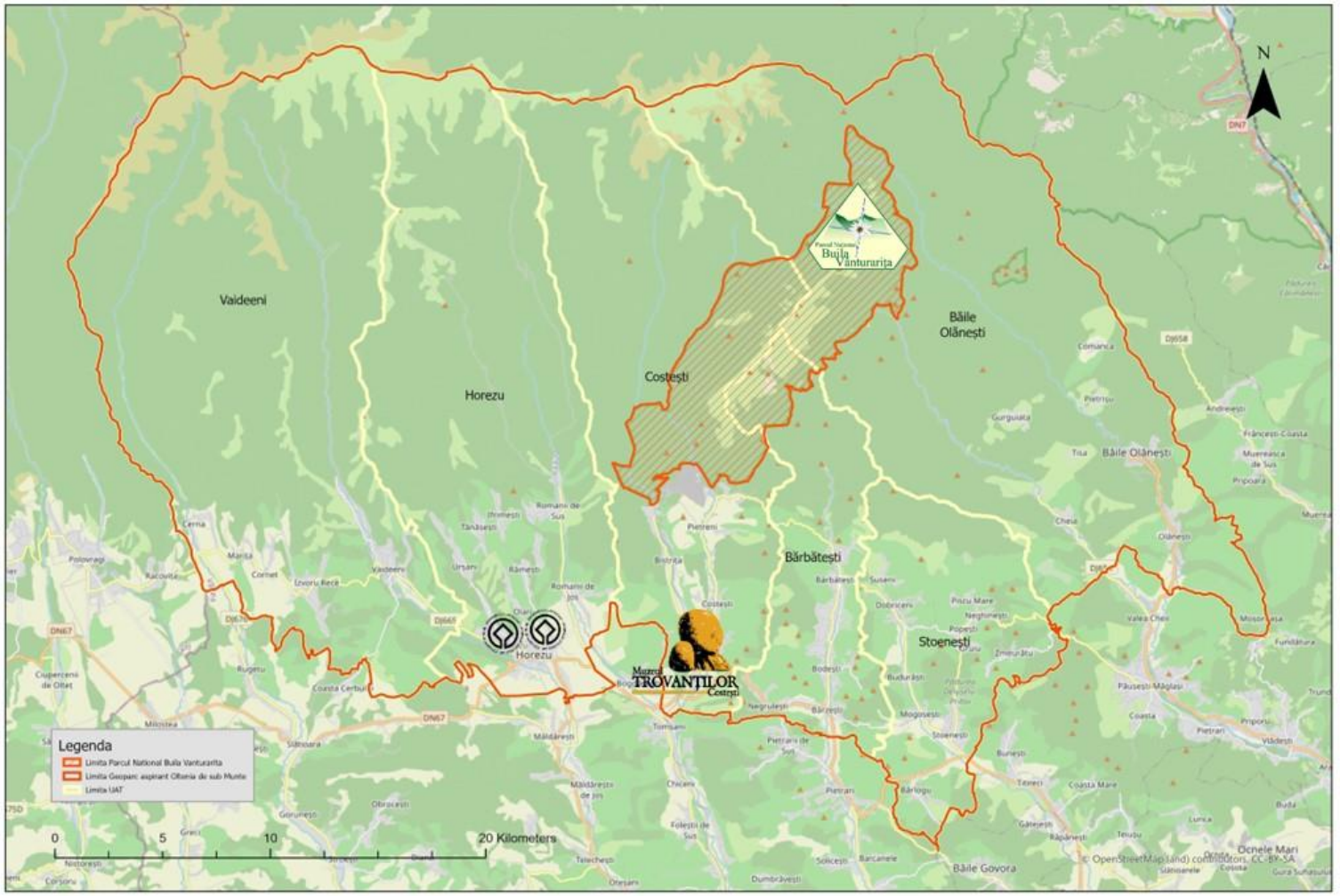
Cătălin Cantor – director of the Geopark

Tourism Fair 2022

Oltenia under the Mountain Geopark

OLTENIA DE SUB MUNTE
GEOPARC ASPIRANT UNESCO

- 635 kmp,
- 6 localități,
- 24.000 locuitori
- +33.000 locuitori în
- 11 localităţi din jur



Rezultate sondaj ianuarie 2023

- **2018** – started as an NGO initiative
- advanced in terms of heritage inventory, infrastructure, development strategy and management
- application dossier to UNESCO delayed due to misunderstandings with some local mayoralties

https://www.facebook.com/GeoparcOlteniaDeSubMunte

Geoheritage and geosites

Buila-Vânturariţa crest
Spectacular mountain in Buila Vânturariţa National Park

Curmătura Builei – Buila Saddle

https://www.facebook.com/GeoparcOlteniaDeSubMunte

Geoheritage and geosites

The open air Museum of Sandstone Concretions at Costeşti

The festival of fireflies, Costeşti 2023

https://www.facebook.com/GeoparcOlteniaDeSubMunte

Management

Dr. Florin Stoican, president of Association Kogayon

Created the Buila-Vânturariţa National Park
One of the creators of Văcăreşti Delta, the first urban park in Romania
President of Oltenia under the Mountain Geopark

Cimmerian Dobrogea Geopark initiative

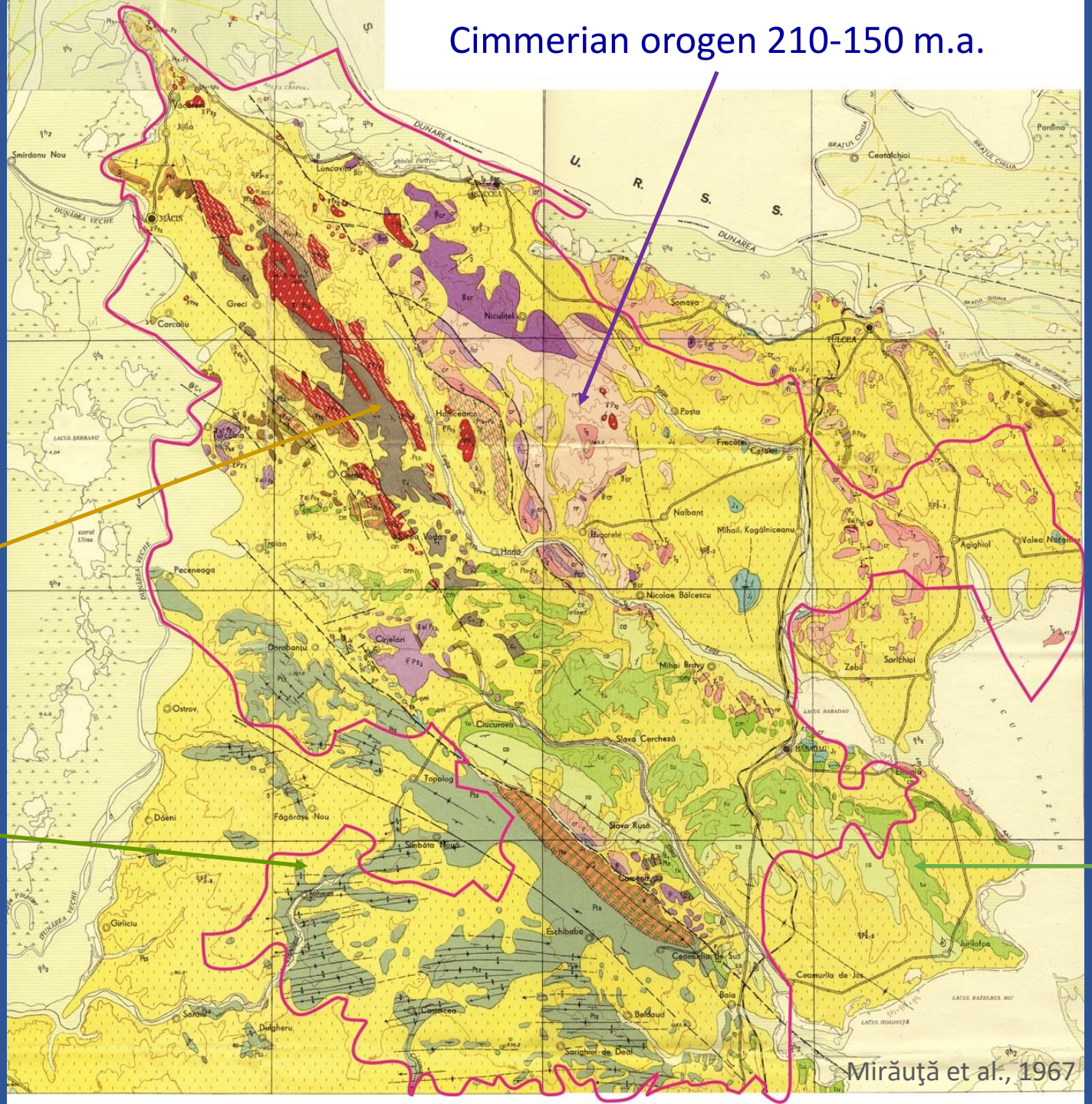
- **2018** project aGENDA submitted to the EEA grants competition – not funded
- **2019-2021** work on the database of geosites, archaeological and cultural sites
- **2022** – launched as a partnership between the University of Bucharest, GeoEcoMar, Tulcea County EPA and two NGOs

Cimmerian Dobrogea Geopark initiative

- **2022** first meetings between initiators and mayors and first Geopark activities
- **2023** – signing partenership agreements with local city councils
- First priority – establishing the optimal territory

Cimmerian Dobrogea Geopark

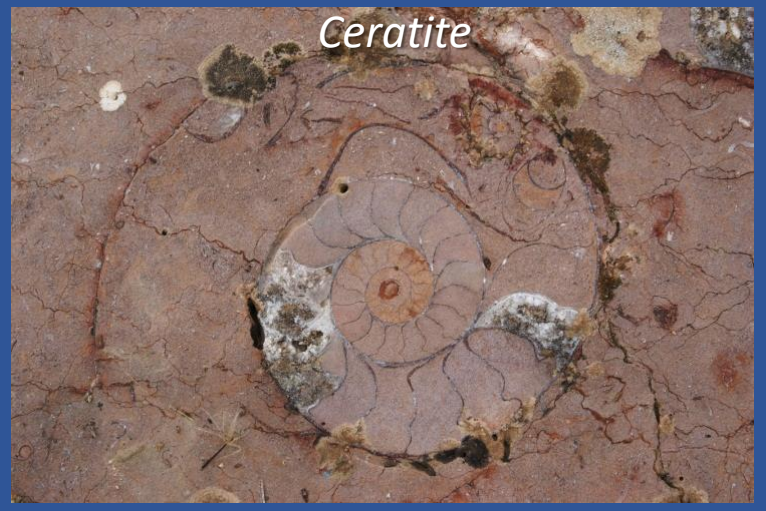
Geological map



Paleontological heritage

Ediacaran fossils and trace fossils

Triassic fauna important for international correlations



Deşli Caira geosite

Proposed as GSSP for the base of Anisian (Grădinaru, 2000)

North Dobrogea – open air lab for structural geology

Folds of the metamorphic foliation, Priopcea Hill

Folds of the bedding in Lower Devonian deposits, Igliţa cliff

Traditional activities related to stone extraction and carving

Quarries in Iacobdeal alkaline massif ca. 1900

Italian stone workers in 19th century Greci village

Abandoned quarries as geosites

Quarries in Paleozoic Greci granodiorites and tonalites

Revărsarea quarry in Mid Triassic pillow basalts

Abandoned quarries as geosites

Small quarry in quartzites, Priopcea Hill

Quarry in kaolinite

Old mining works

Shaft and trough for exploring copper mineralizations, ca. 1900
Amzalar Hill

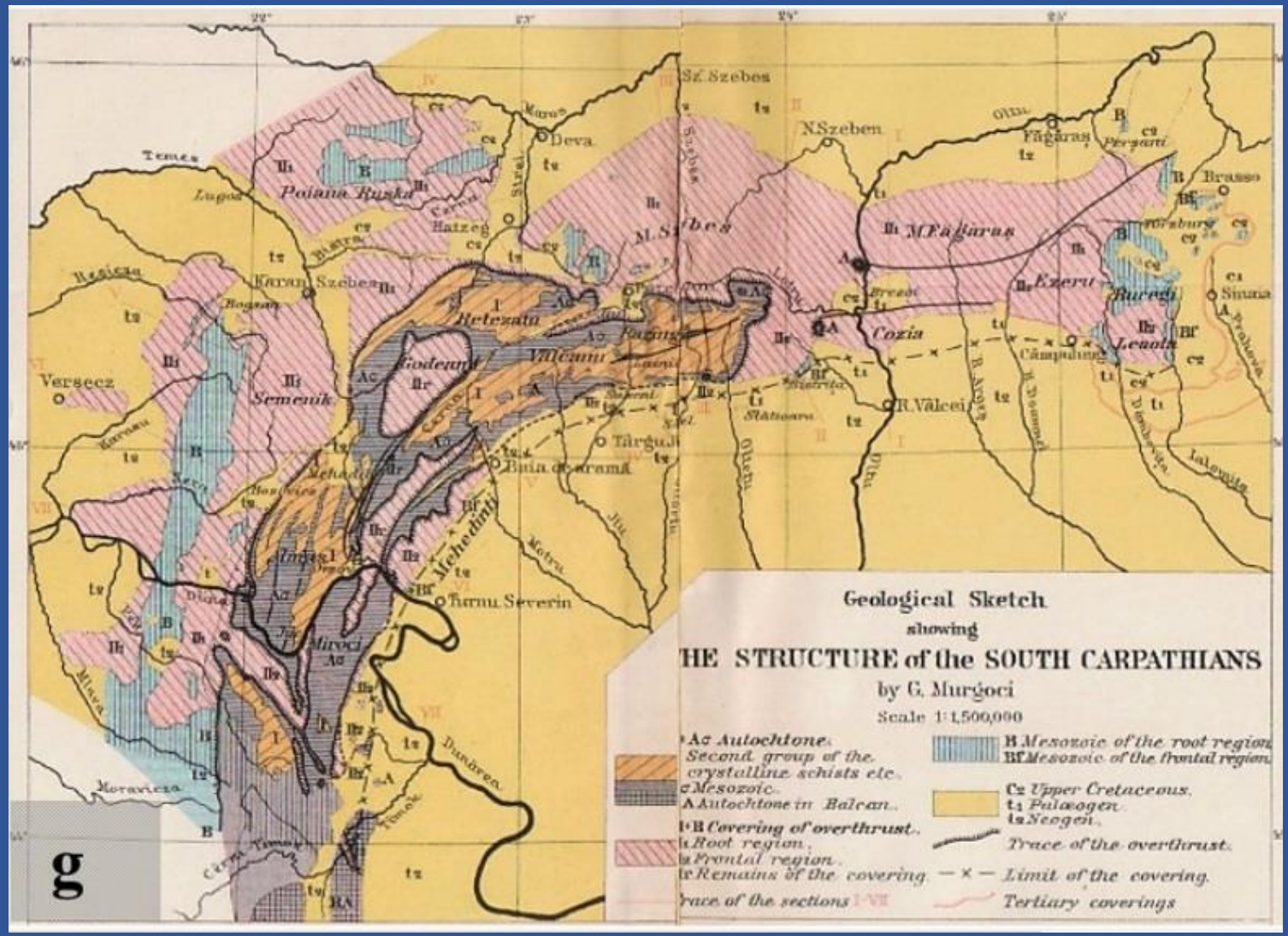
Personalities

Gheorghe Munteanu Murgoci
1872-1925

PhD at the University of Münich

Discoverer of the nappe structure of the South Carpathians

Founder of the Romanian School of Pedology



Personalities

Gheorghe Munteanu Murgoci
1872-1925

Author of the first geological monograph of North Dobrogea

Tectonics of the Cimmerian area by Murgoci, 1915

Team of initiators – 12 people

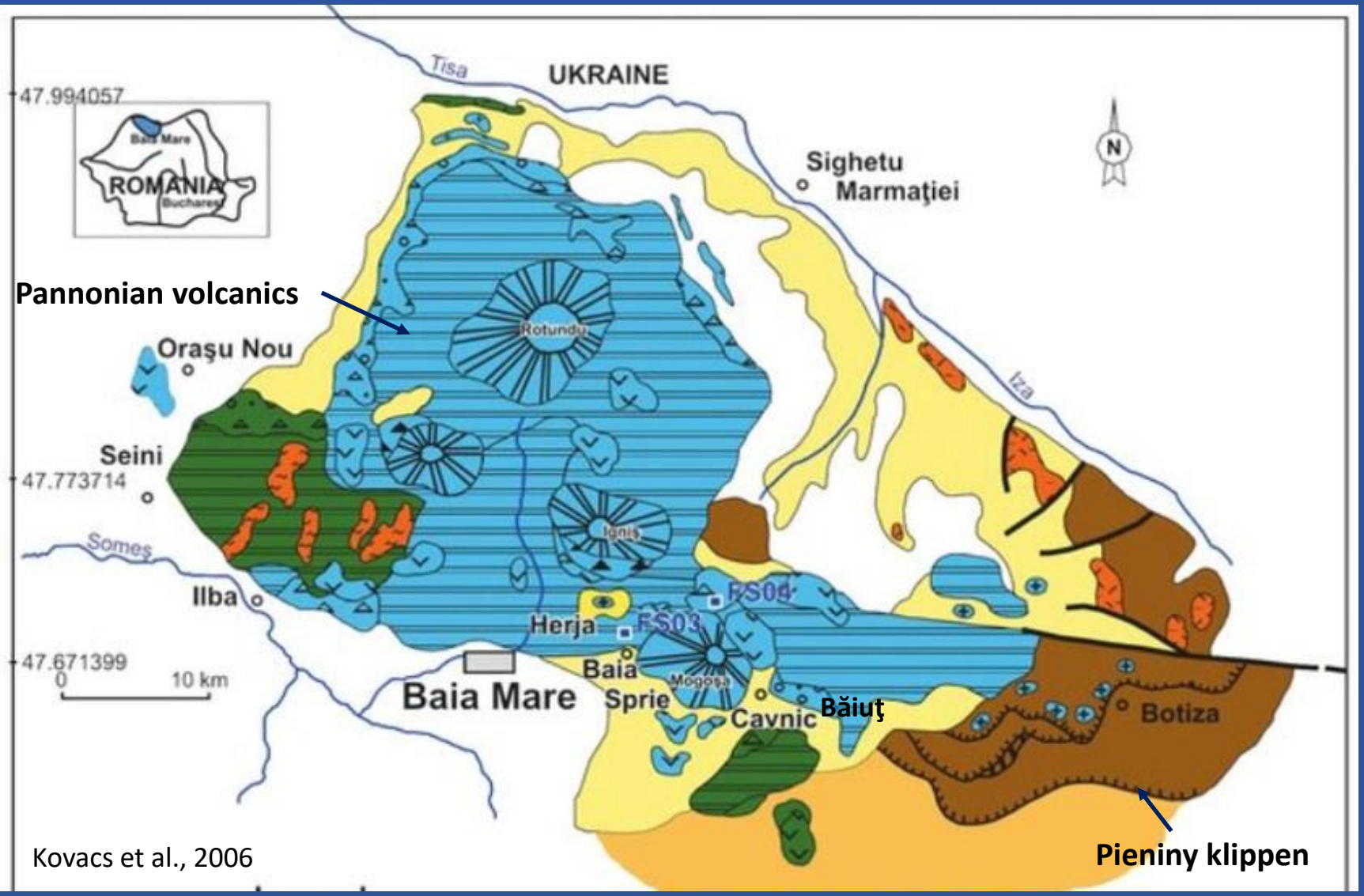
Cristina Toma, Violeta Lechea, Alexandru Andrăşanu

Vasile Bădilaş

Isabela Bădilaş

Initiators: University of Bucharest, NRDI GeoEcoMar, EPA Tulcea, associations Ibida (archaeology) and GeoD (geodiversity)

Gutâi Geopark initiative



- **2009** – a paper proposing the Baia Mare Geological and Mining Park was published
- **2023** – the initiative was relaunched in May, as Gutâi Geopark
- Includes 5 mining areas located in the famous gold and silver mining district of Maramureş county: Baia Mare, Baia Sprie, Herja, Cavnic, Băiuţ
- Initiative supported by the Mineralogical Museum in Baia Mare, the Maramureş County Council, mayors and NGOs

Baia Sprie mine and mining district

Type locality for several minerals

Dietrichite $(Zn, Fe^{2+}, Mn^{2+})\ Al_2(SO_4)4{\cdot}_{22}H_2O$
Felsőbányaite $Al_4(SO_4)(OH)_{10} \cdot 4H_2O$
Fülöppite $Pb_3Sb_8S_{15}$

Klebelsbergite $Sb_4O_4(SO_4)(OH)_2$
Semseyite $Pb_9Sb_8S_{21}$
Szmikite $MnSO_4 \cdot H_2O$

Baia Sprie mine, 2004

Photo Tinu Leo

https://www.mindat.org/

Famous Dealu Crucii adit

Baia Sprie mining works

Baia Sprie old adit, 2020

Sector Uno works

https://www.spiriferminerals.com/179,Secondary-minerals-from-Maramure--537---Romaniahtml

Baia Sprie mining district

Entrance in the mine in 2005

Entrance in the mine in 2020

https://www.spiriferminerals.com/179,Secondary-minerals-from-Maramure--537---Romaniahtml

Herja mine

Type locality for Fizélyite

Fizélyite $Ag_5Pb_{14}Sb_{21}S_{48}$

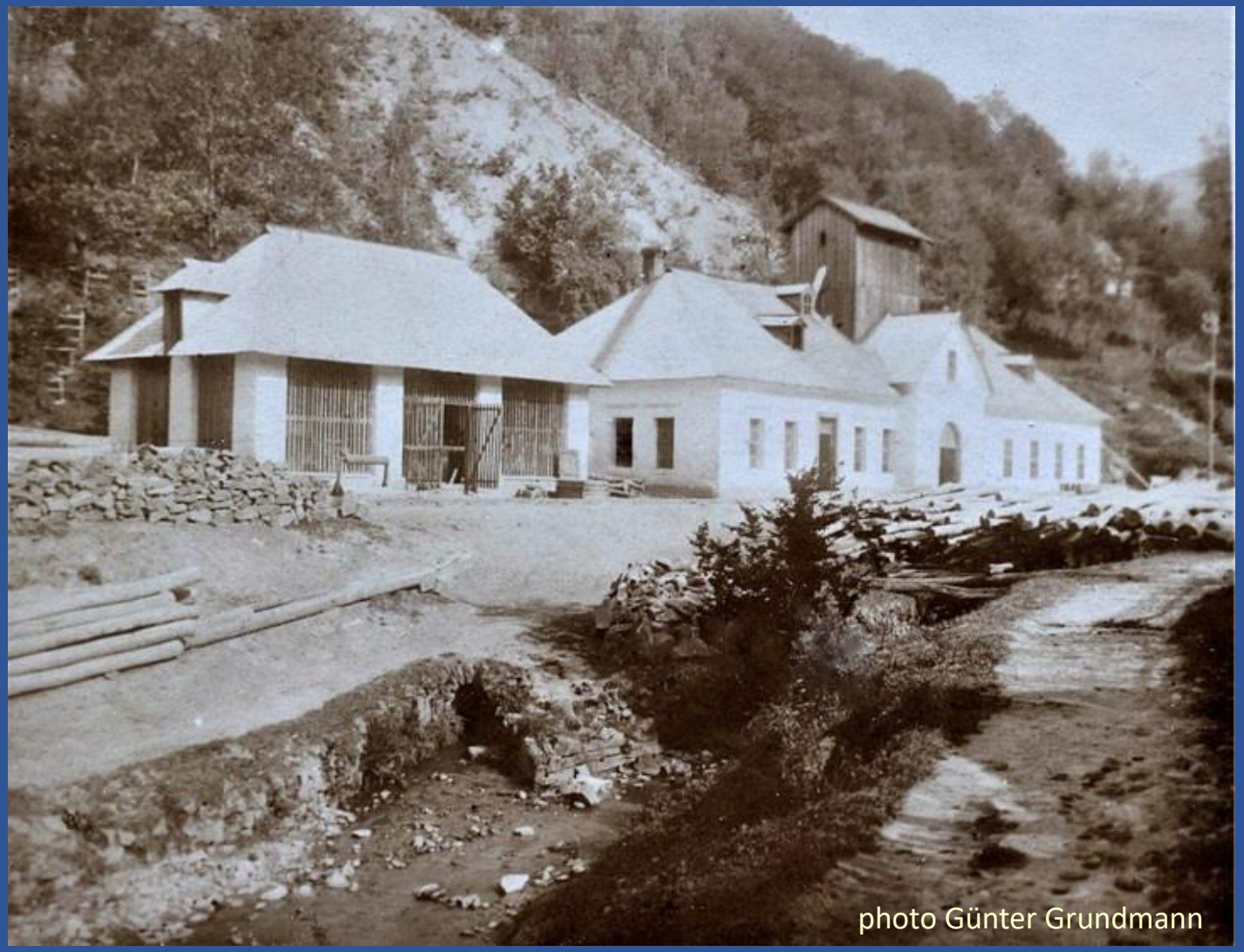
Herja mine

Calcite pocket

Quartz pocket

https://www.mindat.org/loc-2601.html

Cavnic gold mine, ca 1902



https://www.mindat.org/photo-801566.html

Cavnic mine – TL for rhodocrosite

Entrance to the Bolduţ mine

Rhodocrosite ($MnCO_3$) – Cavnic

Cavnic mine, 2020

Photo K. Kołodziejska

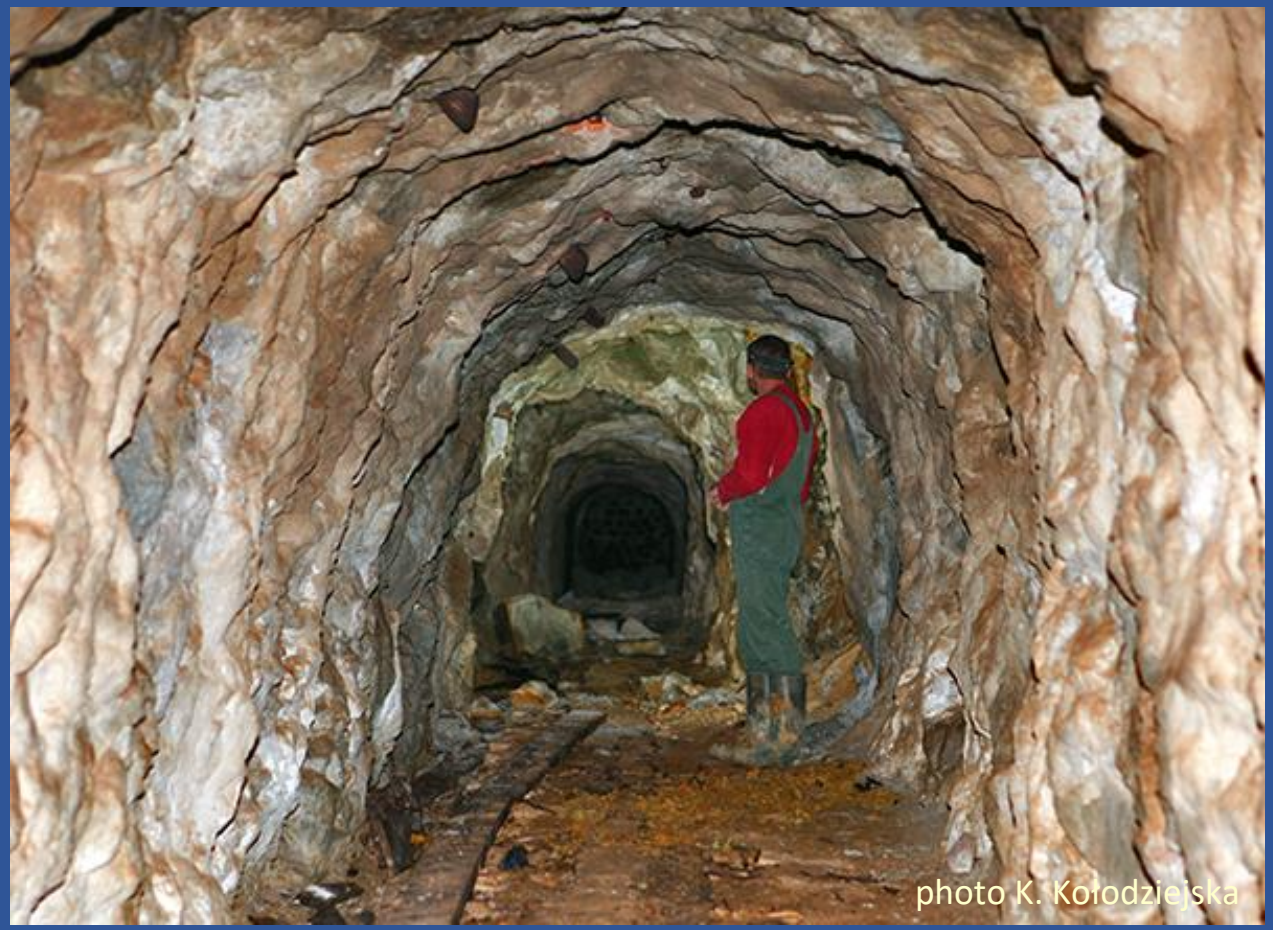
Old adit


Photo P. Żochowski

Underground in one of the old galleries

https://www.spiriferminerals.com/179,Secondary-minerals-from-Maramure--537---Romaniahtml

Cavnic mine, 2020



Old tunnel

Old adit

https://www.spiriferminerals.com/179,Secondary-minerals-from-Maramure--537---Romaniahtml

Cavnic

Old mine buildings in Cavnic

Monument of Miners

https://www.spiriferminerals.com/179,Secondary-minerals-from-Maramure--537---Romaniahtml

Logolda Smelter – Cavnic

Ruins of the most modern facility for the preparation of non-ferrous ores from the end of the 19th century

Built in 1862 by the British from the Rota Aurra Mines Ltd.

Băiuţ, 2020

Offices of the Băiuţ mines looking abandoned

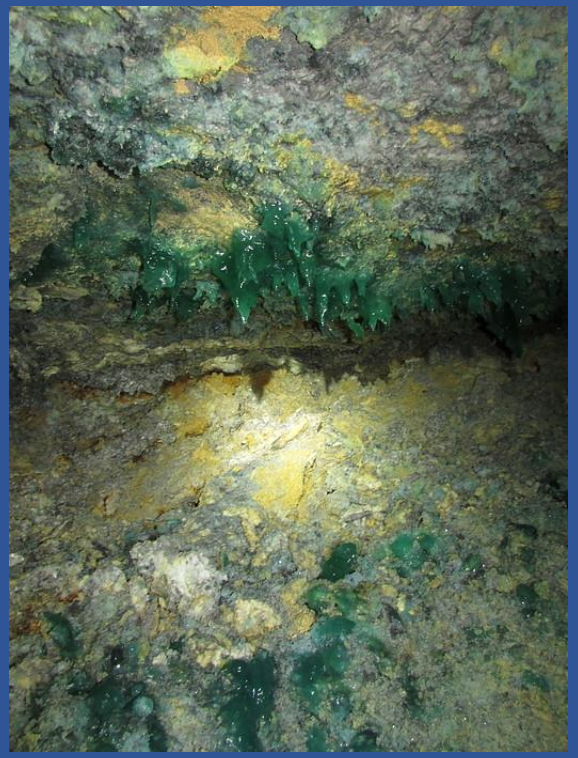
Old walled-in mine adit, near the main offices of the mine

https://www.spiriferminerals.com/179,Secondary-minerals-from-Maramure--537---Romaniahtml

Băiuţ mining district

Conciu mine, 2021
https://www.mindat.org/

Photo Ł. Kruszewski



Melanterite
Hydrated iron sulphate formed by decomposition of pyrite or other (metal-) iron sulphide minerals under the action of surface waters

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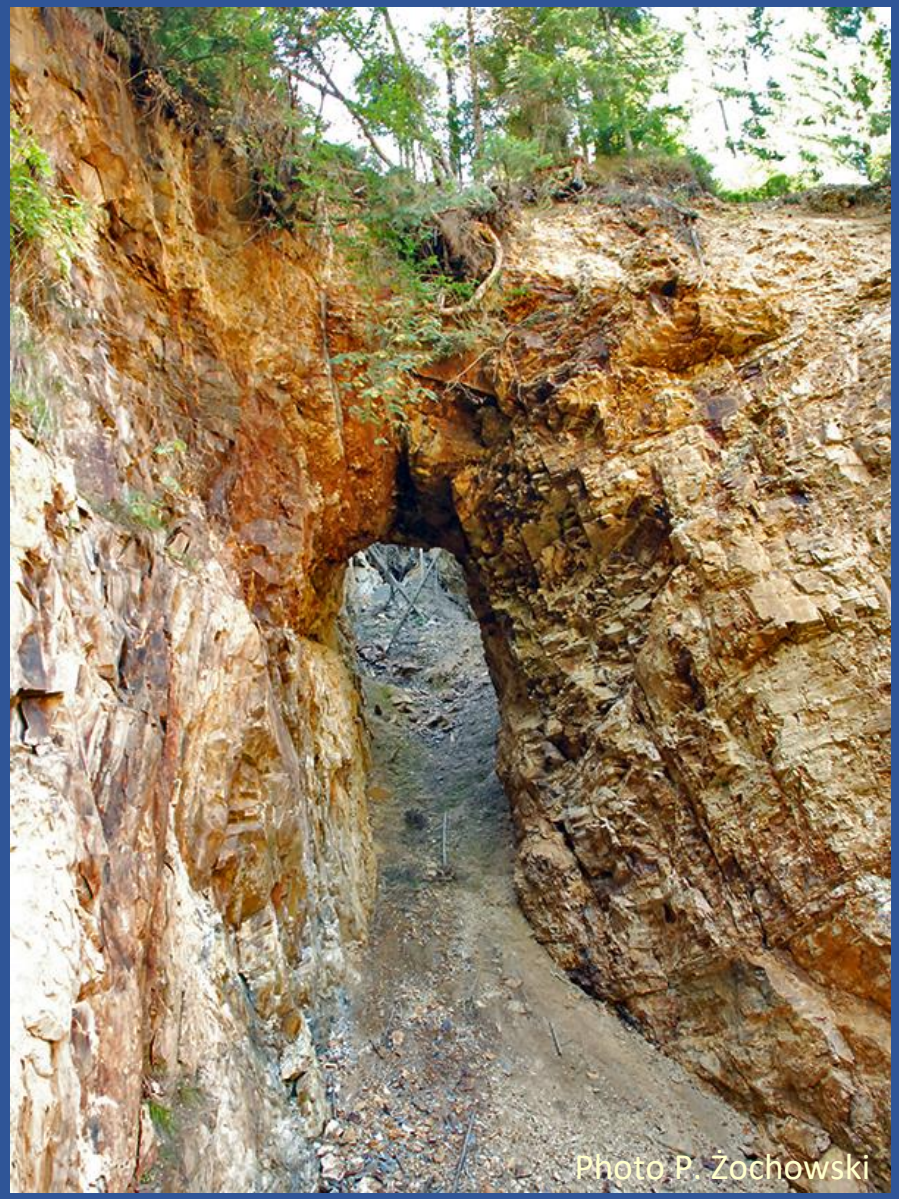
Băiuţ mining district

"Gorge" area in Băiuţ



Mining remains in the "gorge" area

https://www.spiriferminerals.com/179,Secondary-minerals-from-Maramure--537---Romaniahtml

Băiuţ

Old mine adit located near the offices of the main Băiuţ mines

Old mine adits in Băiuţ area

https://www.spiriferminerals.com/179,Secondary-minerals-from-Maramure--537---Romaniahtml

Băiuţ mining district

A mine entrances still accessible in the "gorge" area

A mine entrance still accessible in the "gorge" area

https://www.spiriferminerals.com/179,Secondary-minerals-from-Maramure--537---Romaniahtml

Mineral collection of the “Victor Gorduza” County Museum of Mineralogy, Baia Mare

Initiators

Prof. Marinel Kovacs

Vicepresident of the the Baia Mare branch of the Geological Society of Romania

Prof. Ioan Denuţ

Director of the Victor Gorduza Mineralogical Museum Baia Mare

President of the Baia Mare branch of the Geological Society of Romania

Final remarks

- Geoparks are the only territories where geoconservation is taking place in Romania
- A geopark can take years to build, depending on the relationships with communities and availability of funds
- Each geopark has its own type of management and funding sources
- Trust, credibility and acceptance by the local community is necessary to succeed
- Team work is necessary both to create a geopark and to maintain it in EGN or GGN, as geoparks are assessed by UNESCO evaluators every 4 years

Selective references

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