

What and how do we know on The Dinaric Karst in its countries?

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REPUBLIKA SLOVENIJA
MINISTRSTVO ZA OKOLJE IN PROSTOR



ZRC SAZU
Inštitut za raziskovanje krasa

4. MEDNARODNA KONFERENCA: KRAS. VODA. ČLOVEK. THE 4TH INTERNATIONAL CONFERENCE: KARST. WATER. HUMAN.

The Dinaric Karst

The largest Europa's continuous karst unit

Undoubtedly the leading phenomenon on a global scale



The Dinaric Karst Values



REPUBLIKA SLOVENIJA
MINISTRSTVO ZA OKOLJE IN PROSTOR



ZRC SAZU
Inštitut za raziskovanje krasa

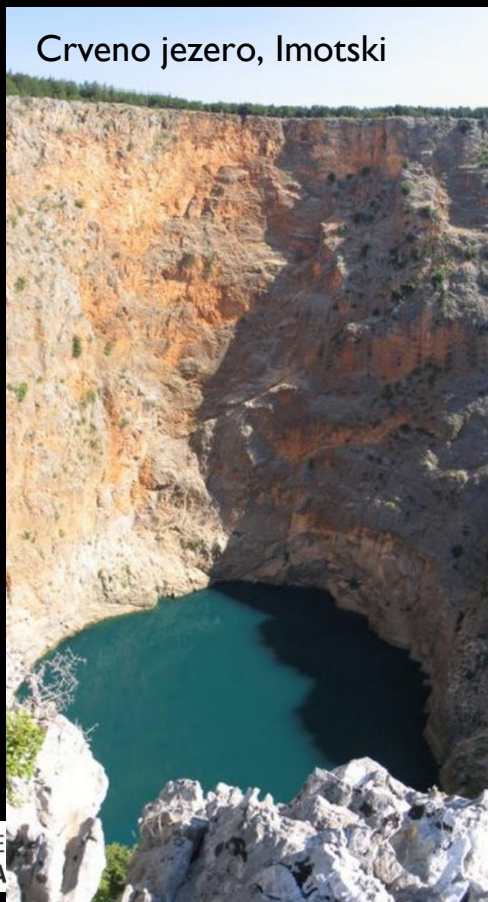
Natural Values

Morphological:
Almost all karst forms are present

DOLINES



Velika i
Mala dolina



Crveno jezero, Imotski

Shallow dolines
on Bravsko polje
A. Mihevc



MORPHOLOGICAL CHARACTERISTICS AND DISTRIBUTION OF DOLINES IN SLOVENIA, A STUDY OF A LIDAR-BASED DOLINE MAP OF SLOVENIA

MORFOLOŠKE ZNAČILNOSTI IN PORAZDELITEV VRTAČ V SLOVENIJI, ŠTUDIJA VRTAČ NA OSNOVI LIDARSKIH PODATKOV

Andrej MIHEVCI, Rok MIHEVC2,*

ACTA CARSOLOGICA 50/1, 11-36, POSTOJNA 2021

„We detected **471,192** dolines and divided them into three genetic types.

Most abundant are **solution** dolines (470,325).

The **average** doline is 9 m deep, has a diameter of 42 m and a volume of 14,098 m³.

The **density** of dolines on levelled surfaces can be as high as 500/ per km²”.



POLJES

The largest poljes

Ličko polje



Livanjsko polje



The most famous / most researched poljes:

Cerkniško jezero

Popovo polje



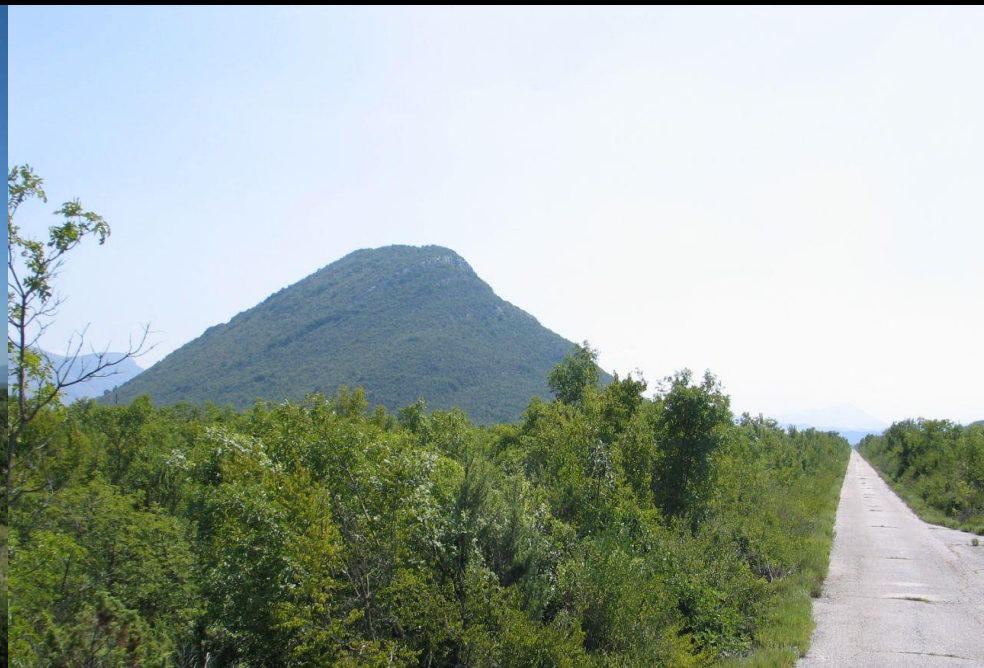
KARST PLANES

Sjevernodalmatinska zaravan



A. Mihevc

Zaravan Trebinjska šuma & Hum



CAVES

The largest in DK:
Crnopački špiljski sustav, Velebit, 56 km



The most famous: Postojnska jama



4. MEDNARODNA KONFERENCA: KRAS. VODA. ČLOVEK.
THE 4TH INTERNATIONAL CONFERENCE: KARST. WATER. HUMAN.

PONORS

Slivlja, Nikšićko polje



**135
m³/s**

Biograd, Nevesinjsko polje

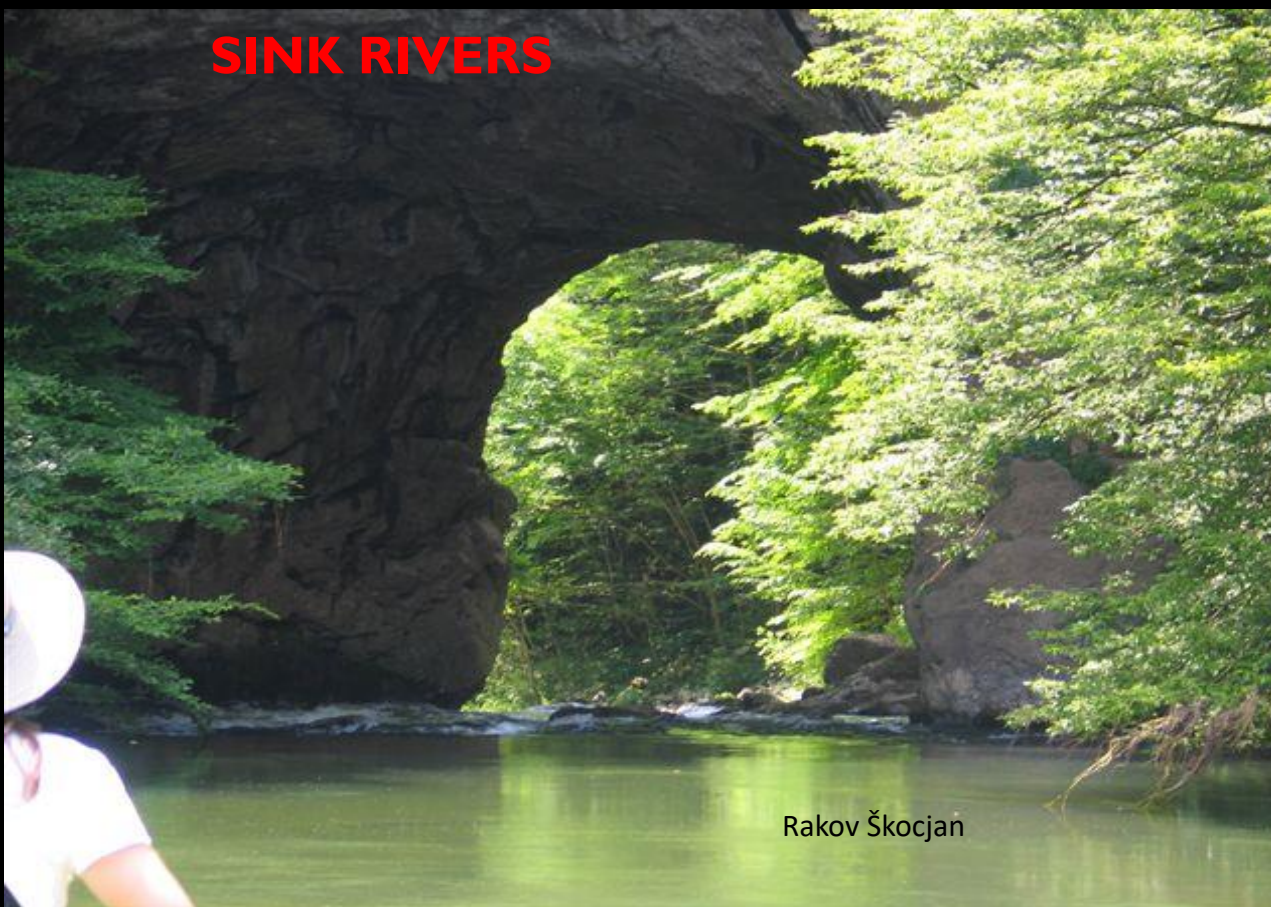
**110
m³/s**



Ljubljana

- Trbuhovica, Prezid
- Obrh, Loška dolina
- Stržen, Cerknjsko polje
- Rak, Rakov Škocjan
- Pivka, Pivška kotlina
- Unica, Planinsko polje
- Ljubljana, Vrhnika, ->Sava

SINK RIVERS



Rakov Škocjan

Cetina

- Milač, Kupreško polje
- Šujica, Duvanjsko polje
- Ričina, Buško jezero
- Cetina, do Jadranskog mora kod Omiša

BIODIVERSITY



Plants:

Species / km²

Slovenija 0,158,*

Albanija 0,105*

BiH (0,076)**

Hrvatska (0,075)*

*(Nikolić 2001)

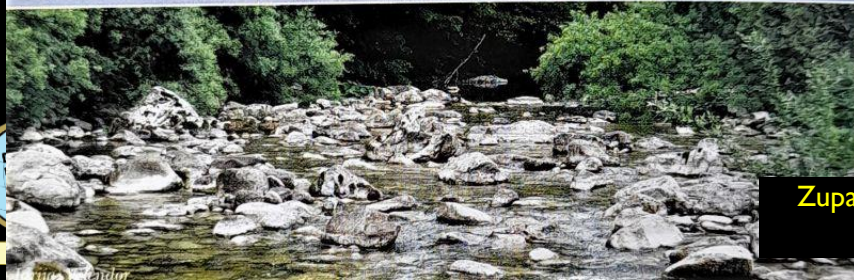
** (Redžić 2008)

ZOO - Karst rivers fishes

SL: PRIMORSKI BLISTAVEC
ENG: ITALIAN STRIPED DACE
LAT: *Telestes muticellus* Bonaparte, 1837



Telestes muticellus 9.8 cm Nadiža



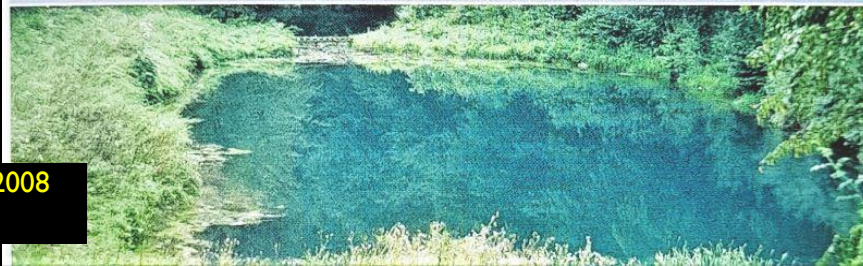
Zupančič 2008

About 50 endemic fish species in the Adriatic basin

HR: PIJOR, SVIJETLICA
ENG: CROATIAN DACE
LAT: *Telestes polylepis* Steindachner, 1866



Telestes polylepis 10 cm Šmitovo jezero



Subterranean species

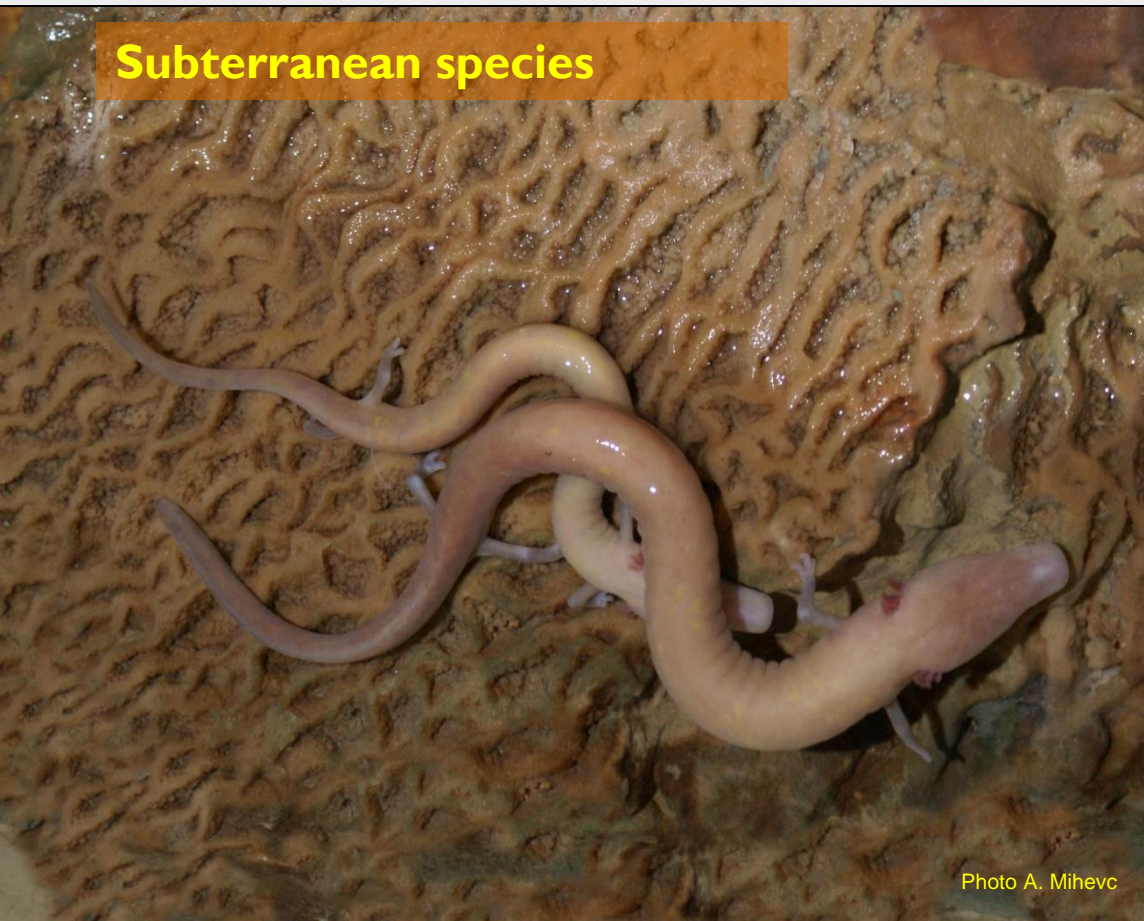


Photo A. Mihevc

„Underground Galapagos“

Dinaric Karst:
1240 subterranean sp.,
450 aquatic i
790 terrestrial (Sket 2004)

Hot-spots

1. Postojna 117
(Culver at al. 2021)
2. Vjetrenica 101
(Ozimec & Lučić 2010)



Spuzva

EUNAPIUS SUBTERRANEUS: Jedina slatkovodna podzemna spuzva na svijetu živi na području Ogulinako - Pločanske krške zaravnih

BRANKO JALJIC



Photo: D. Pilić

Kongerija



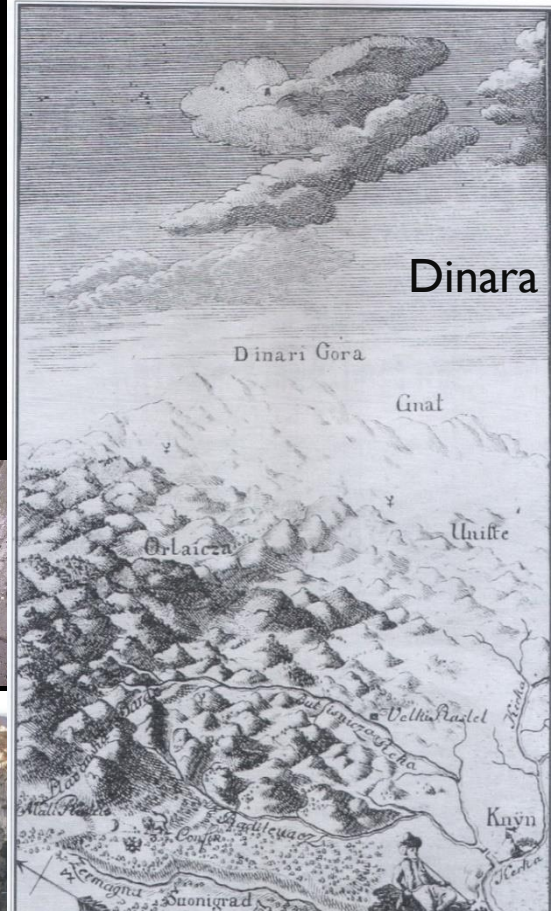
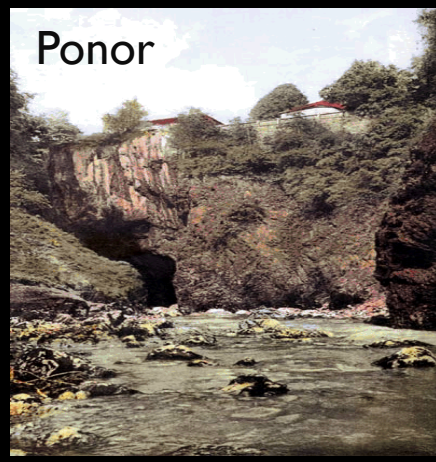
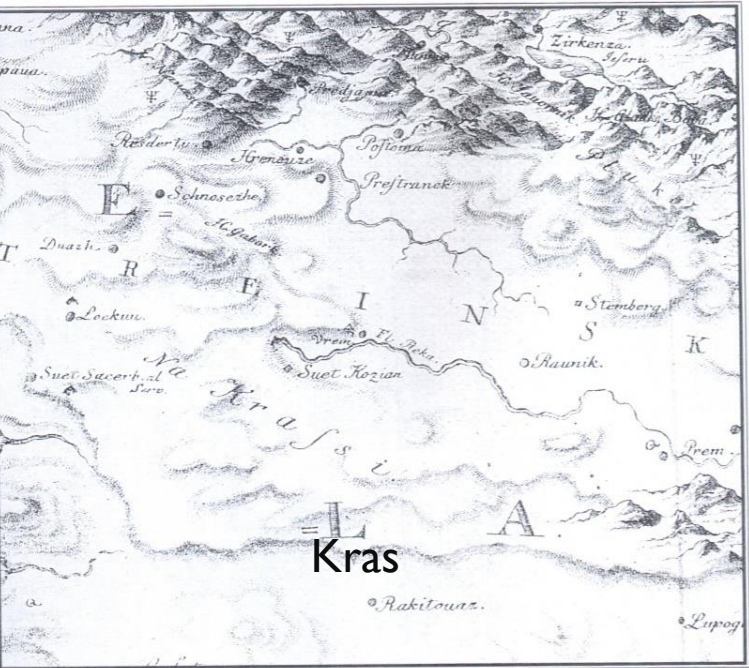
Marifugija



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Research history = cultural history

- Karst first described in the Dinaric Alps
- a number of terms from karstology were named from South Slavic languages: polje, ponor, hum, kamenica, dolina.



Said on
Dinaric
Karst:

W. White

The Dinaric Karst is indeed the **birthplace for the study** of karst and retains its unique status today. I view the Dinaric Karst as a **benchmark** against which other karst regions may be compared.

P. Williams

The Dinaric Karst will always be globally important because it is the birth place of scientific research on karst, being the region from which **many of the underlying concepts of karst were derived**.

W. Dreybrodt

The Dinaric karst, being **most spectacular**, is an excellent example.

D. Ford

All karstologists must see **two principal karst areas** before they die – the Dinaric karst and the South China karst.

A. Palmer

The Dinaric karst is **of great interest** to every serious karst researcher.



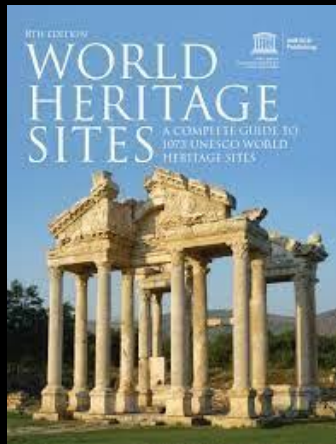
What people knows exactly on these values?



No exist the empirical quantitative research.

Serial candidacy of the Dinaric Karst for the UNESCO World Heritage List show actual attitudes.

Slovenia, Croatia, Bosnia and Herzegovina, Montenegro and Serbia have failed to do that – **March 2015.**



Aktualno

UNESCO isključio nominaciju Dinarskog krša iz paketa projekata kojima daje podršku

Komiteet za svjetsku baštinu UNESCO-a i službeno je isključio serijsku nominaciju Dinarskog krša iz paketa deset pilot projekata kojima UNESCO pomaže u pripremi zbog izostanka napretka među zemljama članicama, objavljeno je na mrežnim stranicama UN-ove organizacije za obrazovanje, znanost i kulturu.



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What kind of cultural and scientific substrate of karst hides behind such an attitude?

krš i lom

<https://www.24sata.hr/news/krš-i-lom-u-novom-zag->

Krš i lom u Novom Zagrebu: Sudarili se usred raskrižja | 24sata
3. velj 2022. — Bošićevom ulicom u Novom Zagrebu je promet otežan nakon sudara dva vozila na raskrižju. Do nesreće je došlo oko 9.30 sati, a policija potvrđuje da nije ...

<https://vgdanas.hr/grad/foto-krš-i-lom-na-krizanju-k->

FOTO Krš i lom na križanju Kurilovečke i Miošićeve - VG Danas
prije 3 dana — FOTO Krš i lom na križanju Kurilovečke i Miošićeve: Jedna osoba ozlijeđena. 26.03.2022. / Maja Peranić. Prometna nesreća dogodila se danas oko 10 sati na ...

<https://01portal.hr/krš-i-lom-na-cesti-jedan-automobil->

KRŠ I LOM NA CESTI: Jedan automobil završio na krovu
12. sij 2022. — 01Portal - Prvi u Zagrebačkoj županiji » **KRŠ I LOM NA CESTI**: Jedan automobil završio na krovu.

<https://www.vecernji.hr/vijesti/krš-i-lom-u-dubravi->

Krš i lom u Dubravi: Udarilo u parkirane automobile i završio ...
26. tra 2021. — Radi se o prevrnutu automobilu na krov i curi benzin iz njega - propili su zagrebački vatrogasci.

https://www.zagreb.info/Crna_Kronika/

KRŠ I LOM U DUBRAVI Četvero ljudi ozlijeđeno: 'Oba auta su...
2. pro 2021. — **KRŠ I LOM U DUBRAVI** Četvero ljudi ozlijeđeno: 'Oba auta su potpuno smrskana'. Objavio: Zagreb.info - 2. prosinca 2021. Foto: Screenshot.

<https://www.jutarnji.hr/vijesti/crna-kronika/krš-i-l->

Krš i lom u strogom centru Zagreba: Nakon silovitog sudara ...
30. sja 2023. — Krš i lom u strogom centru Zagreba. Nakon silovitog sudara, četvoro i trih ...

ovdje za pretraživanje

J vijeesti HRVATSKA SVIJET CRNA KRONIKA ZAGREB NAUČNAK PATROLA KOLUMISTI

OPASNO PROČELJE

S Mimare i 510 dana nakon potresa pada žbuka: 'Stanje je katastrofično, tjeramo ljude od zgrada, ovo je krš!

34.08.2021. u 17:53.

Krš i lom u centru Zagreba: Na ...

Krš i lom u centru Zagreba: Na ...

Krš i lom u centru Zagreba: Na ...

Krš i lom u centru Zagreba: Na ...

KRŠ I LOM U KRIZANJU DUBROVAČKE I MAŽURANOVOG ŠETALIŠTA Na mjesto događaja ...

KRŠ I LOM U KRIZANJU DUBROVAČKE I MAŽURANOVOG ŠETALIŠTA Na mjesto događaja ...

KRŠ I LOM U KRIZANJU DUBROVAČKE I MAŽURANOVOG ŠETALIŠTA Na mjesto događaja ...

VIDEO Krš i lom na cesti: Jurnjava tri Ferrarija završio ...

VIDEO Krš i lom na cesti: Jurnjava tri Ferrarija završio ...

VIDEO Krš i lom na cesti: Jurnjava tri Ferrarija završio ...

Approaches to the karst nature understanding:

Normativistic: in official use in education and laws. It starts from the assumption that way of nature understanding coincides with the empirically established facts.

Constructivist: a picture of the nature is constructions that depends on numerous cultural-historical and personal experiences of observers, so the reality for observers is what they think about a given phenomenon.

Epistemologic remarks:

Nature itself - the biosphere - as well as the **Earth as a whole**, is quite insufficiently articulated and leaves many ambiguities (Marder 2020).

1. **mythological picture** of the world that still conditions our experiences of the world. Archetypes live in us! (Hillman 2013).
2. **natural sciences picture** - dismembered nature into its limited disciplines and expressions: timber, livestock, ore deposits...
- „death of nature“ (Marchent 1989).

In the case of karst, all this is even more pronounced.

SOME MECHANISMS OF NATURE CONSTRUCTION

1. Worldviews
2. Cultural areas
3. Ideal-type models
4. Human Consciousness Project
5. Examples of individual phenomena



I. Worldviews

- kind of global cultural lens
- (see Marchent 1989, Capra 1982)

I. traditional or premodern or organic.



Ajvatovica, Prusac, BiH

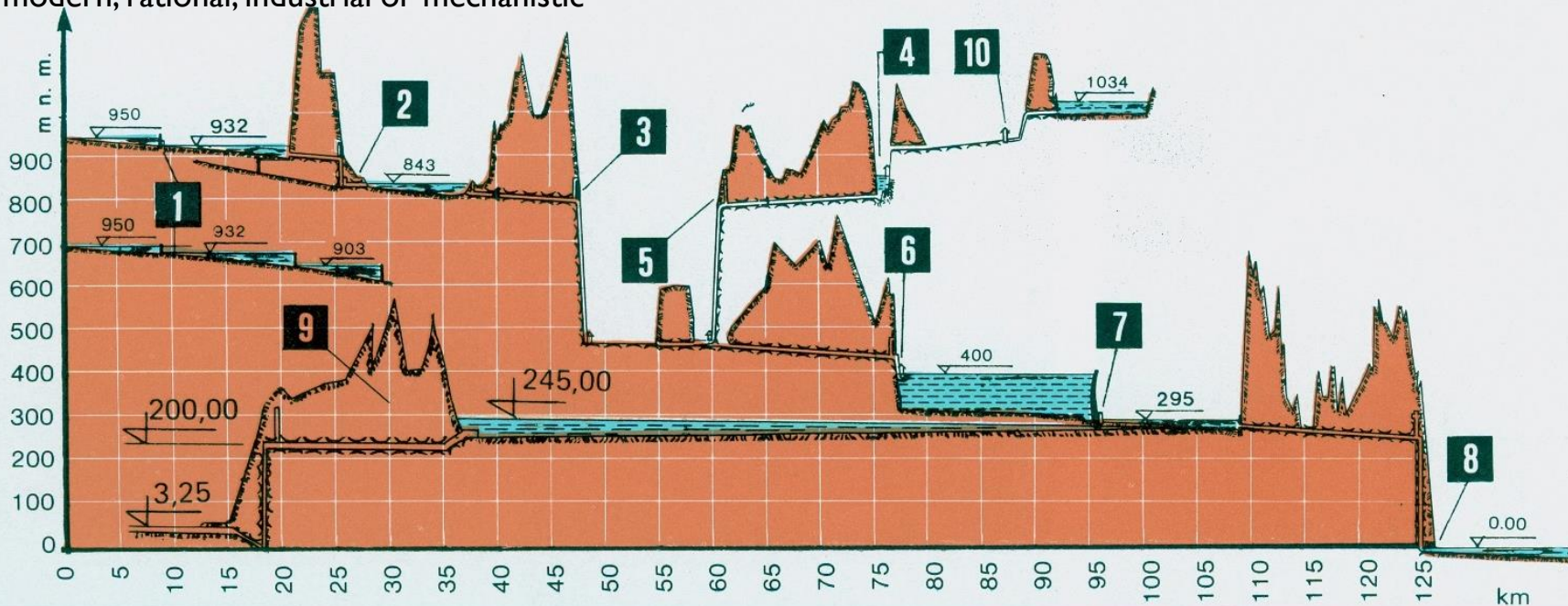


4. MEDNARODNA KONFERENCA: KRAS. VODA. ČLOVEK.
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Worldviews:

2. modern, rational, industrial or mechanistic

Slika 11. PODUŽNI PROFIL POSTROJENJA U SISTEMU TREBIŠNJICE



Worldviews

3. postmodern
or postindustrial
or ecological



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II. Cultural areas

- some elements of traditional culture are more concentrated than in some other areas (Gavazzi 1978).
- Dinaric Karst cover:
 - 1. „Dinaric cultural area“,
 - 2. „Mediterranean cultural area“
 - 3. „Alpine cultural area“.



III. Ideal-type models

- „stone desert“,
- „passive land“,
- „land of graves“,
- „underworld“,
- „hajduk’s land“,
- „mechanistic picture“,
- „industrial picture“
- „hydroenergy picture“,
- „tourist postcard“,
- „wonderland“,
- „natural science picture“,
- „ecological picture“
- ...

„Stone desert“

*Put s vrha Učke
vodi kroz
kamenu
pustinju koja se
može usporediti
s Arabijom*

Balthasar Hacquet
(1878)



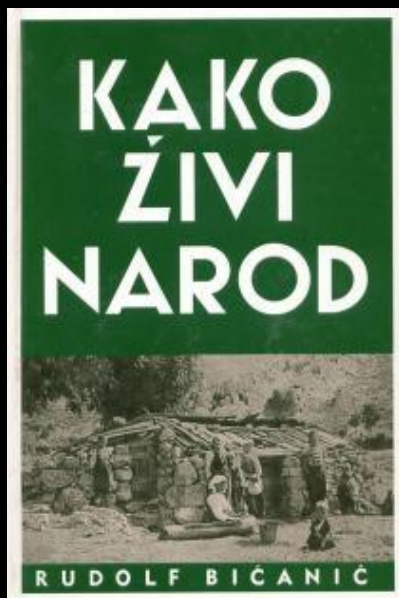
*Da biste se
prošetali
njegovom
površinom, ne
trebate ići skroz
do Mjeseca.
Umjesto toga,
uputite se na Krk,
pa put Baške (...)
kamena pustinja.*

*Večernji list
16.11.2020.*

„Passive land“

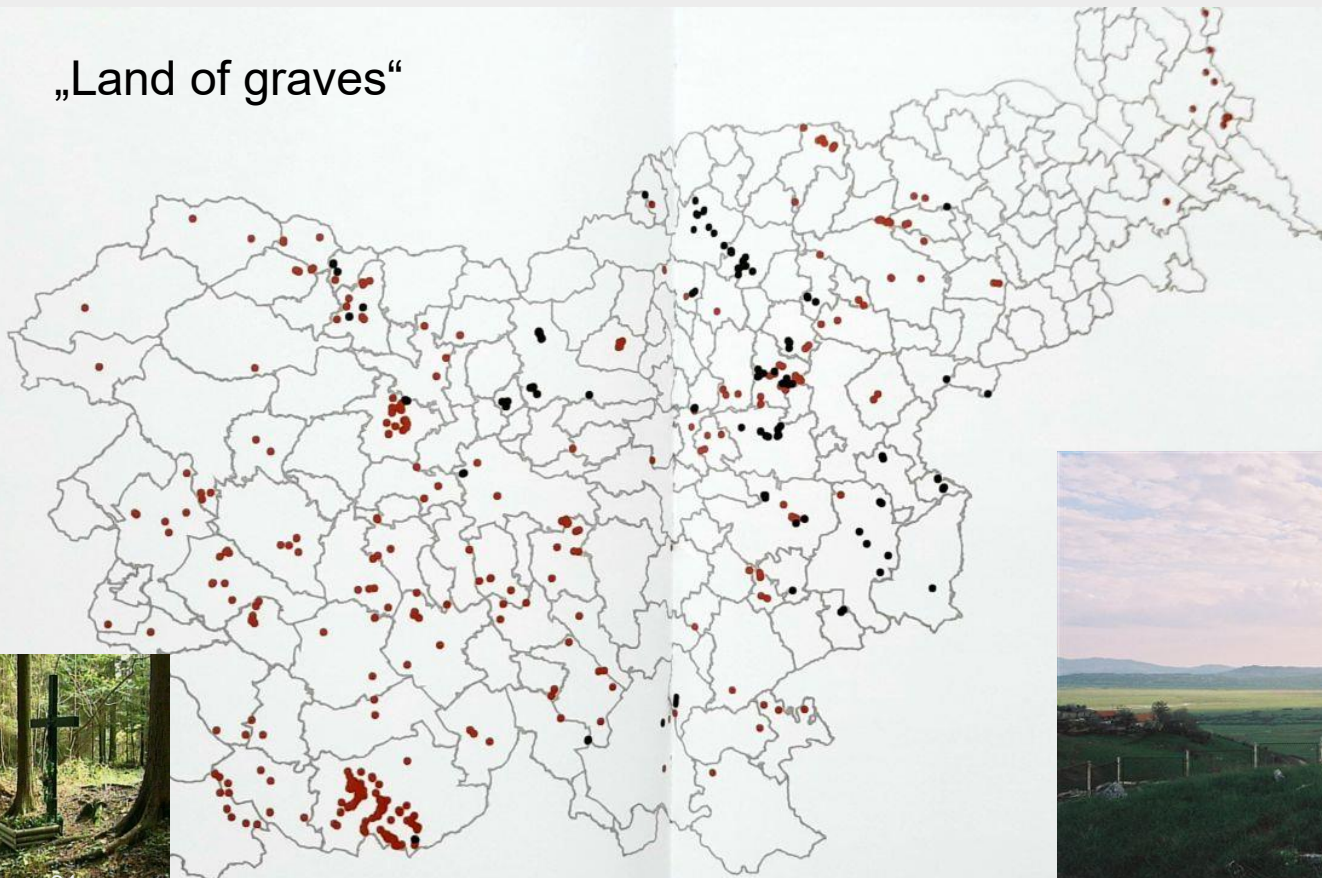
"Passive land – land which does not bring profit, or which creates losses"

Croatian Encyclopedia



4. MEDNARODNA KONFERENCA: KRAS. VODA. ČLOVEK.
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„Land of graves“



4. MEDNARODNA KONFERENCA: KRAS. VODA. ČLOVEK.
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„Underworld“



4. MEDNARODNA KONFERENCA: KRAS. VODA. ČLOVEK.
THE 4TH INTERNATIONAL CONFERENCE: KARST. WATER. HUMAN.

„Hajduk's land”



4. MEDNARODNA KONFERENCA: KRAS. VODA. ČLOVEK.
THE 4TH INTERNATIONAL CONFERENCE: KARST. WATER. HUMAN.

- „mechanistic picture“
- „industrial picture“
- „hydroenergy picture“



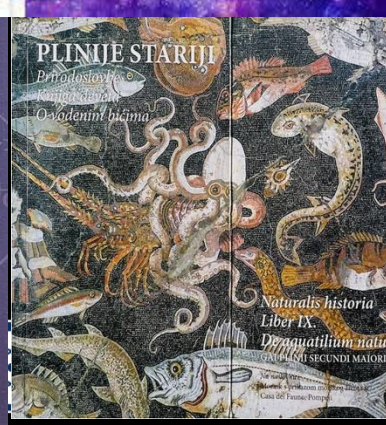
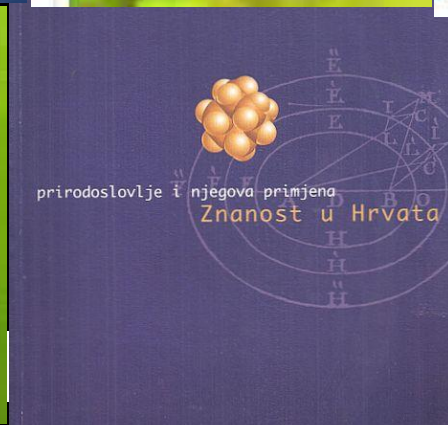
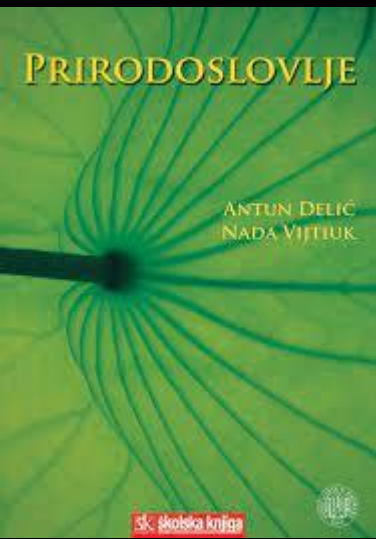
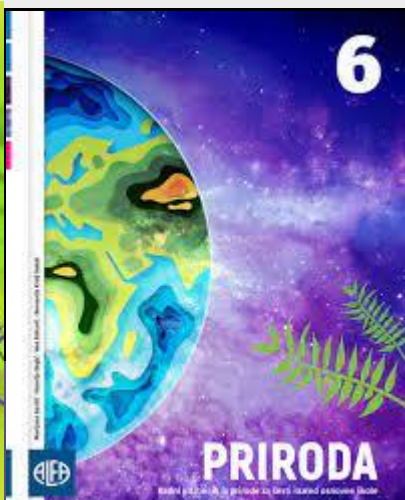
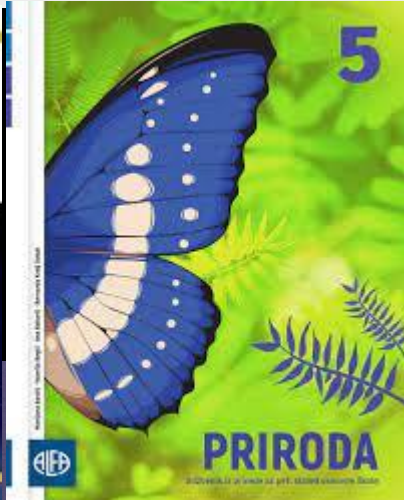
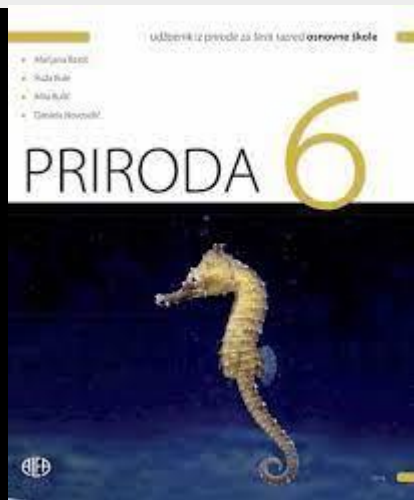
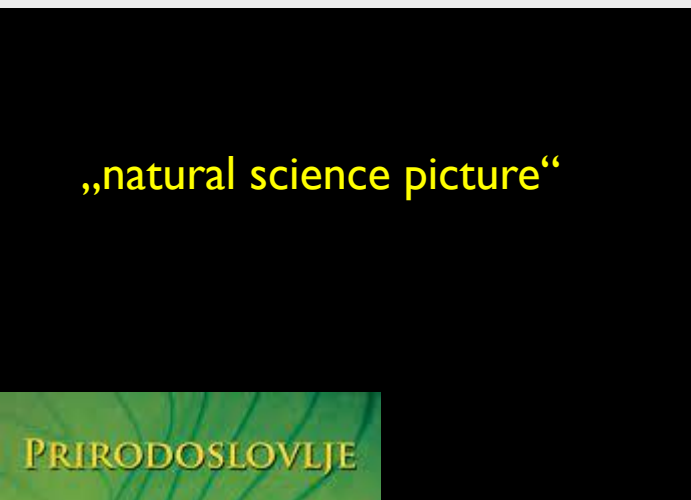
4. MEDNARODNA KONFERENCA: KRAS. VODA. ČLOVEK.
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- „tourist postcard“,
- „wonderland“



4. MEDNARODNA KONFERENCA: KRAS. VODA. ČLOVEK.
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„natural science picture“



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Specific images of certain phenomenon



(Daniel Kasap)

„Holes in the ground”



Mečenčani / near Sisak after the earthquake:
at least 92 new collapsed sinkholes and about 40 old ones



(Damir Senčar)

NOVI 'GLOBUS'

Podzemlje koje guta Baniju: Da, može se dogoditi i čovjeka iznenada 'proguta' zemlja

Globusovi reporteri obišli su s ekipom geologa i geotehničara selo koje strahuje da će nestati u utrobi zemlje

Piše: Boris Orešić Objavljeno: 24. veljača 2021. 07:56

Share Twitter Email



Tomislav Kristo/Cropix

Nikad nistru ne mogu znati gdje ću taj dan završiti - priznaje nam dr.

eb Showbiz Lifestyle Biznis Tech/Sci Auti Kultura Blogosfera Lokaln.hr

Novosti Kućni ljubimci Hrvatska kakvu trebamo Mi brinemo Junior Idemo u školu
Naslovnica Vijesti Hrvatska

POSLEDICE POTRESA

Zastrašujuća snimka iz Mečenčana: Goleme rupe u zemlji se šire

Rupe su se počele stvarati nakon razornog potresa 29. prosinca

07. Siječnja 2021. u 15:19 | 29 KOMENTARA | 48556 PRIKAZA



Foto: Citatelj

POGLEDAJTE GALERIJU 1/6



NOV
U PR



VOJ
Što sve dor
AK
Kako je u HR
skup vlas
autu
S
Tekućina za
ali ju u

Rovanj
plijen
PI
Elektri
Enya

4. MEDNARODNA KONFERENCA: KRAS. VODA. ČLOVEK. THE 4TH INTERNATIONAL CONFERENCE: KARST. WATER. HUMAN.

NERAZJAŠNJEN MISTERIJ

FOTO, VIDEO: RUPE U ZEMLJI HRTVA RAJU SE PO CIJELOMSVIJETU PA I U HRVATSKOJ - nestaju ljudi, ali i čitave zgrade.

AUTOR: Hina, Jutarnji.hr OBJAVLJENO: 03.03.2015.



Otvorila se rupa u zemlji široka 100 metara - 'Pitanje je vremena kada će cijelo mjesto 'pasti' u ponor' - Dnevnik.hr

Otvorila se rupa u zemlji široka 100 metara - 'Pitanje je vremena kada će cijelo mjesto 'pasti' u ponor'

Koper, 01.05.2015., 19:28

Na prvu bi čovjek pomislio kako se radi o udaru meteora u Zemlju, no ono s čime se stanovnici svakodnevno bore, prema njima je mnogo gore od metea

Podijeli: 60 Sviđa mi se: 60 Tweetaj: 0



RUPE U TLU

Objava: 4.3.2013 | 19:43

Zašto se učestalo otvaraju rupe u tlu po Hrvatskoj, ali i svijetu?

Ne iznenađuje - Krško tlo kakvo je i u Hrvatskoj podložno je stvaranju jama. Jame su prirodan fenomen koji se rijetko vidi, ali se to događa. No nije mu se pridavala pozornost.



26. veljače - Zbog obilnih kiša kod Drniša se otvorila jama duboka 100 metara

Foto: Duško Jaramaz/PIXSELL

Šta uzrokuje vrtlače?
Duhovna perspektiva

© Spiritual Science Research Foundation



1998

PRNJAVOR

Najezda zmija na kuću tročlane porodice



SRNA

16.06.2009.

27

komentara

0

dijeljenja



[Povratak na članak](#)

PREDVODIO HODOČAŠĆE

Bozanić u Mariji Bistrici: Zmije otrovnice grizu naš hrvatski narod

- Ne dopustimo da nas obmanu postupci kao što su: nekažnjavanje prekršaja u korištenju službenih institucija za osobnu ili skupnu korist i druga zla koja se olako prikrivaju i kao posljedicu imaju neprestano širenje pomutnji i gubitak povjerenja.

14. RUJNA 2014. | 14605



Tročlana porodica Milinčić iz prigradskog sela Gornji Smetički doživjela je

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NA RIBU ISTREBLJENJA

Objava: 17.10.2011 | 116:00

Vukopas: križanci vuka i psa siju strah u dalmatinskom zaleđu

Od pet križanaca iz prirode, četiri su bila iz Dalmacije i jedan iz Like.
Pojava križanaca u Hrvatskoj upozorava na narušenu socijalnu strukturu
vukova, upozorava dr. Jasna Jeremić



Foto: 'Zeljko Mrcic/PIXSELL'



AUTOR:
Andrina Lučić/VLM

Ovoljetnu sušu, koja je nanijela velike štete
poljoprivrednicima, ovčarima i uzgajivačima krupne stoke,
pamtit će i sudska vještakinja za procjenu šteta od predatora

mr. Ana Grgas. Na području koje "pokriva", a to je Zadarska županija, od srpnja do rujna

Pojava „vukopasa” u Dalmaciji 2008-2014.

SPLIT SPLIT ŽUPANIJA DUBROVNIK ŠIBENIK ZADAR

Dalmacija > Split županija

PRIJETNJU STANOVNIŠTVU © 18.05.2015. | 08:45

Dalmatinskom zaleđu naraju vukopasi, lovac Ivica Buljubašić: "Te su beštije strojevi za ubijanje"



Hrvatskoj prijeti zvijer - vukopas



OD ŠEST ZNANSTVENO DOKAZANIH PRIMJERAKA MJEŠANCA DOMAĆE I DIVLJE BEŠTIJE, ČAK ČETIRI SE SETAJU PO
SELIMA NEDELEKO OD SPLITA.

© 18.05.2015. | 10:45

BIĆE IZ LEGENDI - POSTOJI! Vukopas je u Dalmatinskom zaleđu domaća životinja (FOTO)



The karst underground is a depot of our fears

Belarusian curse:

"If I perished through the earth" and
the scariest: "If your mother earth wouldn't carry you"
(Katičić 2014)

It is the opening of the underworld, the world of hell that
will swallow you up immediately or the monsters that will
conquer you will come out of it.

Pit mass graves



4. MEDNARODNA KONFERENCA: KRAS. VODA. ČLOVEK.
THE 4TH INTERNATIONAL CONFERENCE: KARST. WATER. HUMAN.

NP Kornati

- natural history picture
- tourist postcard
- the land of graves



TRILLOBITES

In a Slovenian Cave, Hoping for a Batch of Baby 'Dragons'

Proteus



A female olm, sometimes called a "baby dragon," pictured with one of its eggs at the Postojna Cave in Slovenia. Iztok Medja

By **Nicholas St. Fleur**

Feb. 5, 2016



Creatures resembling dragons dwell deep within the caves of Slovenia. And now with the help of biologists, a new brood is set to hatch at an unusual aquarium, accessible by underground train.

OLM - MEET THE BABY DRAGONS

In January 2016, a fairy tale became reality: the news that the eggs of dragon's offspring had been laid spread around the world.

[INTERESTING FACTS ABOUT OLMS](#)

[DIARY](#)



Conclusion

Public awareness of the Dinaric Karst in the territory of its countries is different, but often deficient:

- a) there is no widespread modern **ecological-anthropological concept** of karst;
- b) among the inhabitants of the Dinaric Karst south of Kupa river there is no awareness of this unique geo-ecological unit, but it is often considered **Dinaric cultural area** or only parts of the karst in some countries. It is understandable because the Dinaric Karst is a scientific and not a geographical term;
- c) it is not clear **who or what** could take an important step in overcoming these shortcomings.

Suggestions:

- Only a scientifically holistic and territorially holistic approach comes into play.
- Poor infrastructure. Only the IZRK is institution completely dedicated to karst research, but it is only natural science, mostly geoscience oriented.
- IZRK should launch projects of territorial and interdisciplinary integration of care for the Dinaric Karst

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A new spark of karstology
needs to be ignited!
- Holistic karstology!

Thank you!!!

