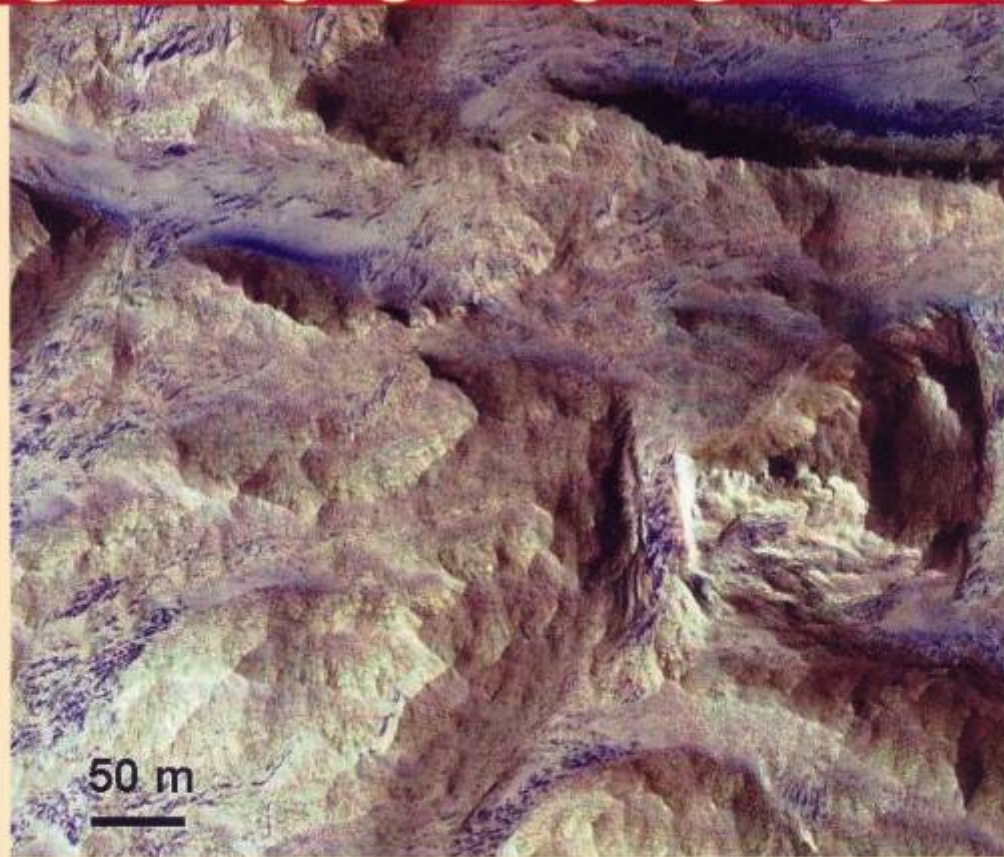


ACTA CARSOLOGICA



38/1 • 2009

ACTA CARSOLOGICA
ISSN 0583-6050
© ZNANSTVENORAZISKOVALNI CENTER SAZU

Uredniški odbor / Editorial Board

Pavel Bosák, Academy of Sciences of the Czech Republic
Franco Cucchi, University of Trieste, Italy
Jože Čar, University of Ljubljana, Slovenia
Franci Gabrovšek, Karst Research Institute ZRC SAZU, Slovenia
Ivan Gams, University of Ljubljana, Slovenia
Matija Gogala, Slovenian Academy of Sciences and Arts, Slovenia
Andrej Kranjc, Karst Research Institute ZRC SAZU, Slovenia
Marcel Lalkovič, The Slovak Museum of Nature Protection and Speleology
Jean Nicod, Emeritus Professor, Geographical Institute, Aix en Provence, France
Mario Pleničar, University of Ljubljana, Slovenia
Trevor R. Shaw, Karst Research Institute ZRC SAZU, Slovenia
Tadej Slabe, Karst Research Institute ZRC SAZU, Slovenia

Glavni in odgovorni urednik / Editor-in-Chief

Andrej Kranjc

Pomočnik urednika / Co-Editor

Franci Gabrovšek

Tajnica revije / Journal Administrator

Nataša Ravbar

Znanstveni svet / Advisory Board

Ahmad Afrasibian, Philippe Audra, Ilona Bárány - Kevei, Arrigo A. Cigna, David Drew, Wolfgang Dreybrodt,
Derek Ford, Paolo Forti, Helen Goldie, Laszlo Kiraly, Alexander Klimchouk, Stein-Erik Lauritzen, Bogdan Onac,
Armstrong Osborne, Arthur Palmer, Ugo Sauro, Boris Sket, Kazuko Urushibara-Yoshino,

Naslov uredništva / Editor's address:

Inštitut za raziskovanje krasa ZRC SAZU - Karst Research Institute ZRC SAZU
SI - 6230 Postojna, Titov trg 2, Slovenija
Fax: +386 (0)5 700 19 99; e-mail: kranjc@zrc-sazu.si

Spletni naslov / Web address: <http://carsologica.zrc-sazu.si>

Sprejeto na seji IV. razreda SAZU 27. novembra 2008.

Distribucija in prodaja / Ordering address:

Založba ZRC/ZRC Publishing
Novi trg 2, P.O.Box 306, SI-1001 Ljubljana, Slovenia
Fax: +386 (0)1 425 77 94; e-mail: zalozba@zrc-sazu.si; <http://zalozba.zrc-sazu.si>

Cena / Price

Posamezni izvod / Single Issue
Individual / Posameznik: 15 €
Institutional / Institucija: 25 €

Letna naročnina / Annual Subscription

Individual / Posameznik: 25 €
Institutional / Institucija: 40 €

Slika na naslovnici:

Korozijske oblike na vzhodni Tithonijski domi na Marsu (slika MRO HiRISE)
(gl. članek Baiomi, Zupan Hajna & Wezel)

Cover photo: Solutional features on Eastern Tithonium Dome on Mars (picture by MRO HiRISE).
See article by Baiomi, Zupan Hajna & Wezel.

ACTA CARSOLOGICA

38/1
2009

SLOVENSKA AKADEMIJA ZNANOSTI IN UMETNOSTI
ACADEMIA SCIENTIARUM ET ARTIUM SLOVENICA
Razred za naravoslovne vede – Classis IV: Historia naturalis

ZNANSTVENORAZISKOVALNI CENTER SAZU
Inštitut za raziskovanje krasa – Institutum carsologicum

LJUBLJANA 2009

CONTENTS

VSEBINA

PAPERS

ČLANKI

- Davide BAIONI, Nadja ZUPAN HAJNA & Forese Carlo WEZEL*
9 KARST LANDFORMS IN A MARTIAN EVAPORITIC DOME
KRAŠKE OBLIKE POVRŠJA NA MARSOVI EVAPORITNI DOMI
- Wolfgang DREYBRODT & Franci GABROVŠEK*
19 SMALL-SCALE TERRACES AND ISOLATED RIMSTONE POOLS ON STALAGMITES IN CAVES EXHIBIT STRIKING SIMILARITY TO LARGE-SCALE TERRACE LANDSCAPES AT HOT SPRINGS
DROBNE SIGASTE TERASE NA STALAGMITIH, SO PRESENETLJIVO PODOBNE VELIKIM TERASAM, KI RASTEJO OB TERMALNIH KRAŠKIH IZVIRIH
- Bogdan P. ONAC, Jonathan SUMRALL, Tudor TĂMAȘ, Ioan POVARĂ, Joe KEARNS, Veronica DĂRMICEANU, Daniel VERES & Cristian LASCU*
27 THE RELATIONSHIP BETWEEN CAVE MINERALS AND H₂S-RICH THERMAL WATERS ALONG THE CERNA VALLEY (SW ROMANIA)
POVEZAVA MED JAMSKIMI MINERALI IN TERMALNIMI VODAMI BOGATIMI Z ŽVEPLOVODIKOM V DOLINI CERNE (JZ ROMUNIJA)
- Matej LIPAR*
41 PINNACLE SYNGENETIC KARST IN NAMBUNG NATIONAL PARK, WESTERN AUSTRALIA
STOLPIČASTI SINGENETSKI KRAS V NARODNEM PARKU NAMBUNG V ZAHODNI AVSTRALIJI
- Ugo SAURO, Francesco FERRARESE, Roberto FRANCESE, Antonella MIOLA, Paolo MOZZI, Gualtiero QUARIO RONDO, Luca TROMBINO & Gianna VALENTINI*
51 DOLINE FILLS - CASE STUDY OF THE FAVERGHERA PLATEAU (VENETIAN PRE-ALPS, ITALY)
ZAPOLNITVE VRTAČ - PRIMER S PLANOTE FAVERGHERA (BENEČIJSKE PREDALPE, ITALIJA)
- Kevin KIERNAN*
65 DISTRIBUTION AND CHARACTER OF KARST IN THE LAO PDR.
RAZPROSTRANJENOST IN ZNAČILNOSTI KRASA V LAOSU
- Zoran STEVANOVIĆ, Adrian IURKIEWICZ & Aleksandra MARAN*
83 NEW INSIGHTS INTO KARST AND CAVES OF NORTHWESTERN ZAGROS (NORTHERN IRAQ)
NOVI POGLEDI NA KRAS IN JAME V SEVEROZAHODNEM ZAGROSU (SEVERNI IRAK)
- Martin KNEZ, Janja KOGOVŠEK, Andrej KRANJC, Hong LIU, Metka PETRIČ & Tadej SLABE*
97 THE SHUILIAN CAVE IN THE UPPER REGION OF THE CHANG RIVER (KARST OF NW YUNNAN, CHINA)
JAMA SHUILIAN V ZGORNJEM POREČJU REKE CHANG (KRAS SEVEROZAHODNEGA YUNNANA, KITAJSKA)

NEW INSIGHTS INTO KARST AND CAVES OF NORTHWESTERN ZAGROS (NORTHERN IRAQ)

NOVI POGLEDI NA KRAS IN JAME V SEVEROZAHODNEM ZAGROSU (SEVERNI IRAK)

Zoran STEVANOVIĆ¹, Adrian IURKIEWICZ² & Aleksandra MARAN³

Abstract

UDC 911.2:551.44(567-179)

*Zoran Stevanovic, Adrian Iurkiewicz & Aleksandra Maran:
New insights into karst and caves of northwestern Zagros
(northern Iraq)*

During 2002, several reconnaissance speleological explorations were undertaken by the authors and local enthusiasts in the karst of Northwestern Zagros in Northern Iraq. Some of the caves were visited for the first time and explored to a great depth by the scientists, while the Shanidar cave is a world-famous site representing one of the oldest discovered and investigated human settlements. The explored caves are located in well-karstified limestones of the Cretaceous age as well as in younger Eocene limestones. This paper contains the data from the nine largest caves. Their total explored lengths range from a few tens of meters up to several hundred meters. Four caves are fossil, containing only percolated water, while five represent still hydrogeologically active features. Two of them have resulted from the dissolution of carbonate or evaporate rocks stimulated by water oversaturated in H_2S which migrated from deeper oil-bearing structures.

Keywords: karst, cave, Zagros, northern Iraq.

Izvleček:

UDK 911.2:551.44(567-179)

*Zoran Stevanovic, Adrian Iurkiewicz & Aleksandra Maran:
Novi pogledi na kras in jame v severozahodnem Zagrosu
(severni Irak)*

Leta 2002 so avtorji in lokalni navdušenci opravili več poizvedovalnih speleoloških raziskav na krasu severozahodnega dela gorovja Zagros v severnem Iraku. Nekaj jam so raziskovalci sami odkrili in jih raziskali do velikih globin, medtem ko jama Shanidar slovi v svetu kot ena najstarejših odkritih in raziskanih človeških naselbin. Jame, ki so jih raziskali, so tako v dobro zakraselih krednih kot tudi v mlajših eocenskih apnenicah. Prispevek podaja podatke o devetih največjih jamah, ki so dolge od nekaj deset pa do več sto metrov. Štiri jame so fosilne, z zgolj kapljajočo vodo, ostalih pet pa je hidrološko aktivnih. Dve jami sta nastali z raztapljanjem karbonatnih ali evaporitnih kamnin potom vode, prenasočene s H_2S , pritekajoče iz globljih naftonosnih struktur.

Gljučne besede: kras, jama, Zagros, severni Irak.

INTRODUCTION

During the period of 2000-2003, the first two authors of this paper led large-scale geologic and geophysical investigations, groundwater monitoring (wells and springs), remote sensing analysis, and groundwater quality assessment in the northern part of Iraq (Iraqi Kurdistan) under the FAO Programme (part of the "Oil for Food" UN

activities). The third author worked on foundation of the Natural History Museum at Sulaimani University.

Very limited time, lack of adequate equipment, as well as political and security conditions in the area impeded the extensive surveys necessary to achieve a consistent and more detailed image of cave development in

¹ Department of Hydrogeology, University of Belgrade – Faculty of Mining and Geology; FAO Consultant, Serbia, zstev@eunet.rs

² Research Department of Environmental Geology and Geophysics, University of Bucharest; FAO Consultant, Romania, aiwicz@yahoo.com

³ Natural History Museum, Belgrade, Serbia, amaran@nhmbeo.org.rs

Received/Prejeto: 24.04.2008

Available on web site of the Acta Carsologica:

<http://ojs.zrc-sazu.si/carsologica/issue/archive>