

# Geologica Balcanica

**XXI International Congress of the Carpathian Balkan Geological  
Association (CBGA)**

**A B S T R A C T S**

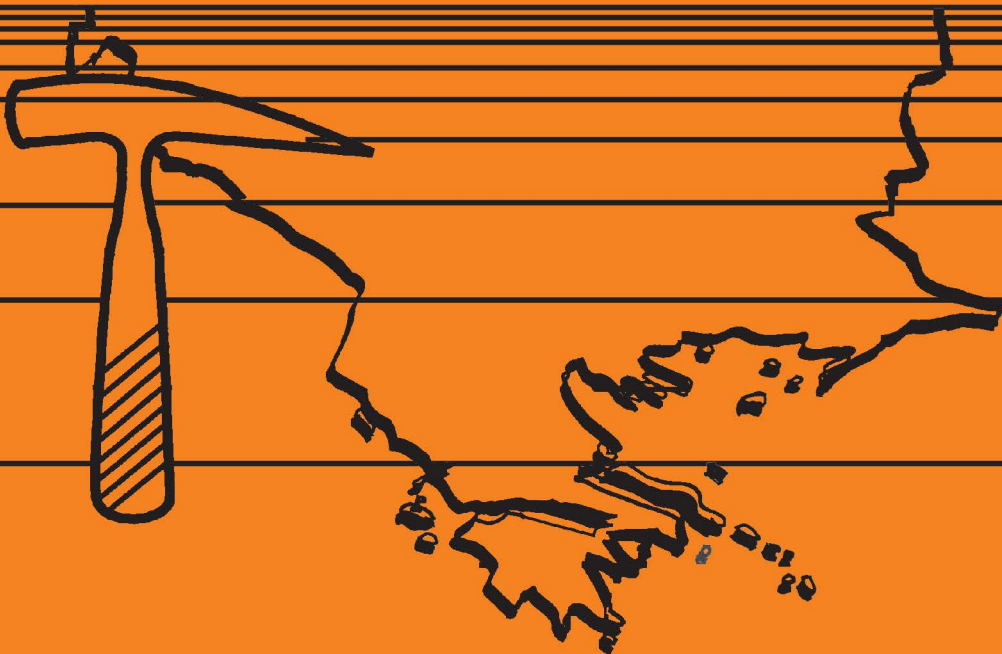
**Advances of Geology in southeast European mountain belts**

**Franz Neubauer, Uwe Brendel & Gertrude Friedl  
(Editors)**

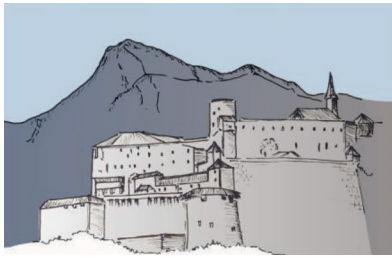
September 10–13, 2018  
University of Salzburg, Austria



Bulgarian Academy of Sciences



*Geologica Balcanica*, Geological Institute, Bulgarian Academy of Sciences  
Acad. G. Bonchev Street, Bl. 24, 1113 Sofia, Bulgaria  
Fax: (00359-2) 8724-638; email: [geolinst@geology.bas.bg](mailto:geolinst@geology.bas.bg); [gbalc@geology.bas.bg](mailto:gbalc@geology.bas.bg); [editorial-office@geologica-balcanica.eu](mailto:editorial-office@geologica-balcanica.eu)  
Website: [www.geologica-balcanica.eu](http://www.geologica-balcanica.eu)



## XXI International Congress

Carpathian Balkan Geological Association  
Salzburg (Austria), September 10 -13, 2018

CBGA 2018 - Austria



## XXI International Congress of the Carpathian Balkan Geological Association (CBGA)

### ABSTRACTS

## Advances of Geology in southeast European mountain belts

Franz Neubauer, Uwe Brendel & Gertrude Friedl  
(Editors)

September 10–13, 2018  
University of Salzburg, Austria



*View from the Faculty of Natural Sciences to the Untersberg Massif in the southwest*

# Preface

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Welcome to CBGA 2018 – the XXI Conference of the Carpathian-Balkan Geological Association (CBGA), which is held at the Paris-Lodron-University of Salzburg, Austria, from September, 10 to 13, 2018. As previous CBGA conferences (Thessaloniki 2010, Tirana 2014), CBGA 2018 aims to provide a forum where scientists, especially early career researchers, can present and discuss their recent research work and ideas with experts in all fields of geosciences. The regional focus of CBGA 2018 is mainly on mountain belts stretching from Eastern Alps over such in southeastern Europe to western Turkey and beyond. The geology of southeast European mountain belts can only be understood when the western and eastern extensions are taken into consideration.

What is the Carpathian-Balkan Geological Association? This association has a nearly one hundred year of history, consists of sixteen member states and is affiliated to the Inter-Union of Geological Sciences (IUGS). Initially founded for discussion of the regional geology of Carpathian and Balkan region, the focus widened to neighbour areas like Alps and had its heydays during the political divide of the region after the Second World War.

This abstract volume of the XXI Conference of the Carpathian-Balkan Geological Association contains all abstracts submitted to the conference. The initial plan was to have a number of sessions proposed by conveners to General Themes covering all fields of recent research activities within that region. Finally, several sessions have been merged to 20 larger sessions and these sessions nicely reflect results of active international collaborations between researchers of various countries. The editors of this volume gratefully acknowledge the efforts of conveners to bring in their specific community and their help on organizing sessions and reading and assessing abstracts.

Within each session, the abstract volume gives the following sequence of abstracts according to the sequence of oral presentations and then poster presentations, allowing an easier overview on a specific field. The further plan after the conference is to publish several sets of thematically coherent peer-reviewed papers in international journals including such in the official journals of CBGA, *Geologica Carpathica* and *Geologica Balcanica*. This step for internationality is necessary to get more attention of the international geoscience community and give awareness to the geological peculiarities of the CBGA region.

The organizers also acknowledge support of institutions and companies in helping to organize the conference. Among these, we want particularly to mention the State Government and the City of Salzburg, the Austrian Geological Survey, the Paris-Lodron-University of Salzburg and its Department Geography and Geology, but also many companies allowing access for geological field excursions.

The organizers of CBGA 2018 hope that the XXI Conference of the Carpathian-Balkan Geological Association results in many fruitful discussions and triggers many new international and multi-national collaborations for deepening of insights in the particular geology of the CBGA region.

Salzburg, August 2018

Franz Neubauer, Uwe Brendel & Gertrude Friedl  
(Editors of the Abstract Volume)

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*Conveners: Milan Kohut, Anca Dobrescu, Ioan Seghedi, Dejan Prelević, Kristina Šarić, Vladica Cvetković, Károly Németh, Réka Lukács and Fritz Finger*

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## Mineralogical and petrological characteristics of igneous rocks used for making polished stone tools from the Eneolithic archaeological site Masinske Njive (Serbia)

Kristina Šarić<sup>1</sup>, Suzana Erić<sup>1</sup>, Dragana Antonović<sup>2</sup>, Vladica Cvetković<sup>2</sup>, Josip Šarić<sup>2</sup>

<sup>1</sup> University of Belgrade, Faculty of Mining and Geology, Belgrade, Serbia; e-mail: kristina.saric@rgf.bg.ac.rs

<sup>2</sup> Institute of Archaeology, Belgrade, Serbia

In this study we report results of mineralogical and petrological investigations of 12 samples, which represent raw material used for making polished stone tools from the Eneolithic archaeological site Masinske Njive (Serbia). It is located about 45 km southwest from Belgrade, within the largest Serbian coal mining field called “Kolubara”, in the close vicinity to the Starčevo and Eneolithic archaeological site Jaričište. The applied methods – optical transmitted light microscopy and SEM-EDS analyses – provided data about the composition and rock classification of the raw material and enabled important constraints on its possible origin.

Although the entire collection contains different rock types, we focus here only on igneous rocks. Two different rock facies of magmatic origin were found at Masinske Njive: hydrothermally altered volcanoclastics and facies of coherent quartzlatites. The main petrographic feature of the hydrothermally altered volcanoclastics is the presence of pumice. This characteristic implies that part of the raw material derived from rocks that were formed exclusively during explosive volcanic episodes. The facies of coherent quartzlatites can be divided into two varieties: mica-bearing quartzlatites, and pyroxene-bearing quartzlatites. The mica-bearing quartzlatites contain sieved plagioclases and display evidence of phlogopitization of biotite. The phlogopitized parts of biotites show higher SiO<sub>2</sub> and MgO contents and lower FeO(t), and Al<sub>2</sub>O<sub>3</sub> concentrations compared to fresh biotites. The pyroxene-bearing quartzlatites do not possess any of the mentioned characteristics typical of the mica quartzlatites.

According to the information known from the local geology, we can emphasize that the pumice-bearing facies, along with the rocks which displaying effects of biotite phlogopitization are typical for volcanic successions of the Cenozoic igneous complexes of Serbia (Rudnik-Borač-Kotlenik, Kopaonik, Golija, Rogozna). Although all these complexes may be proper candidates for the origin of this raw material, the closest area to Masinske Njive is the volcanic complex of the Rudnik Mts, which strongly suggest that this was the area of origin of the studied raw material. The pyroxene-bearing quartzlatites differ from the mica-bearing varieties both in their petrography and presumably in petrogenesis, therefore, we suppose that the former represent a raw material of different provenance.

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