

Mitteilungen der Österreichischen Mineralogischen Gesellschaft

Band 155



2009

Vereinsjahr 2008

Gefördert aus Mitteln des Bundesministeriums für Wissenschaft und Forschung in Wien.

Impressum:

Eigentümer, Herausgeber und Verleger: Österreichische Mineralogische Gesellschaft
p.A. Mineralogisch-Petrographische Abteilung, Naturhistorisches Museum Wien
Burgring 7, A-1014 Wien

Homepage: <http://www.univie.ac.at/Mineralogie/Oemg.htm>

ISSN 1609-0144

Redaktion:

Friedrich Koller, Institut für Geologische Wissenschaften, Universität Wien
Geozentrum, Althanstraße 14, A-1090 Wien

Anton Beran, Institut für Mineralogie & Kristallographie, Universität Wien
Geozentrum, Althanstraße 14, A-1090 Wien

Richard Tessadri, Institut für Mineralogie & Petrographie, Universität Innsbruck
Innrain 52, A-6020 Innsbruck

Gestaltung und Layout:

R. Tessadri (Innsbruck)

Für den Inhalt sind die Autoren selbst verantwortlich.

Druck: Anton Riegelnik, Piaristengasse 19, A-1080 Wien

Printed in Austria

MINPET 2009 – MSCC 2009

SEPTEMBER 7–11th, 2009

BUDAPEST, HUNGARY

ABSTRACTS



**PROVENANCE STUDIES OF THE BUILDING STONES USED FOR THE
CALVARY CHURCH (CLUJ-NAPOCA, ROMANIA)**

Nagy-Korodi, I.¹, Gál, Á.¹, Ionescu, C.¹ & Szakács, A.^{1,2,3}

¹Dept. of Mineralogy, Faculty of Biology and Geology, Babeş–Bolyai University; str. Kogălniceanu 1, RO-400084, Cluj-Napoca, Romania

²Romanian Academy, Institute of Geodynamics, Jean Louis Calderon Str. 29-31, RO-020032, Bucharest, Romania

³Sapientia University, Dept. of Environmental Sciences, Matei Corvin Str. 4, RO-400112, Cluj-Napoca, Romania

e-mail: nagy_isu@yahoo.com

The present work focuses on the texture, microfacies and mineralogical characteristics of limestones used for the XIIIth century Calvary Church – a Benedictine Abbey from Cluj-Napoca, Romania. It is also well-known as Cluj-Mănăştur Church (Kolozsmonostor in Hungarian, Abtsdorf in German). Large areas of the monument surface show various degrees of decay. The thickness of the degraded layer ranges from a few millimetres to a centimetre. Several forms of degradation have been identified: black crust (gypsum patina) formation, biofilm overgrowths (*Chlorella* sp., *Xanthoria parietina* and *Rhizocarpon geographicum*), and physical disintegration including scaling. The microfacies analysis provided information on the texture, amount and composition of abiogenic and biogenic particles and micrite matrix, as well as the type and spatial distribution of cement. The limestone blocks show a wide range of facies types, mostly highly porous oolitic packstone-grainstone and grainstone. Some wackestone and wackestone-packstone were also found.

To identify the geological source(s) of the Calvary church building stones, similar limestone deposits cropping out in the surroundings of the Cluj-Napoca city were sampled, e.g the Eocene limestones from Viştea, Mera, Izvorul lui Sfântul Ion, Gura Baciului, and Cluj-Mănăştur Quarry and the Oligocene sandstones from Cetăţuia-Cluj. Among these, the packstone-grainstone and grainstone from Mera and the Cluj-Mănăştur Quarry, respectively, show the highest petrographical and microfacial similarity with the examined monument rocks. Regarding the wackestone and wackestone-packstone ashlar, they could have the same origin as packstone-grainstone and grainstone, but were exploited in different part of the same Mera or Cluj-Mănăştur quarries.

Based on the comparison of the petrographical features, we may assume that the Calvaria Church was most likely built of limestone blocks exploited in the old quarry of Cluj-Mănăştur. This is also supported by a) historical records, which state that in the period of construction, the Cluj-Mănăştur quarry belonged to the Benedictine Abbey and was highly active, and b) the close location of the quarry, at less of 1 km southwest of the church.

The study was financially supported by ID-2241 funds (Romanian Ministry of Education and Research).