PŮVODNÍ PRÁCE/ORIGINAL PAPER

# Zeolitová mineralizace s barytem z Rousínova u Cvikova v Lužických horách (Česká republika)

## Zeolite mineralization with barite from Rousínov near Cvikov in Lužické hory Mts. (Czech Republic)

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### Abstract

A new occurrence of offretite and harmotome in association with baryte was detected in basalts at Rousínovský hrádek near Rousínov, Lužické hory Mountains (Czech Republic). Offretite forms colorless hexagonal acicular crystals up to 0.8 mm in length and radial or hemispherical aggregates up to 2 mm across. It is hexagonal, space group *P*-6*m*; unit-cell parameters of offretite, refined from the powder X-ray data, are: *a* 13.301(4), *c* 7.621(2) and *V* 1167.6(3) Å$^3$. Chemical analyses of offretite correspond to the empirical formula $K_{1.02}Ca_{1.02}Mg_{0.76}Ba_{0.04}Na_{0.01}Si_{13.22}(Al_{4.81}Fe_{0.02})_{\Sigma 4.83}O_{36}\cdot 15H_2O$. Harmotome was found as colorless to whitish crystals and characteristic twins up to 2 mm in size. It is monoclinic, space group $P2_1/m$, the unit-cell parameters, refined from the powder X-ray data, are: *a* 9.887(3), *b* 14.116(6), *c* 8.657(3) Å, *β* 124.58(2)° and *V* 994.7(6) Å$^3$. Chemical composition of harmotome correspond to the empirical formula $(Ba_{1.96}K_{0.05}Na_{0.04}Ca_{0.03})_{\Sigma 2.07}(Si_{11.75}Ti_{0.07})_{\Sigma 11.82}O_{32}\cdot 12H_2O$. Baryte forms colorless to white tabular crystals and their groups up to 2 mm in size, it has an increased content of SrO and its empirical formula is possible to express as $(Ba_{0.93}Sr_{0.06}Ca_{0.01})_{\Sigma 1.00}SO_4$. Described locality is interesting by anomalous increased concentrations of barium (occurrence near to end-member harmotome and baryte) which had not been found at similar types of zeolite mineralizations in the Czech Republic.

***Key words:*** *harmotome, offretite, baryte, powder X-ray diffraction data, unit-cell parameters, chemical composition, Rousínov near Cvikov, Lužické hory Mts., Czech Republic*

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