

## **Enigmatic presence of zircon crystals in rocks from teschenite-picrite association in the Silesian Unit (southern Poland)**

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The main products of volcanic activity in the teschenite-picrite association (the Polish Outer Western Carpathians, Central Europe) are shallow, sub-volcanic intrusions, which are mainly represented by teschenite, picrate, lamprophyre, dolerite and syenite. Up to now, a lack of primary magmatic zircon, monazite or xenotime made apatite the most suitable phase for U-Pb dating of the igneous rocks. The probable time of volcanic activity in the Silesian Basin took place from 128 to 103 Ma and most likely peaked between 128-120 Ma (based on LA-ICP-MS U-Pb apatite dating).

Recently, in one syenite sample zircon grains were found. Preliminary microscopic observations revealed, that zircon grains are represented by two types differing in shape and size. The first zircon group are ball-shaped with crystals up to 50-80  $\mu\text{m}$  in size. The second group of zircon is euhedral in habit with crystals up to 100  $\mu\text{m}$  long. The zircon crystal were not dated yet. Their magmatic origin has not been confirmed, and their origin is still controversial. Zircon crystals are present in the magmatic rocks, but near the contact with sedimentary (potentially rich in heavy minerals) country rock. The origin of zircon can be confirmed by their internal structure, chemistry and dating. In case the zircon crystals has "teschenitic" origin it would be the first such finding. This new data could indeed improve our knowledge on the age of this magmatism and it is worth conducting such research on unique ultramafic bodies.

This study was financially supported by National Science Centre (NCN) Grant 2014/13/B/ST10/02403 (given to AG).