

## **HEAVY MINERALS FROM THE VARIEGATED SHALES MEMBER OF THE SKOLE UNIT (POLISH FLYSCH CARPATHIANS)**

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The aim of this work was to identify the heavy minerals assemblage of the Variegated Shales Member (Upper Palaeocene–Lower Eocene) sediments. The formation consists of argillaceous and clay–silty shales with some isolated sandy bodies. The upper Palaeocene part of the formation consists of the Zohatyn Variegated Shales Member, while the Lower Eocene part consists of the Trójca Red Shales Member, underlain and covered by variegated shales, not distinguished as members (RAJCHEL, 1990).

Heavy minerals from 10 samples of claystones were investigated. The samples were washed in order to remove clay minerals. Heavy minerals were separated by means of a magnetohydrostatic separator, with manganese chloride as a working fluid. The analyses were performed using transmitted light microscopy and electron scanning microscopy with EDS.

Detrital, transparent heavy minerals are represented by glauconite, zircon, tourmaline, rutile, staurolite, micas (biotite, muscovite) and apatite. Garnet, kyanite, sillimanite, chlorites and goethite were identified in small quantities. Ilmenite represents non-transparent minerals.

Zircon is present as colourless crystals with a wide range of shapes. Euhedral crystals are most common and they were classified according to Pupin's diagram (PUPIN, 1980). However, rounded and subrounded grains are also present. There are grains of zircon containing distinct inclusions and showing zonal structure.

Tourmalines occur in percentages comparable to zircon and their chiefly brown and green crystals are characterized by extremely strong pleochroism, coloured from almost colourless to nearly black.

Rutile occurs as euhedral and anhedral crystals, coloured from yellow to dark red. Sometimes elbow twins of rutile are present.

The ZTR factor is very high, indicating high mineralogical maturity of heavy minerals fraction.

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### References

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