

Paleostress Analysis and Special Slip Indicators on Fault Planes in the Surroundings of Malenovice, W of Zlín Town (Rača Unit, Western Carpathians)

Roman NOVOTNÝ and Rostislav MELICHAR

Department of Geology and Paleontology, Masaryk University, Kotlářská 2, 611 37 Brno, Czech Republic

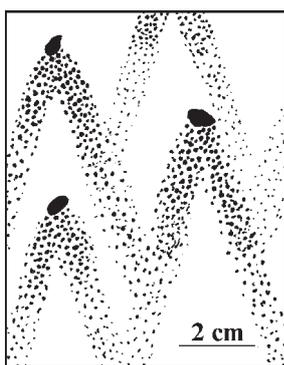


Fig. 1. Slurred pebbles (black) indicate different directions of slip on fault plane.

This abstract presents the first data on paleostress analysis from the Malenovice area (localities: Barabáš, Malenovice-cihelna, Malenovice-hrad, Skalka). The determination of the direction and sense slip on faults is the basic prerequisite for tectonic analysis. In the area under study, observed shear zones do not usually come hand in hand with large plastic deformation and represent a clear discontinuity between two blocks. The best way to determine the slip direction is to observe directly not only the slip surfaces but also additional structures indicating the sense of movement. Searching for fault planes with two and more different direction of striae is very important for the determination of stress fields with different orientation and age.

Base on field data, partial structures indicating the sense of the movement can be divided into several subgroups: tensile cracks, Riedel shears, tectonic slickensides and grooves by fur-

rowing elements. Very interested structures are slurred pebbles. These pebbles are very small (2–10 mm), but their colour is black (graphitic admixture). So if they are slurred, they make a black path along a striae only on one side of pebble depends on sense of movement (Fig. 1).

There are observed two different directions of striae on some fault planes and three different directions on one fault plane. It was possible determine relative age one to another. Base on these facts and base on numerical analysis, it was possible to distinguish up to six paleostress stages, three of them take most of faults studied (Fig. 2). Interpretation of these phases is still under discussion.

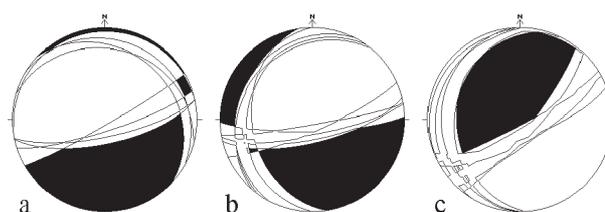


Fig. 2. Equal area projection for σ_1 -field of three main paleostress stages: a – phase D1; b – phase D2; c – phase D5.

Metabasites from the Stronie Schists in the Łądek-Śnieżnik Metamorphic Unit, West Sudetes: Geochemistry and P-T-d Path

Izabella NOWAK and Andrzej ŻELA•NIEWICZ

Instytut Nauk Geologicznych PAN, Podwale 75, 50-449 Wrocław, Poland

Metapelitic schists of the Stronie fm. in the Śnieżnik Metamorphic Unit (SMU), the West Sudetes, are accompanied by minor amounts of marbles, quartzites as well as acid and mafic meta-volcanogenic rocks. Metabasites occur as small lensoid or irregular bodies, rarely exceeding 0.5 km². They form 3 petrographic types differing in mineral composition and texture: A – laminated biotite amphibolite, B – massive amphibolite and C – striped or banded amphibolites.

Amphibolites A have hornblende-tschermakite laminae with minor quartz and plagioclase and biotite-plagioclase-epidote laminae with poikilitic plagioclase porphyroblasts and some titanite. Plagioclase of the amphibole laminae is reversely zoned (An 17–25), plagioclase of the biotite laminae is normally zoned (An 32core–17rim) whereas plagioclase porphyroblasts are compositionally variable (An 3–28; An 25–31) and contain preferentially oriented, straight or folded biotite and amphibole inclu-