

POŘÍČÍ-HRONOV STRIKE SLIP ZONE RELATED STRUCTURES

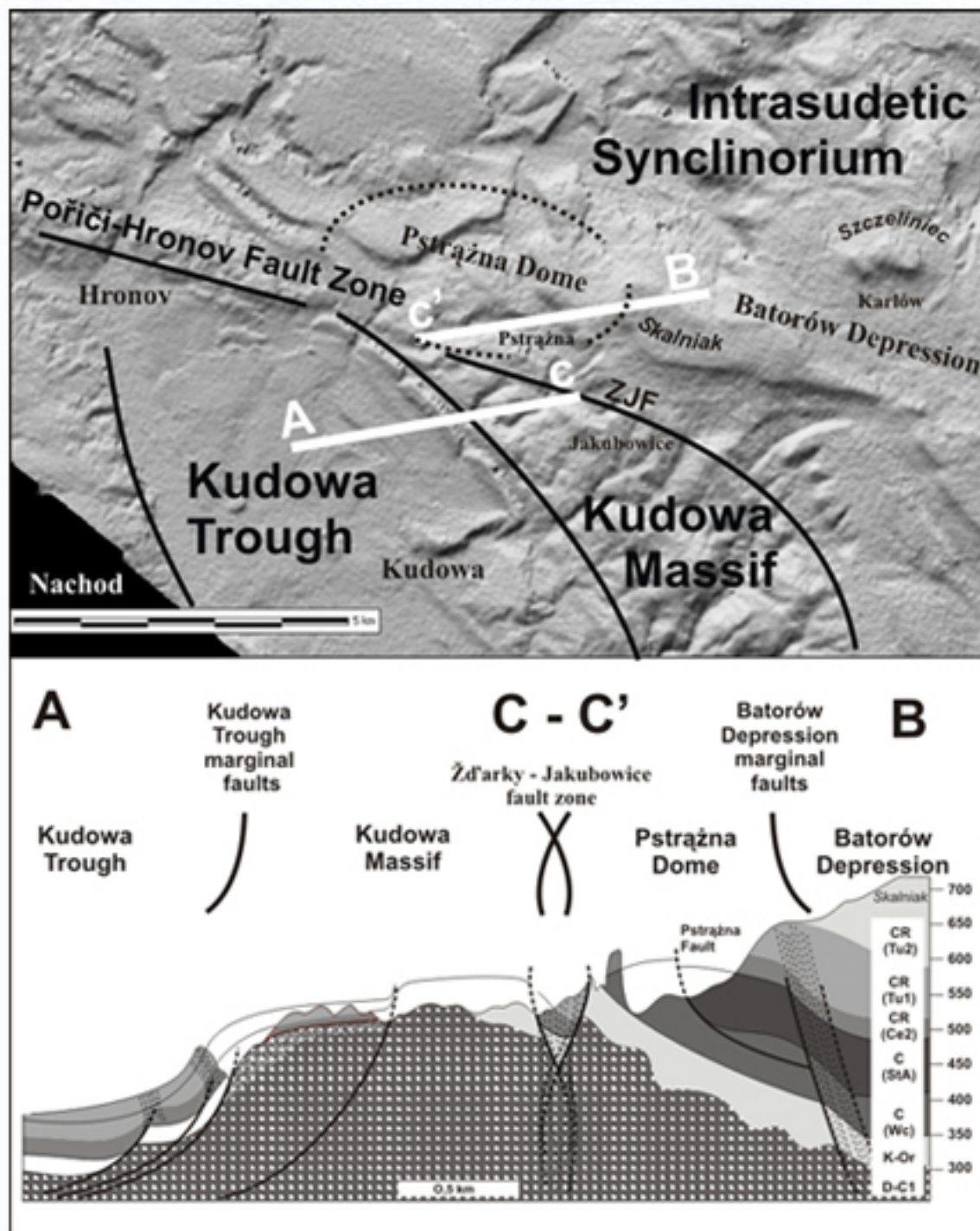
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The precisely mapped area of the Žďárky-Pstrážna vicinity constitutes an integral part of the **Intrasudetic Synclinorium** unit. It is interesting for several reasons. Firstly, because since the 19th century small, though easily accessible coal seams have been excavated and the village of Pstrážna have become a miners' settlement. Secondly, this area is situated at the border of two prominent structural units – the **Kudowa Granitoid Massif** and **Kudowa Trough** – as well as at the termination of the major sudetic dislocation zone – the **Poříčí-Hronov Fault Zone**. The mapping field was limited by the following geographical coordinates: the northern border – 50°28'58"; southern border – 50°27'38"; western border – 16°14' 33" and the eastern border – 16°16'33". In the Žďárky-Pstrážna area the structural boundaries between the crystalline and sedimentary rocks and between Carboniferous and Cretaceous rocks are of particular significance. In the nearby – in the vicinity of Žďárky – these boundaries have been directly documented in mine drifts and they commonly are of reverse fault type. Alike phenomena, although not precise both in description and interpretation, were identified in the vicinity of Pstrážna, where in one of the drifts (*Wilhelminen Schacht*) tectonic boundary of Carboniferous had been described, and where reverse stratigraphical sequence had been (probably?) documented. In places, without any justification, the boundary between the Carboniferous and the Cretaceous was interpreted as an overthrust, which in consequence became a „basis” for some of the structural models of the Middle Sudetes.

Two distinct structural elevations are distinguishable in the area of Pstrážna – the **Pstrážna Dome** and the **Kudowa Massif**. They are separated by a dislocation zone consisting of numerous normal or reverse faults. An immanent feature of this zone is structural disintegration and common occurrence of structures indicating dextral dislocation with significant horizontal component of the movement. The most characteristic phenomenon is shear slaty cleavage, which so far was often misinterpreted as bedding in sedimentary rocks. The **Žďárky-Jakubowice Fault (ŽJF)** constitutes the eastern extension of the Poříčí-Hronov dislocation. On the opposite side relative to ŽJF the elevations are assisted by tectonic depressions – the **Kudowa Trough** in the west and the **Batorów Depression** in the east. The Pstrážna and Kudowa structural elevations, despite distinct differences, depict some structural similarity. Their boundaries neighbouring with ŽJF are of fault type and steeply inclined, while the opposite boundaries dip more gently and the sedimentary covers form fault-forced folds. Also the shape outline of both elevations relative ŽJF is similar. Considering the altitude of the basement in the depressions (from about -100 to 50 m a.s.l. respectively), relative vertical amplitude of the displacement along Ž-JF exceeds 600 m. Horizontal displacement along ŽJF is difficult to assess. While the dextral displacement seems certain, its amplitude is difficult to be determined. Based on the offset of the Carboniferous and the Cretaceous contacts along the faults trending 310°-130° and considering possible fold shortening in the elevation areas, this component can be assessed most certainly as 100 m according to the Carboniferous outcrops.



Therefore, the name of the „Pstražna Dome” refers first of all to the style of deformation of the Cretaceous formations. And these depict an inclination outwards of the Carboniferous outcrops, forming, thus, a structural dome – brachyanticline. This structure had developed in the post-Cretaceous, and its development only slightly modified the older structural pattern of monoclinial setting of the Carboniferous formations (north-western dips of beds in the western part of the Carboniferous outcrops). It is not clear when exactly the Pstražna Dome had developed. It is separated by ŽJF to the south from the Kudowa Trough. The Kudowa Trough is in turn open to the south, where since the Miocene alluvial sediments from the eroded Kudowa Elevation have accumulated. And although it cannot be straightforwardly proved, just the Neogene seems to be the period of the tectonic troughs of Kudowa and Žernov initial development. The brachyanticlinal pattern of the Pstražna Dome, due to the lack of cartographical evidence of formerly supposed „thrusts”, must meet another explanation than a simple regional compression. Moreover, the author does not find proofs which could exclude the possibility of complementary and even synchronous development of the following structures: the Pstražna Dome, the Kudowa Massif, Batorów Depression, the Kudowa Trough and the Žďárek-Jakubowice Fault. Their mutual arrangement, their outline and subsidiary structural features (faults, shear zones) indicate that they all could develop as conjugated structures over a regional strike-slip discontinuity. The features imaged on a structural model, as well as those described above in the paper, allow, in the author's opinion, to assent the Pstražna Elevation and the Žďárek-Jakubowice Fault as features originated over and within the strike-slip zone, and the tectonic depressions of Kudowa and Batorów as a pull-apart basins conjugated with the zone. According to the author, the development of the structures has started in the Miocene and persists until present.