

### **Palaeoecology of selected localities of the Whetstone Horizon**

In frames of the present thesis taphonomical and paleoecological processed were described in selected localities of whetstone horizon. Fossil plant assemblage known from the locality Štilec represents plant community buried *in situ* by volcanic ash after volcanic explosion (Pennsylvanian, Bolsov). Plant community exhibits relatively low diversity assemblage of herbaceous and subarborescent plants. This unique taphocoenose was interpreted as pioneer assemblage growing in partly drained lake. In the locality Ovčín the peat bog of Lower Radnice Seam was buried during the same volcanic eruption by volcanic ash. Up to now 5 excavations were recovered of the area of seats over 150 m<sup>2</sup> on two sites which are approximately 40 m distant from each other. In this area 27 morphotaxa of fossil plant was recorded. They represent 20 whole plants. Fossil plant remains represent fossil plant assemblage dominated by lycopod plants of planar (rheotrophic) swamp situated in narrow palaeovalley with active fluvial system.

Second part of the thesis is focused on systematic descriptions of fossil plant taxa from localities of the Whetstone horizon. A monotypic genus *Huttonia* and species *Huttonia spicata* from Class Sphenopsids was emended. Further there were described two new species of the genus *Bowmanites*: *Bowmanites weissii*, *B. taylori*, *B. brasensis* and *B. pseudoaquensis*. Last two were for the first time described from compression material. Their strobili contain spores of the genus *Pteroretis*. A new subarborescent lycopod *Spencerites leismanii* was described from locality Štilec. Four new species of the genus *Polysporia*, (*P. rothwellii*, *P. drabekii* and *P. radvanicensis*) and their spores *in situ* were described from the Late Palaeozoic basins of Czech Republic.