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VERTEBRATES FROM BOREHOLES IN PERMO-CARBONIFEROUS LIMNIC BASINS OF THE BOHEMIAN MASSIF

The systematic collection and investigation of vertebrate fauna from boreholes started in 1982. Up to now the fossil fauna from 83 boreholes in 7 basins /the Plzeň, Kladno, Roudnice, Mšeno, Mnichovo Hradiště, Krkonoše Piedmont, and Intra-Sudetic Basins/was studied. The fauna was found in various lithostratigraphic units of the Westphalian D to Autunian age. The study of boreholes yielded first finds of fauna in 12 lithostratigraphic units and the discovery of two probably new species of paleoniscoid fishes. However the most frequent finds are represented by fish scales, teeth, bones and coprolites, the perfectly preserved articulated specimens were also found. The vertebrates are represented by sharks /?Expleuracanthus sp., Orthacanthus sp., Palaeoxyris appendiculata, ?Tubulacanthus sulcatus, ?Xenacanthus sp./, acanthodians /Acanthodes sp., A. "gracilis bendai"/, paleoniscoid fishes /?Aeduella sp., Paramblypterus sp., Progyrolepis speciosus, Sphaerolepis kounoviensis, Spinarichthys dispersus, Watsonichthys sp., W. sphaerosideritarum, Zaborichthys fragmentalis/, and amphibians /?Branchiosaurus sp./. In addition to vertebrates, remains of lamellibranchs, ostracods, syncarids, arachnids, and insects were found too.

Almost all groups of vertebrates were already utilized for the biostratigraphic zonation. The utilization of paleoniscoid scales /especially sculptured scales/ needs care and thorough redescription, because their size and shape is variable. However scales are very suitable for biostratigraphic purposes owing to their abundance and common appearance in lacustrine sediments. On the basis of vertebrates /mostly sculptured paleoniscoid scales/ it is now provisionally possible to determine following local biozones:

1/ The assemblage-zone Pyritocephalus-Sceletophorus is known from Nýřany Coal Seams /Westphalian D/ only

2/ The fauna lacking interval-zone includes overlying sediments of Nýřany Coal Seams and the Týnec Formation /Westphalian D - Stephanian A/

3/ The assemblage-zone Sphaerolepis-Watsonichthys includes interval from the Jelenice Member to the Klobuky Horizon /Stephanian B-C/

   a/ The acme-zone Watsonichthys /Jelenice - Hředle Members/

   b/ The acme-zone Sphaerolepis /Ledce Member - Klobuky Horizon/

4/ The taxon-range-zone Acanthodes "gracilis bendai" includes the Rudník Horizon and probably also the Stránka Horizon /Lower Autunian/. The upper boundary is located below the Kalná /in Krkonoše Piedmont Basin/, Ruprechtice /in Intra-Sudetic Basin/, and Bačov /in Boskovice Furrow/ Horizons. In my opinion the Permian/Carboniferous boundary is located between the Klobuky and Stránka Horizons /in Central Bohemian Basins/ and between the Ploužnice and Rudník Horizons /in the Krkonoše Piedmont and Mnichovo Hradiště Basins/.

At the present time it is possible to correlate some lithostratigraphic units within the Bohemian basinal system. The horizon of black claystones of the Syřenov Formation belongs to the acme-zone Watsonichthys; the Ploužnice Horizon and the Štěpanice-Čikvásky Coal Seams undoubtedly pertain to the acme-zone Sphaerolepis. Before the future correlations among various basinal systems it is necessary to redescribe respective faunas.