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HISTOLOGICAL ANALYSIS AND COMPARISON BETWEEN BONES OF *STEPHANORHINUS KIRCHBERGENSIS* FROM GORZÓW WIELKOPOLSKI (POLAND), WOOLLY RHINOCEROS *COELODONTA ANTIQUTITATIS,* INDIAN RHINOCEROS *RHINOCEROS UNICORNIS,* BLACK RHINOCEROS *DICEROS BICORNIS* AND WHITE RHINOCEROS *CERATOTHERIUM SIMUM* – PRELIMINARY DATA AND PERSPECTIVES

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During construction of express way S3 in april 2016 in the environs of Gorzów Wielkopolski a very well-preserved skeleton of rhinoceros was found. Preliminary expertise shows it belonged to species *Stephanorhinus kirchbergensis.* The state of preservation enabled taking samples of metapodial bones suitable for microscopic analyses. Several comparative samples were taken from metapodial bones of woolly rhino *Ceolodonta antiquitatis* from sites in Poland and from extant species of rhinos: indian (*Rhinoceros unicornis*), black (*Diceros bicornis*) and white (*Ceratotherium simum*).

Two methods were applied. In first bones were merged in metyloacrylic resin and cut with diamond saw. Observations were conducted in passing and polarized light. In the second bone roundels were observed in fluorescent microscope without submerging in resin. The objective was to compare the arrangement and diameter of osteons, and diameter of Haversian canals, which may be characteristic for certain taxons, in attempt to answer the question whether it is possible to distinguish extinct species of rhinos using such method.

Preliminary results show that there is no significant difference in trabeculae's thickness in pairs *C. simum – D. bicornis* and *C. antiquitatis – R. unicornis. S. kirchbergensis* shows significant difference when compared to the rest. Distribution of trabeculae's thickness confirms those differences.

There are also differences in arrangement of bone's structure. *S. kirchbergensis* and *C. simum* have well developed compact bone tissue in which trabeculae form tubes all along the long axis of bone, whereas *C. antiquitatis* lacks osteons. *D. bicornis* and *R. unicornis* show some transitional forms.