

A COMPARATIVE ANATOMICAL STUDY OF THE PELVIS IN THE CONTEMPORARY AND MEDIEVAL COW AND ELK

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Summary. The objective of this work was to research comparing-anatomically the structure, ossification and existence of interischial bone in the cases of the bovine and elk's pelvis. The both species belong to the order of cloven-hoofed animals, the suborder of ruminants.

Pelvises of four elk cows that originated from the animals of ages three, six, eight and ten years were researched. The results were compared to the ones of 21 cow pelvises studied earlier at the morphology department. For the comparison there partly preserved hip bones from the 15th, 16th and the 17th centuries were also used. The research methods used were preparation, radiography and biological maceration. Elk's pelvis compared to bovine is narrow and stretched out. The external measurements of examined elk pelvises did not differ essentially with age but in the case of bovine the measures increased noticeably. From the aspect of calving it is interesting that elk's pelvis with the years enlarges just in the caudal part by ischium tubercles drawing away from each other and on account of increase of the angles between ischium plates and between ischium arc. Between ischiums all examined pelvises had an unpaired bone formation with constant structure and shape – interischial bone. The lower parts of the interischial bone are an unpaired cranial branch situated forward and in the caudal direction follows the body of the bone and a pair of caudal branches that are directed towards ischium arc. On the dorsal surface of the body the crest of interischial bone is situated and on the sides there are collateral surfaces; symphyseal eminence and symphyseal crest that remain on the ventral surface. In cattle the interischial bone appears independently from 14 or 15 month to the 6 year and joins then bilaterally with ischium. In the case of the researched elk cows the interischial bone was visible at the age of three and was totally joined at the age of ten. The elk's pelvis is adapted to the mobile life style of the animal and enables fast running and easy calving. The life style of the cattle has become sedentary due to a man who has bred it for bigger milk production by increasing considerably udder and body weight. Therefore the pelvis has become more massive and there new bone structures (the pubic spine and the symphyseal crest) that were missing in the case of medieval cattle and the elk's pelvis have formed.

Keywords: elk, cow, pelvis, morphology, interischial bone.