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PARTICULARITIES REGARDING TOPOGRAPHY OF ABDOMINAL VISCERA OF THE EUROPEAN BADGER (*MELES MELES*)

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Abstract: The badger is a frequently encountered species in Romania. Its habitat includes both western and eastern Europe and reaches throughout Asia. It is an omnivorous mammal that consumes a wide variety of plants, fruits, gasteropods and larvae. Studies regarding this species mainly address European badgers' ecology, habitat and biology. The specialised literature poorly describes aspects regarding topography and particularities of abdominal viscera. This study aims to clarify topographical aspects of the abdominal viscera of *Meles meles*, with practical relevance for veterinarians working with zoos, natural reservations, and animal rehabilitation that perform both surgery and paraclinical investigations, like ultrasounds and X-ray scanning. The badger shares many similarities with the domestic carnivores. However, we were able to identify some significant differences, like the absence of caecum and the increased length of the small intestine.

Introduction

The European badger taxonomically belongs to the order *Carnivora* and the family *Mustelidae*. Studies indicate four subfamilies within this family: *Melinae*, *Mellivorinae*, *Taxidiinae*, and *Helictidinae*. The European badger belongs to the *Melinae* subfamily, close to the hog badger (*Arctonyx collaris*), which is listed as an endangered species

Material and method

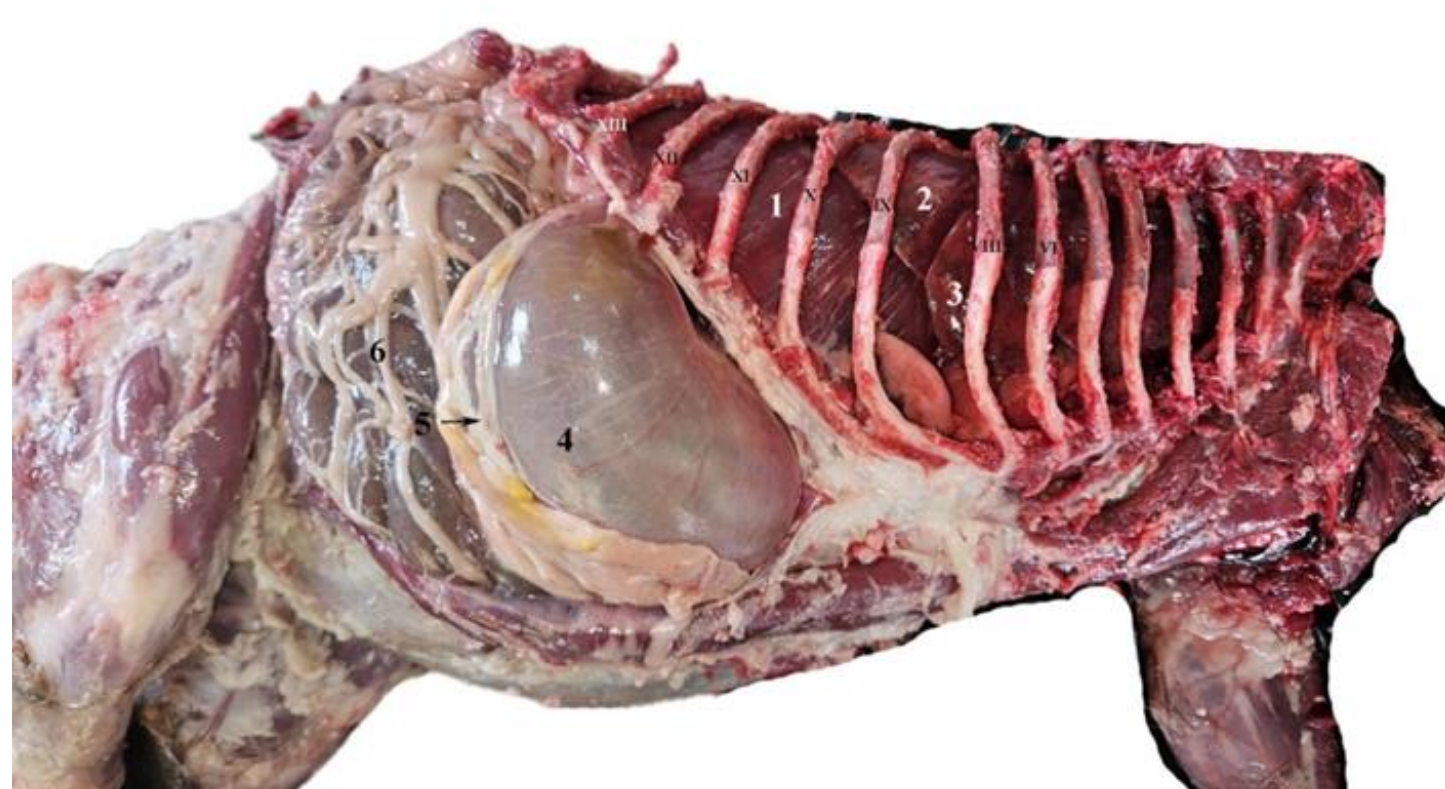
Two European badger (*Meles meles*) carcasses were collected from the hunting ground Glodeanu in Buzău County. Both specimens used for the study were females weighing 17.7 and 19 kg. The carcasses were initially skinned and then frozen at -14°C for 24 hours, then kept at about 20°C for 4-5 hours, which allowed the superficial layers to thaw. Dissection was performed in successive stages, initially removing the ventrolateral abdominal muscles to observe the flank topography. The costal insertion of the diaphragm was dissected, and the intrathoracic portion of the abdomen was exposed.

Results and discussions

The following anatomical landmarks were considered for a more detailed description and delimitation of the projection areas: ribs, sternum and costochondral joints. The roof of the abdominal cavity is delimited by an imaginary line between the tuberosity of the scapular spine and the external angle of the ilium, with a length of 39 cm, and the midline lies between the scapulohumeral joint and the middle of the prefemoral groove, with a length of 36 cm.

The diaphragm projects as a curved line with caudal concavity, connecting the dorsal extremity of the last rib (XV) with the middle of rib VIII, finally reaching the costo-chondral joint of the same rib. There are 15 ribs, the last two of which have no costal cartilage and are floating.

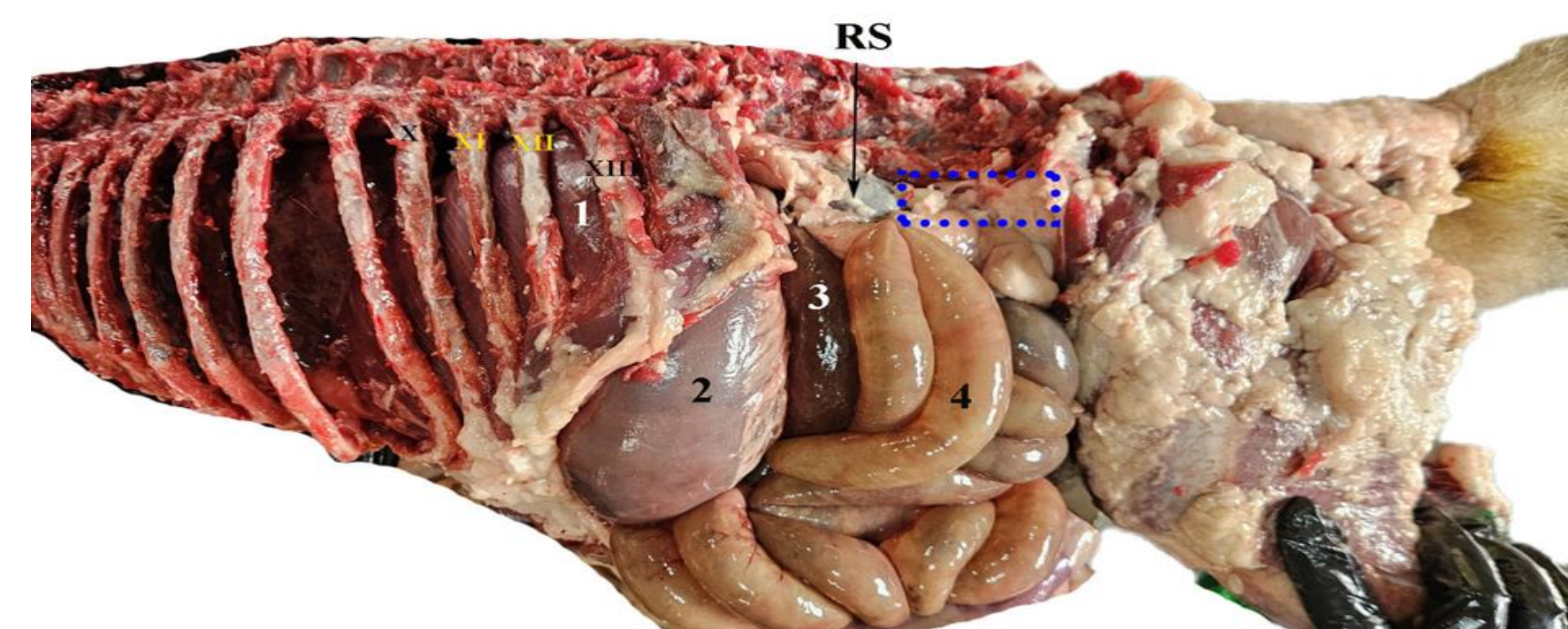
As a result of the gaseous distension of the jejunal loops, the area of the projection of the pancreas in the flank region was not observed in badgers. In carnivores, the area of the pancreas is situated dorsally to the duodenum



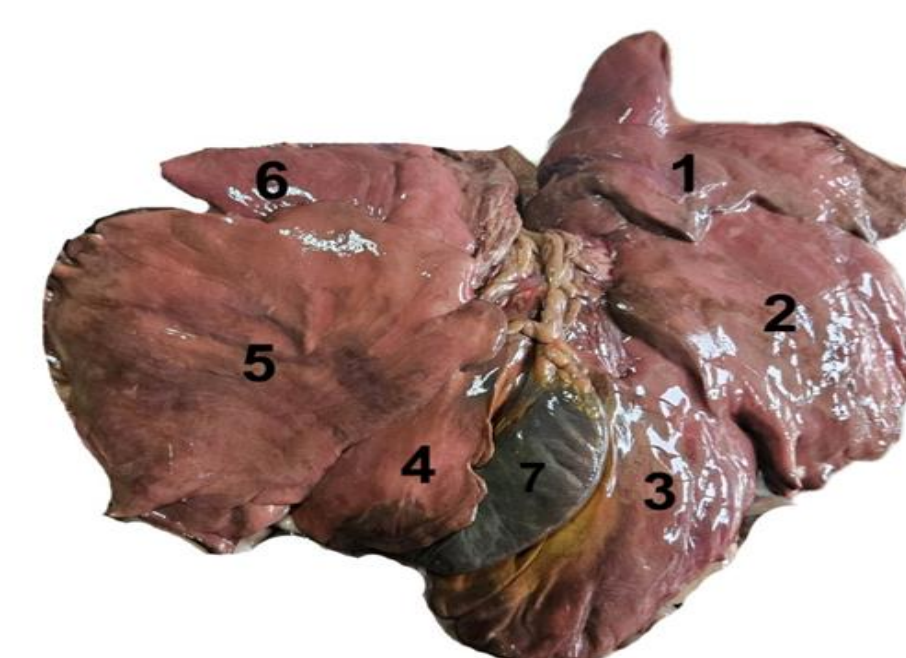
In the region of the left flank, the fundus of the stomach is situated with the greater curvature caudal-oriented, exceeding the costal margin by 6 cm, being delimited by an imaginary vertical line from the tip of the transverse process of lumbar vertebra II. The stomach lies on the thoracic wall between rib X and the last rib (XV). The spleen projects caudal to the stomach, appearing as a vertical band 3 cm wide, bounded cranially by the greater curvature of the stomach and caudally by the jejunal loops.

The spleen is 18 cm long, measured from the dorsal to the ventral extremity, and has a constant width of 5.5 cm. The edges are parallel and straight, and the extremities are rounded. This general appearance differs from domestic carnivores, where the spleen has a wide ventral extremity.

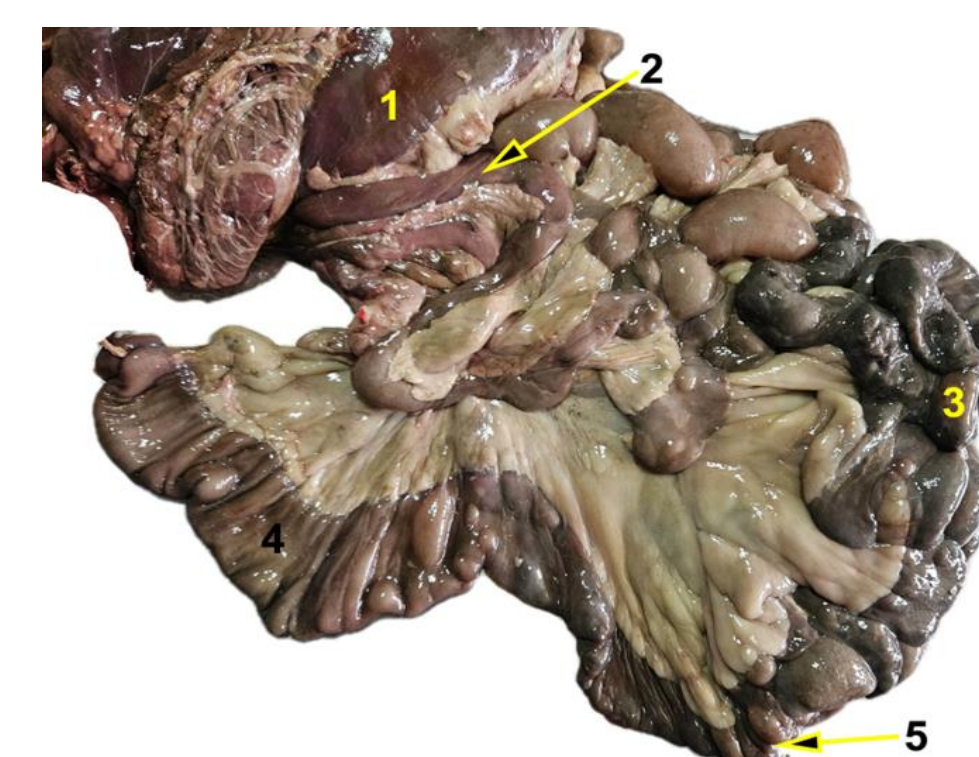
The jejunal loops lie in the ventral part of the flank, and the duodenum and the left uterine horn are dorsal to the jejunal loops. The area of projection of the jejunal loops in the flank is 12 cm wide and 14 cm long. Also, in the flank, caudal to the last floating rib, the left kidney is covered by adipose tissue (between the lumbar vertebrae L1 and L3), and the projection area of the left kidney (width 3 cm and length 5 cm) is observed.



The liver has six lobes; the right lateral and medial lobes are approximately equal, in contrast to the left lateral lobe, which is much more reduced than the medial lobe. Unlike carnivores, the papillary process of the caudate lobe is reduced. A wide renal fossa was observed on the caudate process.



After examination of the gastrointestinal mass, the absence of the cecum was noted, which is in accordance with the specialized literature. Macroscopically, the jejunum and ileum could not be differentiated. There is no clear demarcation between the small and large intestine, but only an increase in diameter from 2.5 cm in the jejunum to 3.5 cm in the colon.



Conclusions

The topography of the abdominal viscera shows similarities with aspects found in domestic carnivores. The main differences were observed in the gastrointestinal tract regarding the badger diet: the absence of the cecum and the larger diameter of the small intestine compared to the large intestine