

MORPHOLOGICAL ASPECTS OF DIGESTIVE APPARATUS IN OWL (*ASIO FLAMMEUS*) AND DOVE (*COLUMBA LIVIA*)

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Because of their high metabolic rates, birds consume more food in proportion to their size than most animals. As a group, nocturnal bird of prey, owl consume just about any type of food what can imagine, including rodents, seeds, snails, grass, fruits, insects, larvae. To meet their metabolic needs while remaining as light as possible and as efficient as possible, to be efficient flyers, the digestive system of birds has to be both as light as possible and as efficient as possible. The need to keep weight as low as possible also means that, except perhaps prior to migration, there is a limit to the amount of a bird can store. Dove and owl differ in morphology of system digestive. Owl is bird of prey and hunts when light levels are low so if an attacking owl misses its prey, relocating it may be difficult.

Key words: owl, dove, morphological aspects of digestive tube

Materials and methods

Four pieces of doves and owls have been dissected. As a research material it was used the components of digestive apparatus. The organs digestive tube were identified and described comparatively to both species.

Results and discussions

The dove has a wattle formed of two valves that have the apex sharp; the owl has the superior valve crooked with the ventral apex overflowing the apex of the inferior valve, use their hook-like bills to tear apart large prey.

The long oesophagus presents cranial by the cranial aperture of the thorax a crop much more developed to the owl comparative to the dove food. The muscular walls of the esophagus produce wave-like contractions, peristalsis, that helps propel food from the oral cavity to stomach. Esophagus by owl may serve for temporary storage of food. The dove has crop, out-pocketing of the esophagus that is particularly well-developed, specialized for production of milk that dove feed to their young. Crop milk is rich in proteins, fats, vitamins and is produced by proliferation and sloughing off of epithelial cells that line the crop.

Morphologically, the total length of intestine is else long to the dove and it is limited by the owl.

The glandular stomach is fusiform and communicates with the gizzard which is discoidal and biconvex similar to the both species.

The duodenum has the aspect of a loop and is longer to the dove than by owl. (fig. 1, fig. 2).

The owl duodenum has the aspect of an loop, is shorter than of the dove.

The jejunum-ileum morphologically, the total length of small intestine is else long to the dove and it is limited by the owl.

The jejunum-ileum morphologically unlimited is longer by the dove than by the owl, remarks are made that morphologic ileum is morphologically delimited by the two blind-ending caecum. It can be observed that the jejunum-ileum complex: the ileum is longer by the dove, and very shorter by the owl, because the blind-ending caecum are less developed.(fig. 1, fig.2).

The two blind-ending caecum have the aspect of plug tube in the owl and they have the shape of papille in the dove (fig.1 and 2).

The short colon in the dove and the shortest colon in the owl, it communicates with the rectum, which opens itself in the cloaca (fig.2; fig.1)

Comparatively, between two species there are differences regarding the length of ileum and the large intestine in favor of ileum by the dove and in favor large intestine and plug tube two blind-ending caecum by owl.



Fig. 1. The digestive apparatus in owl

1. Oesophagus; 2. Glandular stomach; 3. Gizzard; 4. Duodenum; 5. Pancreas; 6. Liver; 6'. 8 bladder; 7. Jejunum; 8. Caecum; 9. Colon; 10 Cloaca.



Fig. 2. The digestive apparatus in dove
Oesofagus; 2. Inguvies; 3. Glandular stomach; 4. Gizzard; 5. Duodenum; 6. Pancreas; 7. Jejunum; 8. Ileum; 9. Caecum; 10. Colon; 11. Cloaca

The liver presents two lobes, the one right and the other left. The right lobe is smaller by the left lobe and it has not gall bladder by the dove. The owl liver has the lobes all most equal, incised by some interlobes fissures between the two lobes shelter an evident gall bladder (fig. 1).

The pancreas contents in duodenal mass, between duoden's loops, are longer in the dove comparatively with the pancreas of the owl (fig. 2, fig. 1).

Conclusions

In order to recognize the digestive apparatus from the owl may be noticed the following aspects:

- blind-ending caecum is large; food particles are acted upon by caecal secretions, bacteria and fungi and nutrients can be absorbed;
- the gall bladder is present;
- the lobes of the liver are almost equal and have deep notches;
- large intestine is relatively short; primary function is to absorb water and electrolytes, wastes are voided as quickly as possible, such as owls regurgitating non-digestible materials as pellets and fruit-eaters regurgitating fruit seeds or pits;
- the intestinum tenue is shorter than in dove.

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