
BIRDS AND MAMMALS



MYSTERIOUS ORGAN FALLEN FROM THE SKY - A CASE OF CORVIDAE PREDATION?

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One morning in the Spring of 2011, a strange dark object caught my eye on the lawn of our back garden. It was glossy and looked almost like a dark olive. On closer observation it proved to be even stranger. It seemed to be an internal organ, almost kidney shaped, with two severed connections one of which was rather thin and reddish, marked **x** in photo 1.



*Photo 1 - Object found on the lawn. Photo 12 April 2011.
Severed connections: x and y.*

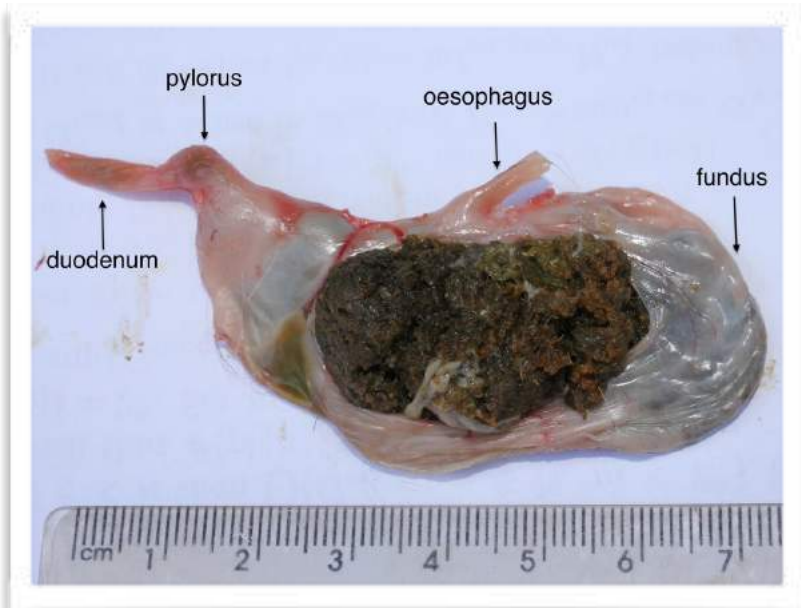


Photo 2 - Contents of the mystery organ. Scale bar 1cm.

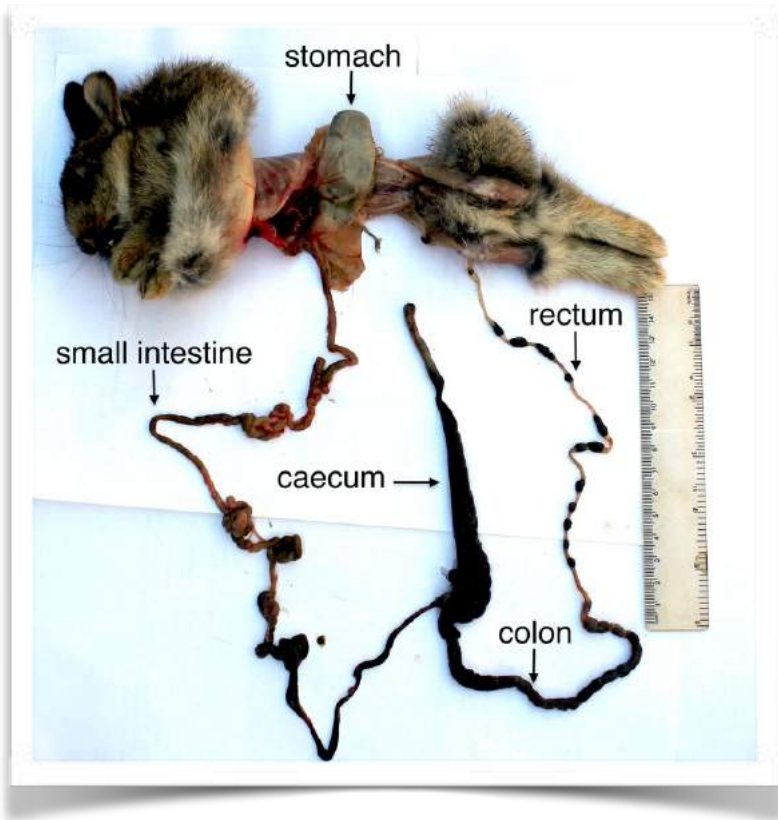
Some white hairs were sticking to its surface, which was perhaps a bit dehydrated. Its contents were a dark vegetable mass, rather finely processed, photo 2.

A few days later, in Hilly Fields, I saw a magpie (*Pica pica*) by the corpse of a very young rabbit (*Oryctolagus cuniculus*). It had a hole in the stomach area. Interesting coincidence. Could our mystery organ be a rabbit stomach? If so, this raised a lot of questions as we live in a rabbit-free suburban area, not far from the centre of Colchester, TL986244, or Hilly Fields, TL985254.

As the crow flies, in this case magpie, we are at least 900 meters from Hilly Fields. Could a magpie have flown away with its prize and then, for some reason, dropped it in our garden? It was all extremely intriguing.

As chance would have it, soon after that, during a short break in Snape, Suffolk, we saw a small, young rabbit on the road, freshly killed; it was around 3 months old. This rabbit was missing its eyes, only. So I picked it

up and, back at our lodgings, dissected it outdoors. Its digestive system was undamaged, photo 3



*Photo 3 - Dissected young rabbit with its gut spread out.
The rectum contains faecal pellets.*

Its stomach was full and so were the small intestine, the caecum and the colon. And there was a neat row of hard faeces forming in the rectum. A very healthy rabbit, it seemed. Moreover its stomach was very similar to our mysterious lawn object, albeit somewhat bigger and flatter, and much fresher.

Its contents also looked rather similar: a finely ground vegetable matter, photo 4.



Photo 4 - Partially opened stomach displaying its contents.

It is now clear that the severed connections, x and y in photo 1, are respectively the oesophagus and the pylorus, followed by a tiny bit of the duodenum.

Therefore the identity of my mysterious lawn organ was neatly solved: the stomach of a rabbit, possibly younger than 3 months. But the identity of the culprit remains a matter of speculation.

The sighting of a magpie by a predated young rabbit with a similar mutilation points to the Corvidae family, which are well represented in the area, in particular magpies; but jackdaws (*Corvus monedula*) are also very common; jays (*Garrulus glandarius*) are very discreet, but seem to be on the increase. However, I have been unable to find reports of this type of predation/mutilation in young wild rabbits. It makes sense for a predator to go for nutritious organs; crows (*Corvus* spp.) are known to take the eyes and a bit of the tongue of freshly born lambs. As I mentioned before, the Snape rabbit was missing its eyes.

I have since learned that the stomach of a rabbit is particularly nutritious (Lockley, 1974). This is because sometime between the morning and the evening feeds, they re-ingest soft-faeces, which will be further digested in the stomach together with the morning feed; Lockley (1974) observed that wild rabbits in special enclosures re-ingested their soft-faeces about ten hours or so after the night grazing period. Thus their stomach is never empty (Davies & Davies, 2003). These soft-faeces are called caecotrophs (caeco - from caecum, blind gut, from Latin + trophy - food, from Greek trophé) and their systematic re-ingestion ceacotrophy.

Caecotrophs are voided in viscid clumps, chocolate coloured, which somehow resemble the caecum. They are eaten directly from the anus without ever touching the ground in a swift reflex movement and are swallowed without chewing (Lockley, 1974). Chewing the caecotrophs clump would break up the viscid membrane that surrounds each pellet and spill its liquid contents. Caecotrophs travel to a special part of the stomach, the fundus, where they are fermented further; then to the caecum again where more nutrition is further absorbed. After this second passage, the remaining indigestible vegetable matter travels down to the colon where the hard-faecal pellets are formed. They are clearly visible in Photo 3. Rabbits have developed a fast and very efficient digestive system for an herbivore. They do not have a rumen as such, but Griffiths and Davies (1962) considered that the fundus of its stomach, loaded with caecotrophs, was analogous to the rumens of sheep and cattle. All leporids practise caecotrophy; there are also reports of it in other herbivores like pikas, a lemur, and other rodent species, reviewed by Hirakawa (2001). Rabbits in extreme circumstances, for instance, when trapped under snow, also practice coprophagy, literally meaning reingestion of hard faeces, (Lockley, 1973).

In retrospect, I now wish that I had inspected the stomach properly because I missed the caecotrophs. A skilled person would have even been able to tell the time of death by their contents. Perhaps they were broken on impact when the rabbit/s died, or in my clumsiness, I did it myself. Their viscous enveloping membrane is very rich in bacteria; hence the protein content of caecotrophs is much higher than in hard pellets, nearly twice (Carabaño et al., 1998). This makes the stomach an especially nutritious organ, indeed. A magpie could easily pierce the skin of a young rabbit with its beak; but targeting the stomach and severing it in such a neat way, takes a lot of skill. Whoever did this is a very intelligent predator.

I hope that this report will be followed by more examples of sightings of young rabbits with predated stomachs.

Acknowledgments - I am very grateful to Darren Tansley for suggesting that I contact a vet. It worked - John MacBrayne, our neighbour, was extremely helpful. Now I wish to dissect a young rabbit's stomach, not to mention the caecum.

References

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Erratum:

The image on page 8, Photo 2, should be swapped with the image on page 10, Photo 4; the subtitles remaining as they are.

Updated on 18 March 2017