

## Report on trapped Eurasian Beavers on the River Otter, Spring 2017

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### **Background**

Two trapping events occurred in spring 2017, specifically to target 2016 offspring and newly reported individuals at Bicton College and Yettington. The purpose of this trapping was to individually sex and tag each beaver (PIT and ear tags), collect biological samples for health screening to and to generally assess body condition. All beavers were captured using Bavarian beaver traps.

Date	Location	Sex	PIT code	Age class	Weight	Body condition
14/01/17	Bicton College	Male	981000006636734	2-3yrs		Good
14/01/17	Bicton College	Female	981000006646183	2-3yrs		Good
18/01/17	River Otter, Otterton	Female	981000006500519	Yearling	9.5kg	Good
06/03/17	River Otter, Otterton	Female	981000006650829	Yearling	10kg	Good
07/03/17	Yettington	Female	941000017319854	2yrs	15.8kg	Good

Summary beaver information for all beavers trapped in Spring 2017

### **Results**

#### Bicton College pair, January 2017, blood and faecal

Male (PIT code ending 6734) - Results reported by the Scottish Agricultural College (SAC) on 10<sup>th</sup> February 2017 (submitted 30<sup>th</sup> January 2017) showed:

1. No abnormalities on haematology (no evidence of anaemia or inflammatory disease).
2. Faecal result for this animal showed no evidence of parasites (no oocysts seen of *Cryptosporidium* spp.; <50opg for coccidia; negative for *Giardia* spp. and no evidence of fluke eggs)
3. Faecal result for this animal was also negative for *Yersinia* spp. and *Salmonella* spp. bacteria.

Female (PIT code ending 6183) - Results reported by the SAC on 10<sup>th</sup> February 2017 (submitted 30<sup>th</sup> January 2017) showed:

1. No abnormalities on haematology (no evidence of anaemia or inflammatory disease).

2. Faecal result for this animal showed no evidence of the following parasites: no oocysts seen of *Cryptosporidium* spp.; <50opg for coccidia; negative for *Giardia* spp. but was reported by SAC as positive for liver fluke (*Fasciola hepatica* – ‘eggs observed consistent in size, shape and colour’)
3. Faecal result for this animal was also negative for *Yersinia* spp. and *Salmonella* spp. bacteria.

#### River Otter, January 2017, blood and faecal

Female (PIT code ending 0519) - Results reported by SAC 10<sup>th</sup> February 2017 (submitted 27<sup>th</sup> January 2017) showed:

1. No abnormalities on haematology (no evidence of anaemia or inflammatory disease).
2. No abnormalities on biochemistry results with the exception of mildly elevated creatinine kinase (possibly associated with capture) and potassium levels (associated with haemolysis/age of blood sample)
3. Faecal result for this animal showed no evidence of parasites (no oocysts seen of *Cryptosporidium* spp.; <50opg for coccidia; <50epg for *Moniezia*, *Strongyles*, *Strongyloides*, *Nematodirus* and *Trichuris* spp.; negative for *Giardia* spp. and no evidence of fluke eggs or lungworm larvae)
4. Faecal result for this animal was also negative for *Yersinia* spp., *Campylobacter* spp. and *Salmonella* spp. bacteria.
5. Faeces negative for Johnes (mycobacterial) disease on Ziehl Nielson smear.

#### March beavers (PIT codes ending 981000006650829 and 941000017319854)

Faecal results reported by the SAC on 22<sup>nd</sup> March 2017 (submitted 16<sup>th</sup> March 2017) showed:

1. Faecal results for these animals showed no evidence of parasites (no oocysts seen of *Cryptosporidium* spp.; <50opg for coccidia; <50epg for nematodes; negative for *Giardia* spp. and no evidence of fluke eggs or lungworm larvae)
2. Faecal results for these animals were also negative for *Clostridium perfringens*, *Yersinia* spp., *Campylobacter* spp. and *Salmonella* spp. bacteria.
3. Faeces negative for Johnes (mycobacterial) disease on Ziehl Nielson smear

#### **Conclusion**

All beavers trapped were in good body condition, with no obvious signs of disease or injuries. There were no trapping related injuries or causes of concern. The only abnormal health screening result identified was the one positive (suspected) *F. hepatica* (liver fluke) sample from 6183 female beaver in January 2017. *F. hepatica* infection has been reported in two Eurasian beavers out of 20 in a short communication (Shimalov & Shimalov, 2000). In this communication, the condition was diagnosed at post mortem on liver examination and eggs were present in the faeces although no attempt to differentiate the eggs from the intestinal trematode *Stichorchis subtrequetrus* was made by PCR bringing into doubt whether the infections were truly patent. Infection in coypu (*Myocaster coypus*) though did suggest that

this semi-aquatic rodent was capable of developing a patent infection and potentially spreading it to other susceptible species via faeces (Dracz *et al.*, 2016). It is possible that the reported result of *F. hepatica* in this case was the result of a true infection of that individual, but the possibility of misidentification with *S. subtrequetrus* is a possibility as PCR methods were not applied by the laboratory. Otherwise the results of blood sampling and faecal analysis did not demonstrate any evidence of infectious or degenerative disease, although it should be noted insufficient blood samples prohibited further testing for biochemistry in beavers 6183, 6734 and 0519 and no blood sample was submitted for 9854 and 0829 for assessment.

#### References

Dracz, R.M., Ribeiro, V.M., Pereira, C.A., Lima Wdos, S. (2016). Occurrence of *Fasciola hepatica* (Linnaeus, 1758) in capybara (*Hydrochoerus hydrochaeris*) (Linnaeus, 1766) in Minas Gerais, Brazil. *Rev Bras Parasitol Vet.* 2016 Jul-Sep;25(3):364-7. doi: 10.1590/S1984-29612016021. Epub 2016 Apr 12.

Shimalov, V.V., Shimalov, V.T. (2000). Findings of *Fasciola hepatica* Linnaeus, 1758 in wild animals in Belorussian Polesie *Parasitol. Research*, 86, 527.