

Improved use of abattoir information to aid the management of fasciolosis in cattle and sheep

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Background: Fasciolosis caused by the trematode parasite *Fasciola hepatica* is a clinically and economically important disease of cattle and sheep. In the last decade an increasing incidence and changing distribution has been observed in the UK while there have been reports of acute disease earlier in the season than expected. Meanwhile control is becoming increasingly difficult due to changing weather conditions, increased animal movements and developing anthelmintic resistance. Slaughterhouse data is a valuable yet underutilized tool in the epidemiology of animal diseases.

Research question: Can abattoir information be used to describe the changing biology of *F. hepatica* in the UK and identify risk mitigating management strategies against fasciolosis?

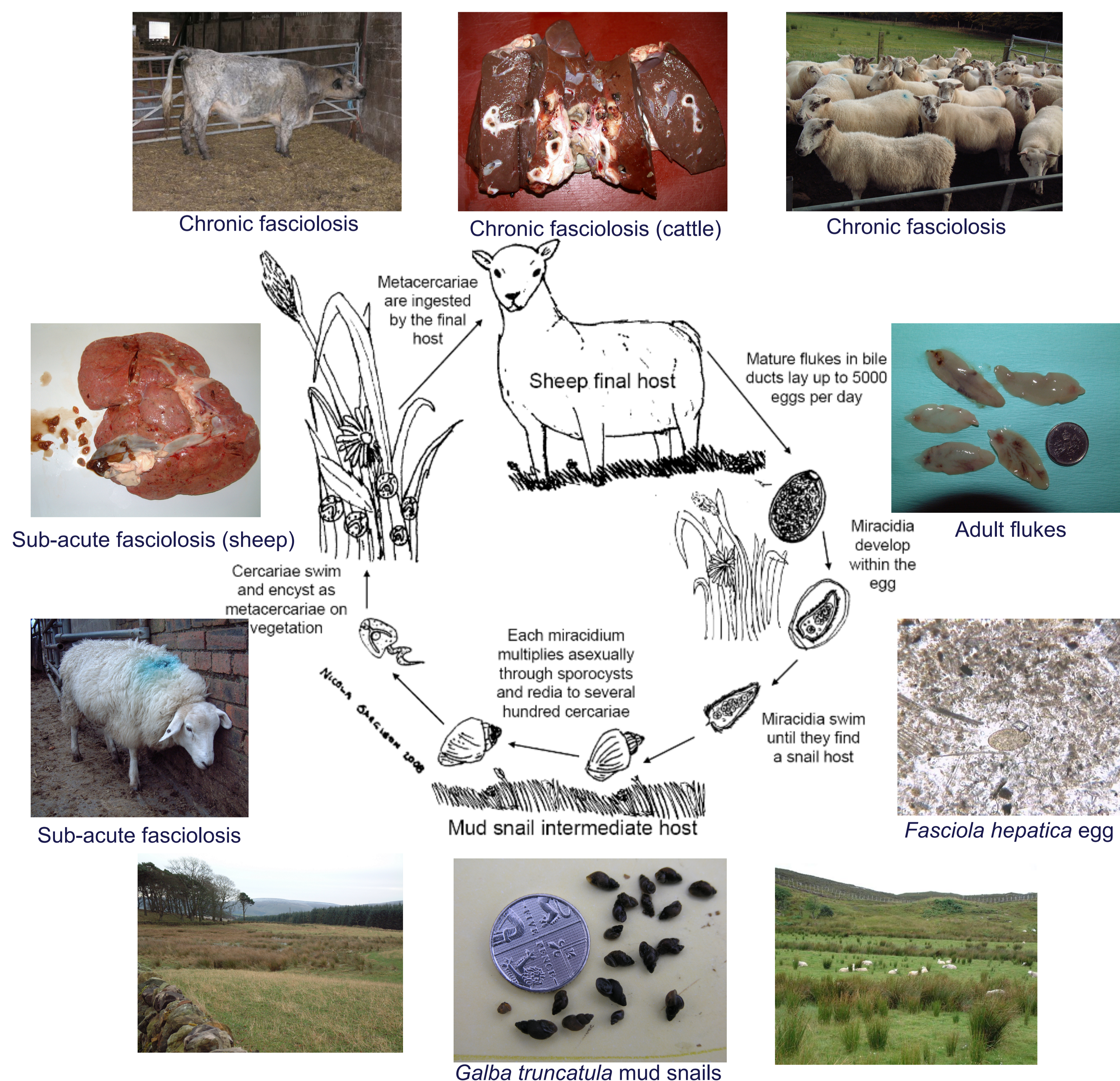
Study Aims:

- Measure impact of *F. hepatica* infection on production parameters
- Identify management practices that can help reduce the incidence of *F. hepatica* infection
- Investigate the utility of improved abattoir data in assessing fasciolosis treatment strategies
- Evaluate diagnostic tests using abattoir based sampling

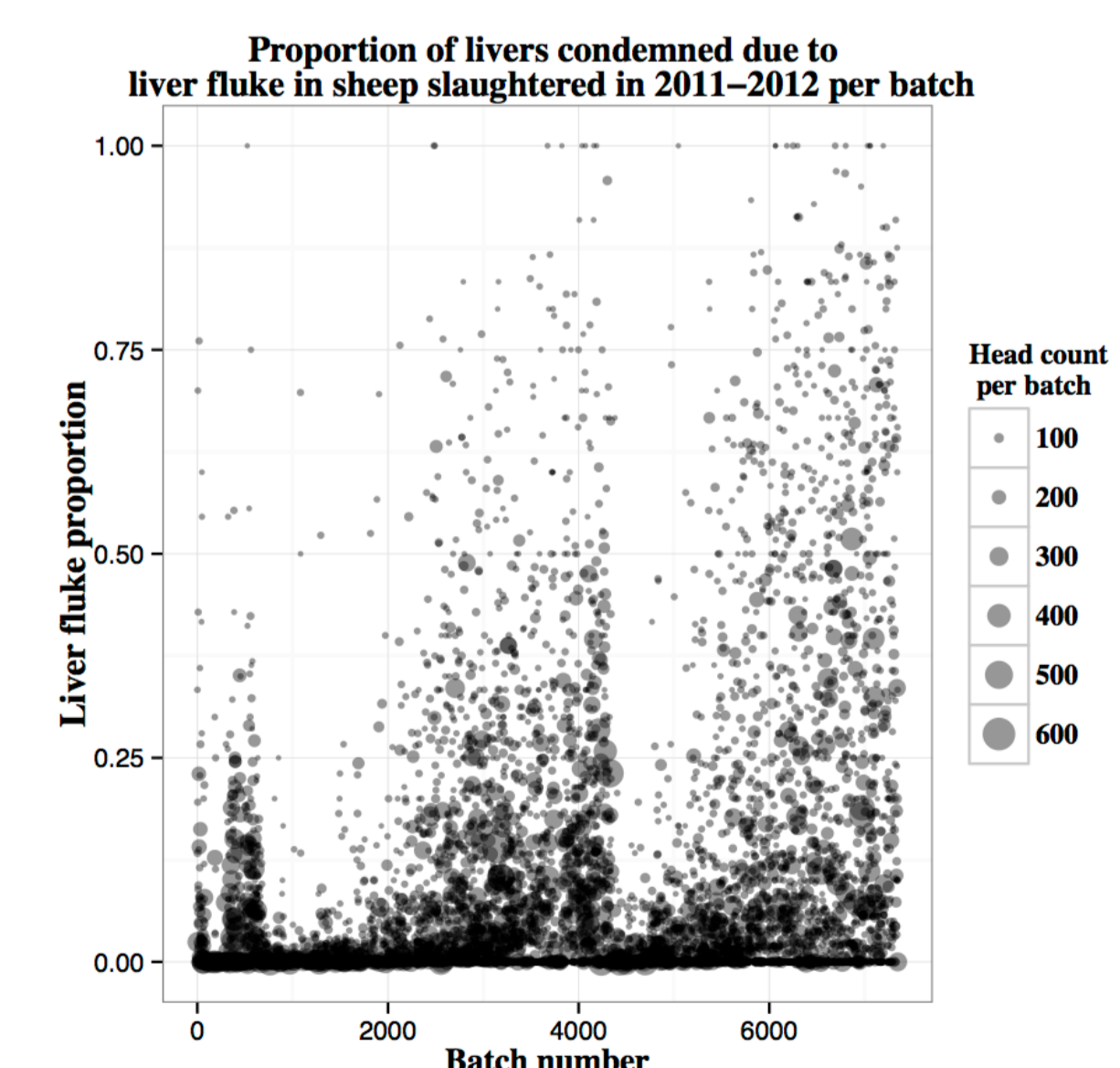
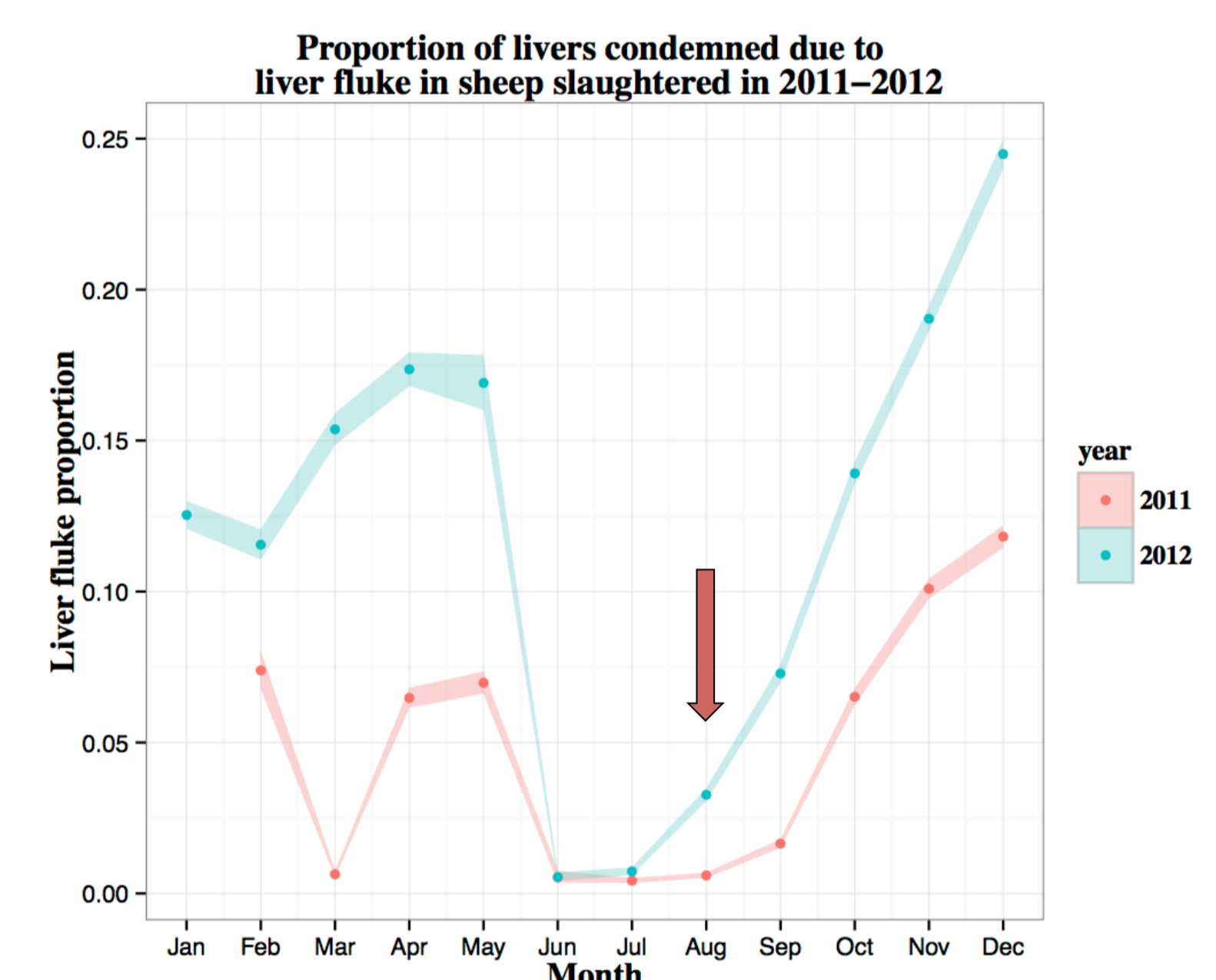
Methods:

- Descriptive statistical analysis of current abattoir data (identification of improvements required for future analysis)
- Cross sectional questionnaire based study of farm management and treatment strategies for fasciolosis
- Spatial risk mapping for fasciolosis (including climatic risk factors)
- No gold standard comparison of meat inspection, detailed liver inspection, FECs and ELISA based tools

F. hepatica life cycle



Preliminary Results



Preliminary analysis of abattoir sheep line data shows increased incidence of fasciolosis between 2011 and 2012 as well as an earlier rise (arrow) of the proportion of livers condemned due to fasciolosis than expected based on the known life cycle of the disease. Furthermore, a large variation in the proportions of condemned livers per batch raises questions on whether animals of the same herd are at different risk of infection or whether this is a reflection of the sensitivity of meat inspection in identifying a *F. hepatica* infected liver.