**INTRODUCTION**

**ENTEROPATHOGENS OF JUVENILE EURASIAN BADGERS (MELES MELES) – DIAGNOSIS, TREATMENT AND CONTROL**

Alex Barlow1, Elizabeth Mullineaux2, Sara Cowen2, Pauline Kidner2

1AHVLA, Langford, Bristol, BS40 5DX, UK. 2Secret World Wildlife Rescue, New Road, East Huntspill, Somerset, TA9 3PF, UK. 3Email: liz@secretworld.org

**Study population**

Over a three year period, causes of enteric disease were investigated in badger cubs admitted to Secret World Wildlife Rescue (SWWR), a large wildlife centre in the south west of England where the cubbed density is high. Orphan badger cubs from a few days old were mixed into small social groups of 6-8 animals for eventual release according to standard protocol (Mullineaux, 2003b; SWWR et al., 2009). Individual animals came from a variety of different geographical locations throughout the south of England and some had previously spent time at other rescue centres. Each rescue group was kept in isolation during the rearing process. No routine screening for parasites was carried out or prophylactic treatments for enteric diseases administered to the cubs during the study period.

Single deaths occurred in two groups of 6-8 weeks old cubs in 2009 and in a group of eight 8-12 weeks old in 2010 (a). All cases presented with clinical signs of diarrhoea and dehydration. Later in 2010 (b) five 8-12 weeks old badger cubs died over a two-weeks period following acute severe diarrhoea. Supportive treatment on each occasion included oral and intravenous fluid therapy, anti-diarrhoeals and dietary control, where such treatment failed to control symptoms and/or animals died further investigations were carried out.

**Results of diagnostic investigations**

On each occasion of disease outbreak, cultures of animals that died and faecal samples from in-contact animals were sent to AHVLA Langford for diagnostic investigation. The table below summarises the findings:

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<tbody>
<tr>
<td>2009</td>
<td>10/8</td>
<td>5/8*</td>
<td>1/3</td>
<td>1/2</td>
<td>0/0</td>
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<tr>
<td>2010a</td>
<td>6/8</td>
<td>0/0</td>
<td>0/4</td>
<td>0/4</td>
<td>1/2</td>
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<td>2010b</td>
<td>0/4</td>
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<td>2011</td>
<td>0/1</td>
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The pathogens were further identified as:

- Salmonella spp.: 6/20 (A) and seven other serotypes.
- Giardia spp.
- Cryptosporidium spp.
- Helminth spp.
- Viruses: Parovirus, orthovirus

**Discussion**

A number of potential enteropathogens have been previously identified in Eurasian badgers in Great Britain. These include protozoa such as Eimeria melis and Isospora melis (Anwar et al., 2001), Giardia duodenalis (Euden, 1990; Wilson et al., 2003). Giardia species have only been described in association with this study (Barlow et al., 2011) and viral enteropathogens have not previously been confirmed in Great Britain or within the range of the Eurasian badger (Barlow et al., 2012).

**Conclusions**

In this study of clinical cases of enteritis in rehabilitated badger cubs, a range of parasitic and viral infections have been shown to result in morbidity and mortality. The study illustrates a significant risk to badger cubs of enteric infections, especially in rehabilitation situations where cubs from several sources are mixed. Wildlife centres must take suitable appropriate precautions to prevent outbreaks of such infections including measures such as screening for parasites, vaccination and suitable disinfection.

**Acknowledgements**

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