



Parasite Forecast

Issue 06

Summer 2018

ESCCAP



EUROPEAN SCIENTIFIC COUNSEL COMPANION ANIMAL PARASITES®

UK &
Ireland

Welcome

Welcome to the ESCCAP UK & Ireland quarterly newsletter. This year marks the 10th anniversary of ESCCAP UK & Ireland. The vision of Maggie Fisher and her fellow ESCCAP founding members was to control parasites in companion animals and reduce both disease and zoonotic risk as a result.



Our aims haven't changed in the following 10 years, but the parasite risks faced by the UK and the rest of Europe have changed markedly. The last decade has seen significant climate change and increased movement of people and pets both within countries and across international borders. There has also been a trend towards increased reforestation and 'green corridors' into urban areas creating ideal habitats for wildlife, but also the tick populations they help maintain. In the UK these trends have led to increased numbers of ticks, expanding distributions of *Angiostrongylus vasorum* and the introduction of a wide range of exotic parasites.

ESCCAP UK & Ireland continues to give advice and produce CPD to help keep veterinary professionals and the public up to date with the latest changes in parasite threats and distributions. We also contribute to parasite surveillance and research. However, we can do none of this without collaborating with partners. The entire veterinary profession, industry and Government increasingly need to work together to combat fluid and rapidly evolving parasitic threats.

Thank you to our sponsors and donors, not only for their financial contribution while respecting our independence, but also for their support in a wide range of projects. Bayer has been a sponsor every year since our inception, ten years ago, and we also currently enjoy the support of IDEXX (sponsor) as well as Elanco, MSD and Boehringer Ingelheim (donors). We work closely with our fellowship partners, giving us opportunities to provide CPD (Mark Allen Group), parasiticide product information (Veterinary Prescriber) and tools for increased pet owner compliance (iRecall).

Outbreaks of novel parasitic disease such as babesiosis in Essex and the spread of endemic ones such as hydatid disease have shown the value of cooperation between vets, ESCCAP UK & Ireland and Government agencies. We continue to work with the tick surveillance scheme and APHA to help raise awareness and use surveillance data. Funding and highlighting University research data is also helping to assess current parasite distribution and help vets to make risk-based decisions when advising clients. We continue to welcome any query, large or small, via our website www.esccapuk.org.uk/contact-us

In this issue of Parasite Forecast, as well our latest news section and summary of enquiries to ESCCAP UK & Ireland, we have a case summary describing an overlooked parasite (*Eucoleus aerophilus*) in a dog. We also have the parasite forecast, summarising which parasites may represent an increased risk based on current information.

Parasite Forecast aims to keep veterinary practices, industry and academia up to date with ESCCAP UK & Ireland news and activities. We welcome any feedback, including any suggestions for future topics or case studies to cover. Please email info@esccapuk.org.uk.

To sign up to future editions of Parasite Forecast, please visit www.esccapuk.org.uk/newsletter/subscribe/. Each edition will also be published on the ESCCAP UK & Ireland website www.esccapuk.org.uk

To your parasite control success and the next 10 productive years of ESCCAP UK & Ireland!

 Ian Wright
Head of ESCCAP UK & Ireland



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Exotic disease in imported dogs from Eastern and Southern Europe

Cases reported to ESCCAP UK & Ireland of Leishmaniosis in imported dogs continues to be high. Dogs in the UK imported from Romania infected with *Linguatula serrata* also continue to be a concern with another two cases reported this quarter. ESCCAP UK & Ireland has been informed of a further case of *Thelazia callipaeda* in a dog imported from Spain. This coincides with a recent paper about *Phortica* fruit fly distribution modelling that suggests conditions are favourable for the vector's spread into Northern Europe and across the UK (<https://parasitesandvectors.biomedcentral.com/articles/10.1186/s13071-018-2842-4>).



Thelazia callipaeda

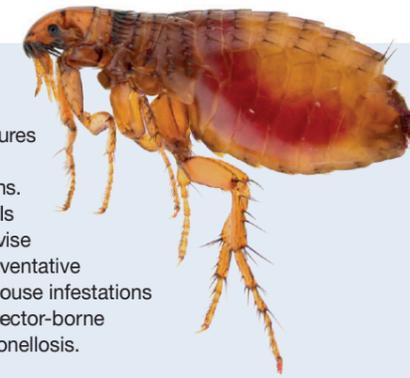
CAPC, the North American equivalent of ESCCAP, is predicting an increased spread of some vector-borne disease in their pet parasite forecast. This demonstrates that the trend for climate change, combined with increased movement of pets and people, is changing parasite distributions across North America as well as in Europe. International trends such as this need to be taken into account when planning for parasite prevention in pets travelling from and being imported into the UK. ESCCAP UK & Ireland recommend four key steps (the 'four pillars') when dealing with all imported or travelled pets arriving in the UK:

1. Check for ticks and subsequent identification of any found.
2. Treat dogs again with praziquantel within 30 days of return to the UK and treat for ticks if treatment is not already in place.
3. Recognise clinical signs relevant to diseases in the countries visited or country of origin.
4. Screening for *Leishmania* spp. and exotic tick-borne diseases in imported dogs.

Following the 'four pillars' concept will enable veterinary professionals to prepare owners if parasites are present, improve prognosis of clinical cases, minimise the risk of spread of any disease and carry out effective disease/parasite surveillance.

Fleas

Current high temperatures and humidity are ideal flea breeding conditions. Veterinary professionals should continue to advise routine year-round preventative treatment to prevent house infestations and transmission for vector-borne diseases such as bartonellosis.



Lungworm

Reports of *Angiostrongylus vasorum* remain high and the warm humid conditions are likely to support growing numbers of slugs and snails. Veterinary professionals should therefore continue to be vigilant for cases in their area and advise preventative treatment for high risk dogs (previously infected dogs, those dogs living in close proximity to other cases, those eating slugs, snails, grass and amphibians).



Accidental ingestion is common

Echinococcus granulosus

Echinococcus granulosus is much more widespread in England than previously thought. Post-mortem inspections in abattoirs across Britain have produced positive cases with a particularly high incidence on the Welsh border and North Midlands. HyData UK is a 3-year (2016-2018) multi-centre collaborative study investigating the national distribution of *Echinococcus granulosus* in high-risk dog populations (hunting hounds, farm dogs and pet dogs in rural areas), livestock (cattle, sheep) and horses at slaughter in England, Wales, Scotland and Northern Ireland¹. Using a molecular epidemiological approach and GIS methodology, the study aims to build the most comprehensive picture of *Echinococcus granulosus* geographic distribution in the UK and explore associated risk factors for animal and human infection. Until these results become available, these dogs should be assumed to be at risk of infection through offal fed directly in hunts, kennels, farms and through unprocessed diets. These dogs should therefore be treated with praziquantel at least every three months outside of known *Echinococcus granulosus* endemic areas (Wales, the Welsh border, Herefordshire and the Western Isles of Scotland) and at least every six weeks in known endemic areas. Dogs that are producing *Taenia* spp. tapeworm segments should also be treated with praziquantel at least every six weeks (to reduce offal and meat condemnation). Promoting effective treatment, the responsible disposal of dog faeces, carcass clearance from fields and keeping dogs on leads on livestock pasture will help reduce both meat and offal condemnation and public health risk.

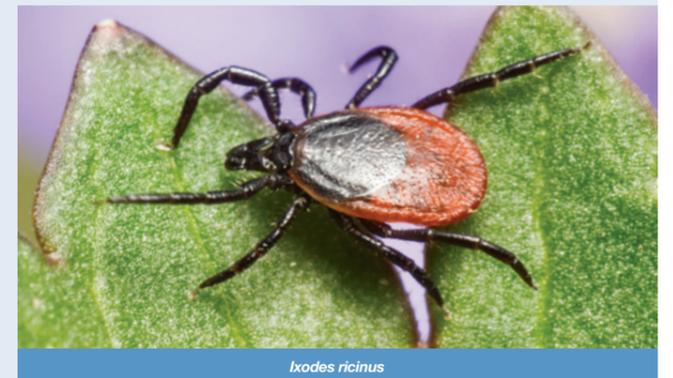
¹ Collins, M., McGarry, J., Michalopoulou, E., Rogan, M., Brouwer, A. & Jones, P. (2016) The HyData Project: Investigating the distribution of *Echinococcus granulosus* (sensu lato) in the UK [conference lecture] Presented at BAVP, Bristol, 14 Apr 2016.

Toxocara canis

There remains no current data on the prevalence or incidence of human toxocarosis in the UK. However, recorded prevalence of patent infection in untreated UK adult cats and dogs continues to be high in England with 5% in dogs and 26% in cats (most recent figures from Lancashire study) and in Ireland with 6% in dogs and 32% in cats (most recent figures from Ireland). Due to the zoonotic risk this represents, and the potential for all cats and dogs to be infected, ESCCAP UK & Ireland continues to advise that all UK cats and dogs are treated at least every three months to reduce egg shedding. High risk groups (those cats and dogs on raw unprocessed diets, that hunt, that live with children or immunocompromised adults) should be treated monthly.

Tick-borne disease

These is ongoing evidence to support the view that the current UK climate allows questing and feeding of *Ixodes* ticks all year round. The perfect growing weather for grass, bracken and other low lying foliage makes for ideal questing conditions for *Ixodes* spp. ticks. This means that owners and veterinary professionals should always be aware of potential tick attachment to pets and owners, with the potential for numbers on cats and dogs to be climbing as the season progresses. Checking for and removing ticks within 24 hours and using an effective product that will rapidly kill or repel ticks, will greatly reduce the risk of transmission for pets and owners walking in high risk areas such as outdoor areas with tall grass, bracken and those shared with deer or ruminants. Pets with a previous history of tick exposure should also be treated as it is likely their lifestyle will expose them to ticks again in the future. *Babesia canis* continues to be endemic in Essex and possibly adjoining counties so tick prevention in dogs with outdoor access living in or visiting these counties remains very important.



Ixodes ricinus

Fly strike in rabbits

Low wind and high humidity conditions are ideal breeding conditions for the metallic flies responsible for fly strike in rabbits. Owners should therefore be encouraged to be particularly vigilant for soiling around the anus of rabbits and maintain clean living environments. Preventative measures should be put in place for high risk pets such as those with obesity, dental or spinal disease.



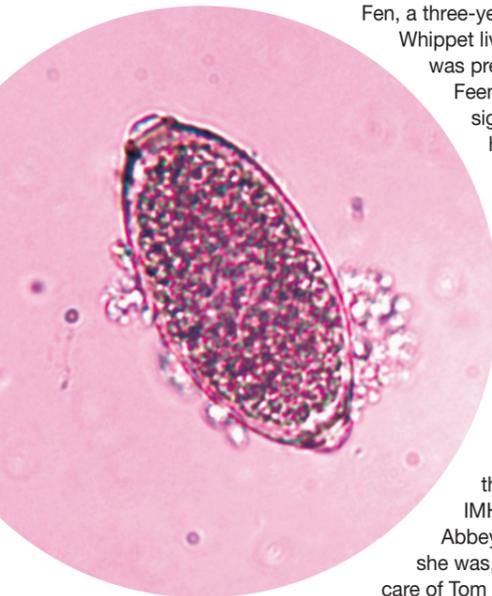
Maggots and soiled fur

Case report

ESCCAP UK & Ireland regularly receives enquiries relating to parasite life stages found in faeces.

This case highlights one of the more unusual findings and is a reminder to consider *Eucoleus aerophilus* as a differential, not only in canine and feline respiratory cases, but also when interpreting faecal flotation results.

Eucoleus aerophilus infection in a Whippet, North Yorkshire



Fen, a three-year-old, entire, female Whippet living in North Yorkshire was presented to vet, Ruth Feeney, in April 2017 with signs of immune mediated haemolytic anaemia. Post diagnosis she was treated with immunosuppressive doses of steroids. Also noted at the time was a daily cough ranging from a harsh, tracheitis-type cough to a soft subtle cough. Her biochemistry results showed liver enzymes much higher than usually seen with IMHA. She was referred to Abbey House in Leeds where she was, and still is, under the care of Tom Clarke.

Further investigation (ultrasound scans, liver biopsies, gall bladder aspirates) revealed a hepatopathy of unknown origin. She had the cough throughout, but chest radiographs were unremarkable, and treatment commenced for the IMHA and hepatopathy.

Twelve months later Fen has an excellent quality of life. She has been on a tapering dose of steroids and is currently on 0.5mg/kg BID of prednisolone, alongside supportive treatment for the liver. The cough, however, has persisted. Faecal samples were taken for flotation and Baermann to establish if lungworm might be a complicating factor. Faecal analysis revealed a single live larva of *Eucoleus aerophilus*.

This is highly unusual, as *E. aerophilus* typically passes eggs with bipolar plugs in the faeces, but emphasises a number of important points:

1. Larvae in the faeces should be identified and infection confirmed by subsequent tests and identification
2. A cough in patients with IMHA should not be assumed to be associated with the condition but may be due to concurrent infection, especially in the immune compromised patient.
3. *E. aerophilus* should be considered as a differential when investigating coughing in UK dogs and cats.

Fen has been treated with a weight appropriate dose of moxidectin/imidacloprid and faeces has been sent for analysis post treatment.

Latest news from ESCCAP UK & Ireland

ESCCAP UK & Ireland welcomes new sponsors and fellowship agreement

ESCCAP UK & Ireland is delighted to welcome new sponsors, donors and fellowship partners for 2018!

We have enjoyed donor support from Merial in previous years, so it is wonderful to welcome Boehringer Ingelheim as donors after Merial Animal health's acquisition and are looking forward to working with them going forward.

IDEXX are joining us as sponsors and represent the first laboratory we have had supporting us at national level. At a time when ESCCAP UK & Ireland is promoting increased testing in practice for lungworm and intestinal parasites, as well as screening imported dogs for Leishmania and Tick-borne disease, it is fantastic to have IDEXX supporting us in this vital work.

We also have a new fellowship agreement with iRecall which provides tools to aid with owner compliance and education. ESCCAP UK & Ireland has already worked with iRecall alongside MSD on parasite control strategy webinars and we are looking forward to working with our new partner on further projects, including collaborating at the VetCPD event in Bath in September.

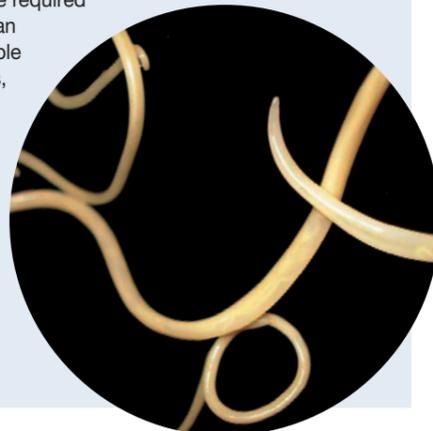


Cambridge Vet School publish ESCCAP UK & Ireland funded project data

Cambridge Vet School have published an ESCCAP UK & Ireland funded study demonstrating subtle changes in bioflora in *Toxocara cati* infected cats compared to those free of infection.

Similar changes have been observed in humans and other animals infected with intestinal nematodes, raising the question of whether this is a mechanism for immune modulation in infected animals.

Larger scale studies are required to see how significant an effect this is and possible associated host effects, but this important preliminary study is the first examining the association between ascarids and commensal gut flora in companion animals.



Toxocara cati adult worms (courtesy of John McGarry)

Latest news from ESCCAP UK & Ireland

ESCCAP UK & Ireland pet adoption from abroad sheet launched

In addition to increased pet travel under the Pet Travel Scheme (PETS), the UK is seeing an increasing number of pets rescued and imported from some Eastern European, Mediterranean and Asian countries where welfare standards regarding stray dogs is poor.

This has resulted in a wide range of exotic parasites and vectors entering the UK with the potential to cause disease in the imported pet but also with the possibility of them establishing and representing a wider health risk to UK pets and public. ESCCAP UK & Ireland has produced a sheet to download from our website (www.esccapuk.org.uk) explaining the parasite risks to consider when adopting a pet from abroad and the behavioural problems that many of these pets have.



Sponsored by ESCCAP UK & Ireland, services provided by ESCCAP UK & Ireland were highlighted as well as the roles of veterinary nurses in parasite control plans and clinics. MSD used these days to launch the Big Flea Project.

ESCCAP UK & Ireland member Richard Wall in conjunction with Bristol University is following on from the success of the Big Tick Project, that generated vital tick and tick-borne pathogen distribution data, with this similar project looking at vector borne pathogens carried by fleas on UK pets.

ESCCAP UK & Ireland and APHA *Thelazia callipaeda* warning

ESCCAP UK & Ireland and APHA have published a joint letter in the *Veterinary Times* (Vol. 48, No. 21) warning UK veterinary professionals to be vigilant for the eye worm, *Thelazia callipaeda*, in travelled or imported dogs.

Three cases have already been confirmed in UK dogs with travel history and another case has been reported to ESCCAP UK & Ireland. The increasing numbers of rescue dogs being imported from Eastern Europe and the Mediterranean is of particular concern as a source of exotic parasites entering the UK.

The spread of *Phortica* fruit flies in the UK (the vector of *T. callipaeda*) presents an opportunity for it to become endemic. Wherever *Phortica* spp. have established, *T. callipaeda* has followed with subsequent human cases, so both ESCCAP UK & Ireland and APHA are keen to highlight the need for vigilance.

Imported dogs should be given a thorough clinical exam and any with conjunctivitis should be checked carefully for the presence of the worm. Rapid diagnosis helps to improve ocular prognostic outcome and limit parasite spread.



MA Healthcare and MSD study days: Big Flea Project launch

MA Healthcare, publisher of *Companion Animal* and *The Veterinary Nurse* journals, in association with MSD Animal Health and ESCCAP UK & Ireland, held two well attended veterinary nurse CPD days about the UK parasite threats posed by fleas and ticks.

This project will generate data on flea species and numbers on cats and dogs as well as the vector-borne pathogens they are carrying. It is vital to know, in addition to *Bartonella* spp., what other pathogens pets and owners may be being exposed to, for example *Mycoplasma haemofelis* and *Rickettsia felis*.

The Big Tick Project also helped to engage and raise awareness in pet owners of the risks of exposure to vector-borne pathogens. This new project will provide a great opportunity to do the same for fleas.



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ESCCAP UK & Ireland Enquiries

ESCCAP UK & Ireland received enquiries from veterinary professionals and the public regarding a wide range of subjects in the last three months.

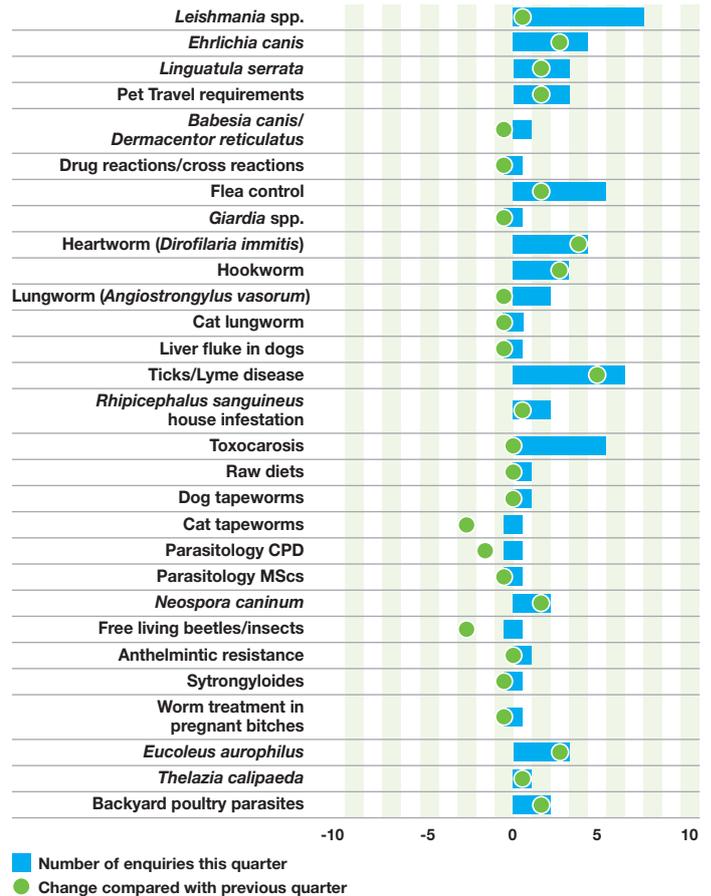
The most enquiries this quarter have been regarding *Leishmania infantum*, all travelled cases that had been subsequently diagnosed with clinical leishmaniosis. A wide range of other exotic parasites are also being seen in travelled dogs including heartworm, *Thelazia callipaeda* eye worm and *Ehrlichia canis*.

The warm, humid weather in the UK has been perfect conditions for fleas and ticks to thrive and this has been reflected in the number of flea infestation and tick/Lyme disease queries that have been received. There have been multiple enquiries concerning *Capillaria* spp. eggs in dog faeces, assumed by the vets in question to be *Eucoleus aerophilus*.



This parasite is endemic in the UK and has a high prevalence in foxes. These were possible sub clinical infections as none of the dogs in question had clinical signs, or possibly present in the faeces due to coprophagia with subsequent passage of eggs from fox faeces through the digestive tract and out in the faeces. Either way, *E. aerophilus* should remain a differential for respiratory disease and the presence of *Capillaria* spp. eggs in the faeces of domestic dogs.

For the first time, ESCCAP UK & Ireland received enquiries regarding chicken parasites this quarter with a query regarding red poultry mite and intestinal tapeworm infection in a chicken. We are happy to receive enquiries regarding the parasites of any companion animals including our feathered friends!



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