



Parasite Forecast

Issue 04

October – December 2017

Welcome

Welcome to the ESCCAP UK & Ireland quarterly newsletter. 2017 has seen highlighted the increasing problems of illegal and legal pet importation introducing a wide variety of exotic parasites and vectors. The past 18 months have seen the first published cases of *Dirofilaria repens*, *Thelazia callipaeda* and *Linguatula serrata* into the UK.



The increasing trend to import rescued animals from abroad is one component of increasing international movement of pets, and veterinary professionals are in a strong position of trust to advise clients and the wider pet owning public of the disease risks, as well as the likelihood of poor socialisation, that these pets bring with them. One of ESCCAP UK & Ireland's key objectives in 2018 is to equip practices with materials and information that they can use on social media and in practices to educate the public regarding pet travel and importation so that they can make informed decisions when deciding whether to import pets and subsequently take adequate parasite preventative measures while abroad.

On the other side of the coin, recent published case reports and studies have demonstrated how important it is not to forget parasites that are already endemic in the British Isles and carry significant zoonotic and pet health risks. Some of these are very familiar to us, such as the high prevalence of *Toxocara* spp. found in stray cats and dogs. Others, such as *Aelurostrongylus abstrusus* (the cat lungworm), may have fallen below our radars and has now been found to be prevalent in cats in both the UK and Ireland. Another case of *Babesia canis* in an untravelled UK dog has served to remind us that this parasite remains endemic in the UK and needs to be considered when assessing tick-borne disease risk in UK dogs.

All of these parasites, both home grown and foreign invaders, need to be considered when taking a risk based approach to parasite prevention in UK cats and dogs. Through 2018, ESCCAP UK and Ireland will endeavour to provide advice, support and materials to the veterinary profession and pet owning public to aid parasite control. We have been very active through 2017, none of which would have been possible without the help and support of our sponsors, donors and fellows to which we are extremely grateful.

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 regarding the latest untraveled dog to have been diagnosed with babesiosis. We also have the quarterly parasite forecast, summarising which parasites may represent an increased risk 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 email info@esccapuk.org.uk. Each edition will also be published on the ESCCAP UK & Ireland website (www.esccapuk.org.uk).

To your parasite control success!

Ian Wright
Head of ESCCAP UK & Ireland



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While every care is taken to ensure accuracy, ESCCAP UK & Ireland cannot accept liability for errors or omissions.

Front cover photos: *Babesia canis* piroplasms (courtesy of Simon Bate, AVR referrals).
Toxocara canis adult worms (courtesy of Ian Wright).

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Winter 2017 Parasite Forecast

Imported disease

There have been at least three cases of the canine oriental eyeworm, *Thelazia callipaeda*; one case in a dog imported from Romania and two cases in UK dogs which travelled abroad to endemic countries (in these cases, Italy and France). A number of *Linguatula serrata* (tongue worm) cases have also been seen in the UK over the past 18 months from dogs imported from Romania and imported cases of *Leishmania infantum* and tick-borne diseases also continue to be high. The high levels of imported disease currently being seen in the UK emphasise the need for vigilance in all imported cats and dogs for exotic disease. 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.



Dermacentor spp. tick (courtesy of John McGarry, University of Liverpool)

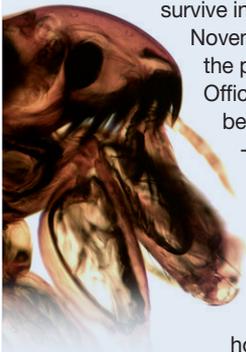
Babesia canis

There has been another confirmed case of canine babesiosis in an untraveled UK dog in Ware, Hertfordshire. In close proximity to the previous outbreaks in Essex, this is the third successive year that untravelled dogs have been affected seasonally by the disease. This further case, in combination with a recent paper by Public Health England¹, demonstrates that *Babesia canis* is still present in *Dermacentor reticulatus* ticks and highlights the need for vigilance, especially in Essex and adjoining counties. Any dogs living in or visiting areas with endemic pockets of *Dermacentor reticulatus* and with access to outdoor green space should be routinely treated with an effective tick preventative product and checked every 24 hours for ticks.

Babesiosis should now be considered as a differential for IMHA in untraveled UK dogs across the country. Recently published data has also continued to support the view that the current UK climate allows questing and feeding of *Ixodes* ticks all year round². 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. Decorated ticks removed from pets or people should be sent to PHE for identification as part of their tick surveillance scheme.

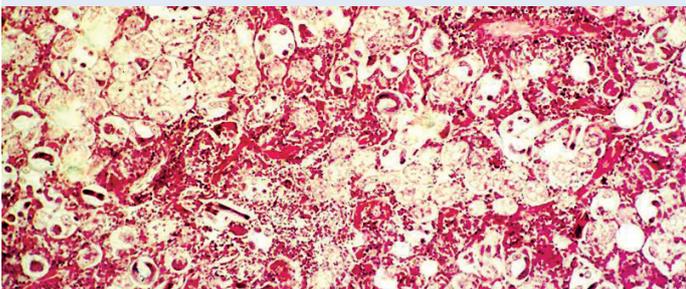
Fleas

Many pet owners may now have stopped flea treatment over the winter. However, centrally heated homes allow fleas to survive indoors throughout UK winters. October and November weather remained mild and perfect for the propagation of fleas. This is in line with the Met Office forecast that the next five years will likely fall between 0.28°C and 0.77°C hotter than the 1981 – 2010 average. Come the Spring, or even in homes over the winter, unprepared owners may find themselves at the mercy of flea infestations. Veterinary professionals should be prepared to see increasing numbers of pets infested with fleas and advise routine year-round preventative treatment to prevent house infestations and transmission for vector-borne diseases such as bartonellosis.



Aelurostrongylus abstrusus

Although reports of *Angiostrongylus vasorum* remain high, it is not just dogs that are at risk from lungworms. A study by Hany Elsheitkha presented as a poster presentation at the WAAVP 2017 conference has demonstrated an *Aelurostrongylus abstrusus* prevalence of 2.2% in UK cats³. All the cats in the study had outdoor access and had not received preventative treatment for worms. In Ireland, a similar prevalence of 3.6% was found in a recent study⁴. This demonstrates the need for lungworm to be considered in parasite control programs for cats with outdoor access, and the importance of *Aelurostrongylus abstrusus* as a differential when considering respiratory disease in untreated cats.



Section of cat lung showing massive numbers of *Aelurostrongylus abstrusus* (cat lungworm) larvae and eggs (courtesy of John McGarry, University of Liverpool)

Toxocara spp.

A recent study in Ireland has highlighted that cats, particularly stray cats, are significant contributors of *Toxocara* spp. ova in the environment with zoonotic potential. The results of the study showed a high prevalence of *Toxocara cati* (32%) compared to *Toxocara canis* (6%)⁴ which is in keeping with a study conducted in Lancashire in 2016 which found *Toxocara* spp. prevalence of 26% in cats and 5.3% in dogs⁵. The high prevalence combined with the zoonotic potential of *Toxocara* spp. emphasises the need for increased awareness of infection in pets and the requirement for frequent treatment.

As all cats and dogs have the potential to be infected, ESCCAP UK & Ireland advises all UK cats and dogs are treated at least every three months to reduce egg shedding and high risk groups (those cats and dogs on raw unprocessed diets; that hunt; that live with children or immunocompromised adults) should be treated monthly.

Echinococcus granulosus

Work carried out by the FSA on behalf of the Welsh Government has found that the incidence of *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 Ireland⁶. 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.



Echinococcus granulosus (courtesy of John McGarry, University of Liverpool)

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.

Hunting Dogs

Throughout the winter months, hunting dogs will be especially at risk from contracting tapeworms. In addition to the risk from worms, hunting dogs and cats may acquire ticks and mites from the environment. Owners should be advised to remain vigilant and check their pets at least every 24 hours and remove any ticks using a suitable tick removal device.

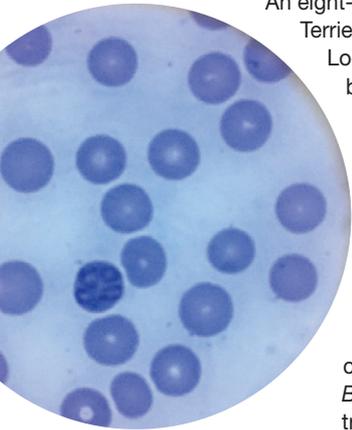
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- Sánchez-Vizcaíno, F., Wardeh, M., Heayns, B., Singleton, D., Tulloch, J., McGinley, L., Newman, J., Noble, P., Day, M., Jones, P. & Radford, A. (2016) 'Canine babesiosis and tick activity monitored using companion animal electronic health records in the UK' Veterinary Record Vol. 179 No. 14, pp. 358-362.
- Elsheitkha, H., Schunack, B. & Schaper, R. (2017) Prevalence of feline lungworm *Aelurostrongylus abstrusus* in England [poster] Exhibited at WAAVP 2017, Kuala Lumpur, 4 Sept 2017.
- Power, C., Lawlor, A. & de Waal, T. (2017) The prevalence of gastrointestinal and cardio-respiratory parasites in stray dogs and cats in Ireland [poster] Exhibited at UCD Summer Student Research Awards, Dublin, 26 Sept 2017.
- Wright, I., Stafford, K. & Coles, G. (2016) 'The prevalence of intestinal nematodes in cats and dogs from Lancashire, north-west England' The Journal of Small Animal Practice Vol. 57 No. 8, pp. 395-398.
- 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.

Case report

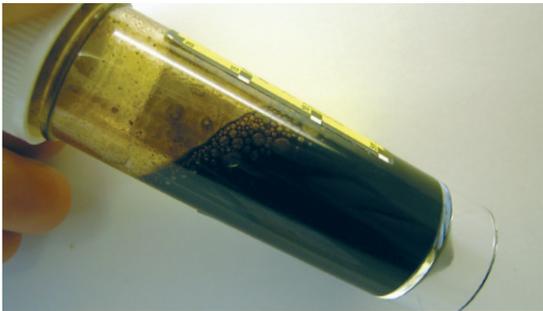
A new, confirmed case of Babesiosis was presented to Walton Lodge Veterinary Group in Ware, Hertfordshire, highlighting the need for vigilance for both ticks and clinical signs of babesiosis in untraveled dogs in the UK, particularly the South East of England.

Babesiosis in an untraveled dog from Ware, Hertfordshire

An eight-year-old Staffordshire Bull Terrier presented at the Walton Lodge Veterinary Group with blood in its urine. The urine was dark red, typical of the “coffee grounds” urine seen in clinically affected patients. The owners were seen as an emergency, two hours after the blood was first noticed. In house peripheral blood smears confirmed the presence of *Babesia* piroplasms and treatment was initiated with imidocarb injections. A second injection was administered two weeks later.



Babesia canis piroplasms (courtesy of Simon Bate, AVR referrals)



Haemoglobinuria (courtesy of Pedro Serra, Nationwide labs)

Response to treatment was excellent with the patient going on to make a full recovery, although it is likely she will remain a carrier of the parasite for life with potential for relapse. Regular tick treatment had not been in place, but this is now vital to minimise spread of the parasite and further tick-borne disease exposure.

This case demonstrates the importance of practices promoting awareness among owners of babesiosis signs including lethargy, jaundice, pale gums, bleeding, fever and raised lymph nodes and emphasising the need for rapid diagnosis and treatment. Using a tick preventative product routinely and checking for ticks every 24 hours is also important for all dogs living in Essex or adjoining counties with access to green space. *Babesia canis* is still endemic in Essex and has the potential to spread to further counties and beyond.



Dermacentor spp. tick (courtesy of John McGarry, University of Liverpool)

Latest news from ESCCAP UK & Ireland

WSAVA/FECAVA meeting in Copenhagen

FECAVA and ESCCAP are working closely on two new projects which were discussed at a productive meeting at the FECAVA/WSAVA 2017 congress in Copenhagen. The canine vector-borne disease working group will produce tables for veterinary professionals summarising the recognition, diagnosis, treatment and prevention of vector-borne diseases across Europe.

These will be presented in an accessible way and be available as downloads for practitioners as part of a joint drive to make parasite information more accessible. They will also be working together on the parasiticide resistance document reviewing current resistance in cats and dogs and identifying areas that require future research. As well as ESCCAP and FECAVA, the paper will benefit from the support and input of the European Veterinary Parasitology College (EVPC) and the Advisory Board for Cat Diseases (ABCD).

The ESCCAP lecture stream at the meeting focused on emerging parasites in Scandinavia and Northern Europe as a whole; with changes in parasite distribution in Scandinavia reflecting the wider European pattern of parasite and vector spread. Four lectures focused on the threats of *Echinococcus multilocularis*, lungworm, imported vector-borne disease and the rapidly evolving distribution of tick-borne diseases in northern Europe. All lectures were well attended and generated a lot of discussion surrounding these vitally important parasite issues affecting countries across the continent, including the UK. A summary of the lecture content can be found in *Companion Animal* journal.

Bristol University pet travel survey nears completion

ESCCAP UK & Ireland is promoting the pet travel survey carried out by parasitologists at Bristol and Belfast Universities as it nears completion. If you have taken your pet abroad then please fill out the survey at the following link:

<https://www.surveymonkey.com/r/PetTravel2017>

Please also share the survey with clients and colleagues who have taken their pet abroad.

Once completed, this data will provide vital insight into where people are taking their pets abroad and for how long.

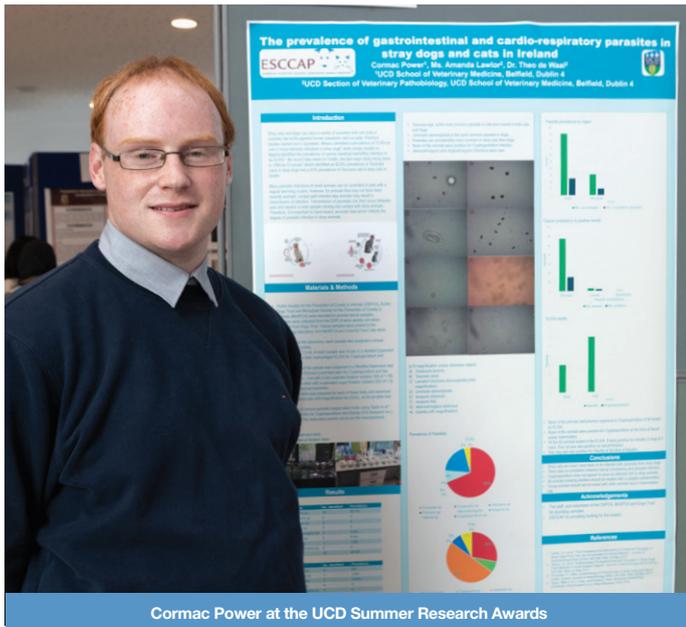
The plan is to compare this data with parasite distributions across Europe to establish which pet owner demographics are at greatest risk and the parasites they are most likely to be exposed to.

It will also complement the ESCCAP UK & Ireland's Travelling Pets' Timeline, sponsored by Bayer Animal Health, which will finally launch in 2018, enabling veterinary professionals and pet owners to assess risk based on geographic location, lifestyle, time of year and also the travelling habits of other pet owners from the UK.



Farewell to Maggie Fisher

After ten years, Maggie Fisher has decided to step down as a member of ESCCAP UK & Ireland. A founding member of both ESCCAP Europe and ESCCAP UK & Ireland, we would like to thank Maggie for her dedication and service over the years and wish her all the best for the future.



ESCCAP UK & Ireland funded parasite data published from Ireland

A poster presentation by Cormac Power was presented at the University College Dublin's Summer Research Awards. The project entitled 'Prevalence of gastrointestinal and cardio-respiratory parasites in stray dogs and cats in Ireland' was funded by ESCCAP UK & Ireland and revealed a wide range of nematodes and protozoa to be present in Irish stray cat and dog populations.

Of note from the results of the study was the high prevalence of *Toxocara cati* (32%) compared to *Toxocara canis* (6%), adding to evidence that cats, particularly stray cats are significant contributors of *Toxocara* spp. ova in the environment with zoonotic potential. *Aelurostrongylus abstrusus* was also found in the stray cat population, suggesting it to be endemic with the potential for domestic cat exposure.

The full results can be found on a PDF of the poster on the ESCCAP UK & Ireland website (www.esccapuk.org.uk/professionals/downloads/ESCCAP_Poster_TdeWaal.pdf)

ESCCAP UK & Ireland Plans for 2018

In addition to the Travelling Pets' Timeline, ESCCAP UK & Ireland is pleased to announce some other plans for 2018; the increasing risk of tick-borne disease, exotic parasite risk from abroad and the need for a risk based approach to parasite control in practice will be areas of focus including:

FAQs on the website

The most frequently asked questions will be posted on the website with answers for veterinary professionals and, where appropriate, pet owners.

Informational videos

Filming has already been completed for short information videos that will be posted on the website over the coming year including instructional videos on how to look for fleas and ticks and how to remove and identify ticks. There is also a description of tick habitat, parasite exposure and how to protect pets and people enjoying the outdoors.

Ectoparasite ID materials

Flea and tick identification posters and CPD will be made available for download on the website to help assess which fleas and ticks may be involved in specific infestations.

Equine

The launch of the ESCCAP equine guideline is due in spring/summer 2018 and the plan remains to serialise it in the journal *Equine Health* along with associated content and an equine 'parasite wheel' – similar to the ones currently available for cats and dogs.

Risk based approach to parasite control materials

Downloadable material will continue to help practices engage in a risk based approach to parasite control.

Informative materials about exotic disease risk from imported pets

Downloads, printed materials and blogs for use on practice websites will be produced to help educate owners regarding the risks of importing pets from abroad.

Veterinary school research support

Results of ESCCAP UK & Ireland funded studies will be summarised and highlighted on the website as they are published. New individual projects will also be considered, starting with Nottingham Vet School's investigation into the prevalence of *Toxocara* spp. eggs in public sandpits in the UK, degree of contamination and the risk it may pose to public health.

This is the fourth and final Parasite Forecast of 2017

We hope that you have enjoyed reading them and we look forward to starting afresh in 2018 with the Spring forecast.

ESCCAP UK & Ireland would like to wish all our readers, supporters and members a very merry Christmas and a happy New Year!

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ESCCAP UK & Ireland Enquiries

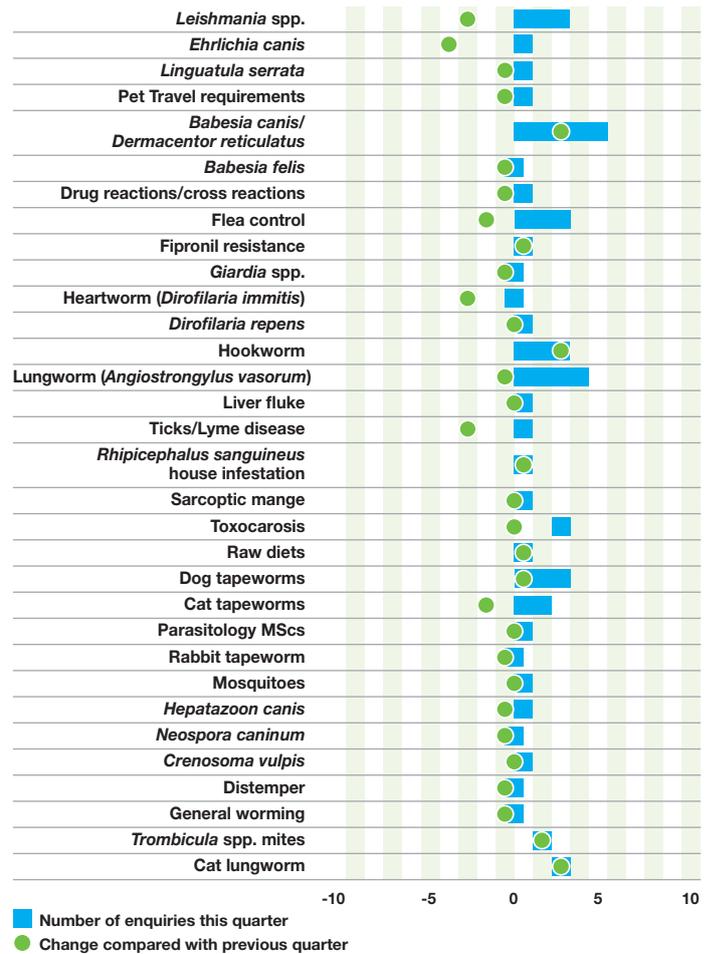
ESCCAP UK & Ireland received questions from veterinary professionals and the public regarding a wide range of subjects in the last three months (October – December).

The most enquiries this quarter have regarded babesiosis and *Dermacentor reticulatus* ticks, driven by the recent babesiosis case in an untravelled UK dog (see case study in this issue of Parasite Forecast).



Toxocara canis adult worms (courtesy of Ian Wright)

Interest in domestic parasites such as fleas and *Toxocara* spp. remains high with enquiries this quarter also focusing on cat as well as dog lungworms.



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