

Pesky Ectoparasites

Parasite control should be at the forefront of every pet owner's life as all animals have the propensity to contract numerous ones at one stage or another. They are a challenge to the health and welfare of companion animals and at times to people as they can cause a variety of problems ranging from mild to severe.

Parasites can be divided into two groups: - Ectoparasites (outside the body) and endo parasites (inside the body). In this article, we are going to concentrate on the former to include

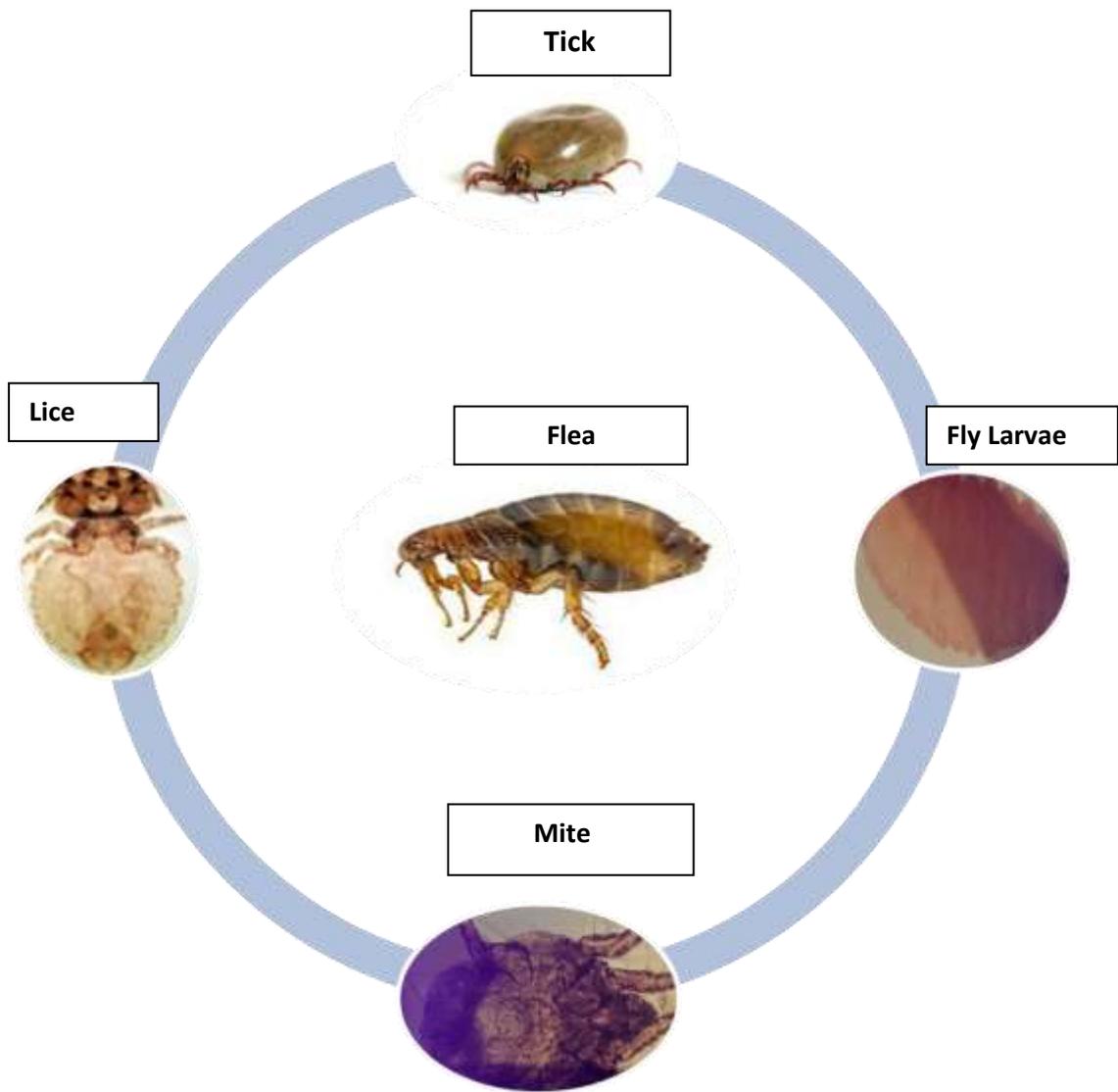
Insecta – fleas, lice and flies

Acari- ticks and mites

Ectoparasites can live in or on the skin and whilst some spend their whole lifecycle on their hosts, the majority (for example ticks and fleas) develop elsewhere and climb onto their hosts in order to feed. These parasites generally cause irritation of the skin and also may act as vectors of disease-causing pathogens that can sometimes be of more clinical significance.

The most common Ectoparasites present in Ireland are fleas, ticks, lice, mites and flies. Some of these are easily visible to the eye, while others may need skin investigations to identify the exact parasite as they are microscopic.

Complications that can arise from the presence of the parasites or from damage to the skin may be skin lesions, secondary bacterial or fungal infections and various kinds of dermatitis. Sometimes they can induce an immunopathological reaction especially by Ectoparasites saliva. This may lead to allergic reactions with flea allergic dermatitis (FAD) being the most common



INSECTA

Fleas

The ectoparasites that most owners would be familiar with are fleas. Adult fleas can be permanent parasites of animals, and will die after 2-3 days if separated from their host. For every one flea found on the pet, there is likely to be approximately one hundred eggs in the environment, ready to start the life cycle again. Hence it is easy to see how an infestation occurs rapidly and if there is a severe infestation, humans may be bitten. So whilst getting rid of fleas off of the pet is first protocol, it is of the utmost importance to treat the environment to break this life cycle by using specific household sprays etc. As fleas feed off blood, a heavy infestation in young or debilitated animals can cause weakness due to anaemia and in severe cases they may die.

Other problems associated with fleas are that they can spread tapeworms and also some pets can become sensitive to flea saliva from bites causing an allergic reaction. These reactions can range in severity and may require veterinary attention. It is then advisable to use flea prevention products to avoid the possibility of an infestation.

Lice

Lice are host-specific parasites and can be spread between dogs and cats both by direct contact and via shared brushes and combs. They may cause severe irritation and act as an intermediate host for the tapeworm.

They feed in one of two ways depending on the species: a) chewing lice feed on skin debris or b) sucking lice have piercing mouthparts and feed on blood which may cause anaemia. Heavy infestation may cause eczema, alopecia and self trauma at common sites to include the head, neck and tail.

Flies

Flies such as blue bottles sometimes lay their eggs on animals where the eggs can hatch into larvae (maggots). As the larvae develop, they may invade deeper into tissue, possibly into body cavities and then can become toxic. The animal will often show signs of distress, depression and anorexia. These are seasonal parasites, usually in late spring and summer where the build up of faeces can act as an attractant for flies and so outdoor animals are at higher risk .(rabbits in hutches). Other flies that can affect pets and humans are sand flies and mosquitoes with the main concern being their ability to act as vectors for pathogenic organisms such as various bacterial infections for example.

ACARI

Ticks

Ticks are temporary blood feeding parasites that attach to both companion animals and humans. They act by embedding in the host's skin using their mouthparts. They then transfer saliva as they feed which can cause local irritation to the skin and also transmit infection. It is often hard to spot ticks initially when they first attach as they are small. However, as they intake blood, they grow in size. Once a female tick is fully fed, she drops off the host animal to lay her thousands of eggs in the environment. Generally they are active in the spring and early summer but they can be seen throughout the summer with a second peak of activity in the cooler autumn.

Ticks are vectors of bacteria, viruses, protozoa and nematodes and transmitting zoonotic diseases such as

- 1) Lyme disease- causes flu like symptoms upon initial infection. If left untreated, muscles, joints and nervous system can also become affected.
- 2) Babesiosis- microscopic parasites that live in red blood cells and can cause serious illness such as life threatening anaemia

Mites

There are different types of mites that can be highly contagious, even effecting humans and may occur in pets at any stage of their life. Most spend their entire life cycle on the host and will cause severe irritation. Some mite species may cause severe morbidity, loss of condition and ultimately death if left untreated.

The Table below shows the most common mites seen

	Sarcoptes scabiei	Demodex	Otodectes (earmites)	Trombicula autumnalis (Harvest mites)
Effects	Humans and animals	Mainly dogs	Animals	Aminals
Transmission	Direct contact To infected species	Non transmittable Normal skin inhabitants of dogs. Problems arise linked with	Through close contact	Picked up by environment

		a genetic or immune status that allows excessive demodex multiplication		
Life cycle	Entire cycle spent on host	Entire cycle spent on host	Entire cycle spent on host	Apart from the larval stage , all other stages are free-living.
Clinical signs	Pruritus , possible alopecia and crusting. Often in the ear, elbow, hock area.	Areas of localised or generalised alopecia. May be dermatitis	Brown, waxy discharge. Pruritus with secondary signs of ear scratching and trauma. Common in animals with dirty ear canals.	Small, bright orange dots visible on the skin often between digits. Self inflicted trauma since the condition is often pruritic

Screening of external parasites

Some external parasites are easily visible to the naked eye while other veterinary investigations may be required to diagnose different infestations. Typical tests may include combing coats for eggs/flea faeces, hair plucks or skin scrapes (surface/ deep) to examine using a microscope. Ear and skin swabbing may be required to distinguish between bacterial or parasitic infections. Once the diagnosis is confirmed, then an appropriate treatment plan can be formulated.

Control and Prevention of Ectoparasites

Generally prevention is better than cure so it is advisable to put correct parasite control protocols into place for the specific pets in each household. The factors influencing what products will be used rely on the practicalities of using it, the risk of exposure to particular parasites and sometimes finances. A number of parasite control preparations are topical or come in tablet form. Also some are parasite specific or may cover the pet for a multitude of organisms.

Practical things that the owner can do includes picking up and the disposal of pet's faeces, good hygiene, use of disinfectant, washing bedding and vacuum cleaning to eliminate possible sources of infection.

Secondary infections – antibiotic and antifungal preparations, to include topical for ear mites, some animals may warrant steroid therapy

In addition, good nutrition plays a huge part in how well the animal's immune system mounts the suitable defences and in the animal's general capability to endure the presence of parasites.

The rate and extent of these parasitic infections can be decreased by implementing proper prevention, and also by not providing a suitable environment for the parasites to flourish.

Identifying the risk factors for specific parasites in our pets depending on the area they live in and time of year is also hugely important in reducing the possibility of parasitic invasion.