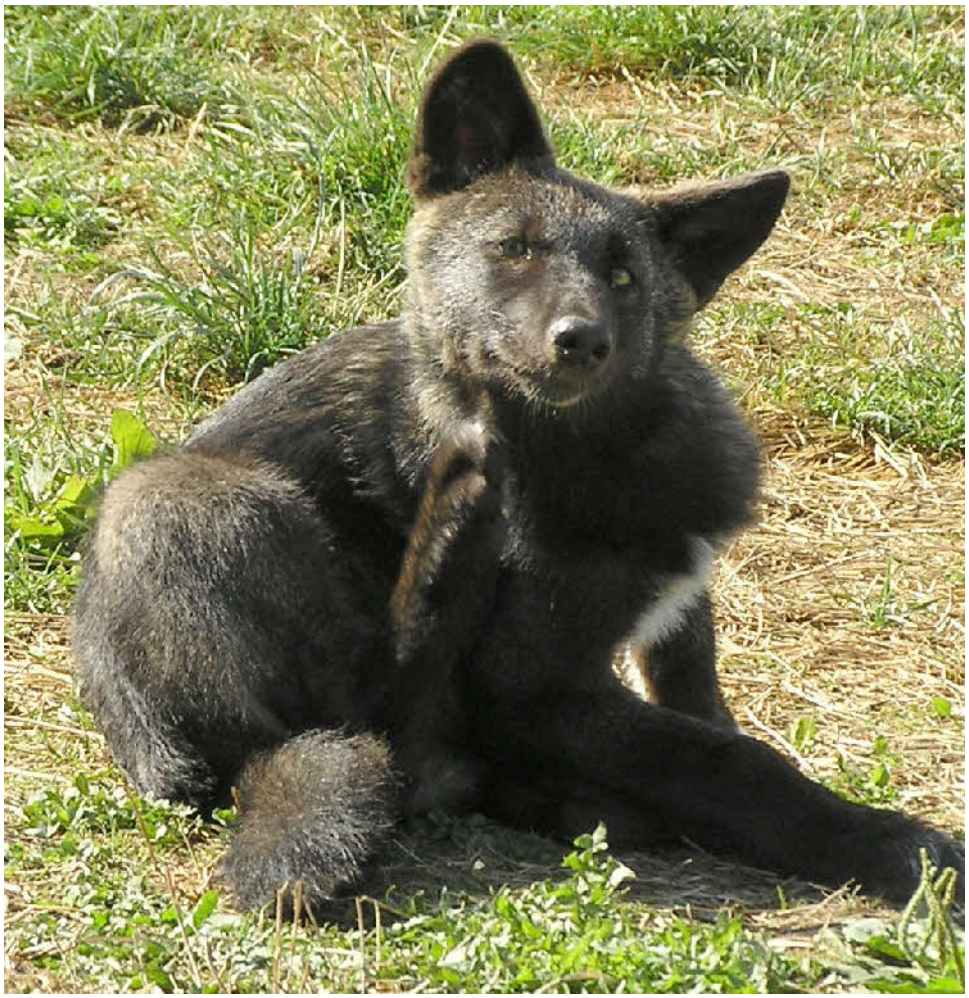
Life and behaviour of

Toni Shelbourne takes a look at how wild wolves deal with this perennial problem

Many of you will be aware that domestic dogs suffer from both internal and external parasites. To control them in our pets usually means a simple trip to the vets, but which parasites do wild wolves suffer from and how do they deal with them?



Summer can be a tough time for wolves who suffer from the same common infestations that we see in dogs and cats including fleas, ticks, lice and sarcoptic mange.

External parasites (ectoparasites) generally live alongside the host and wolves seem to tolerate them well unless other factors come into play, like viral and bacterial infection, disease or malnutrition. If the wolf is laid low from a secondary complication the immune system, already under stress, can find it harder to cope and the infestation can take a stronger hold, possibly contributing to the mortality rate.

One of the most significant external parasites in the wolf seems to be sarcoptic mange.

This sub-surface mite lays its eggs in the skin tunnels; transmission between animals is by direct contact. The biggest threat of infection to the wolf is another wolf or other predators like foxes and coyotes.

Symptoms include hair loss, often on the ears and elbows first, but spreading to the whole body if untreated, intense itching, crusty lesions and a hardening of the skin which turns slate grey. This is the same mite that can be seen in many urban foxes in the UK. Feeding and behavioural changes occur, presumably partly due to the irritation. The wolf will become emaciated and have secondary bacterial infection from the abrasions caused by continual scratching. The animal will eventually die. It's thought that the sarcoptic mange mite is an important regulator in wild wolves; more wolves mean more mange is transferred and numbers are controlled.

Lice also occur in wolves.

In many cases the introduction of the parasite to wild wolves seems to have come from interactions with domestic dogs. These wingless insects, which fall into three categories of biting, chewing or sucking lice, spend their whole time on the host. Cubs get infected in the den by the mother through direct contact and are most at risk.

Symptoms include hair loss, matted undercoat and a distinct mousy smell. Secondary bacterial infection can occur from the wolf scratching or from the action of the lice feeding. Although usually not fatal, death can occur through exposure to severe cold as guard hair is broken off or scratched out and undercoat matted.

Lice became the focus of the Alaskan government in the 1980s when a severe outbreak was threatening the fur trade as trappers were reporting the quality of the wolf pelts were affected by the infestation.

A programme was carried out to trap and treat infected wolves by injecting ivermectin, an anti-parasitic drug, or scattering bait laced with the drug. This proved difficult as not all members of the pack could be caught and the bait was often consumed by non-targeted species. However the lice soon spread and by the early 1990s all packs on the Kenai peninsular were believed to be infected.

wolves: *parasites*


ticks can bleed a young cub dry

Ticks, if in large numbers, can bleed a young cub dry but generally only cause irritation to the wolf. The tick will simply feed and drop off the host into the environment again. However, Lyme's disease can be carried by deer ticks and though it is not known of the significance in wolves, it can cause foetal mortality or abortion in some animals.

Internal parasites (endoparasites) include tapeworm, roundworm, heartworm, liver fluke, hookworm and whipworm.

Roundworm is a cub's most serious threat. Females will pass on roundworm to their cubs through the milk and the placenta. This in turn probably accounts for some cub deaths in the den.

Liver fluke is only a risk to fish-eating wolves but tapeworm is common. They usually cause no problem if in small numbers but if the animal is ill, the worms will affect it more by taking a greater hold and helping to bring the wolf low.

It seems to be an integral part of the moose/wolf population. Moose house the tapeworm's larvae in cysts in their lungs which affects stamina making the infected moose easier to prey upon. The more wolves, the more likely moose are to become infected from shed eggs ensuring the life cycle of the worm; predator and prey numbers are stabilised.

Prey and predator are so closely linked where health and survival are concerned you can't help but admire the design nature follows. If left alone, the wolf would be controlled and regulated by its fellow predators and prey.

How are parasites dealt with at the UKWCT?

Very few parasites are seen on the Trust's nine wolves.

Endoparasites are tested for every three months by collecting a faecal sample which is sent away for testing by a local lab. If worms were found then the appropriate treatment would be applied. As we routinely gut rabbits and feed human grade muscle meat the risk of endoparasites is extremely low.

To date, since this system has been in place, no worm eggs have ever been found in the samples and no wolves have ever shown any symptoms, except the cubs when they were small from infection via the mother.

Ectoparasites seem to be limited to ticks which the wolves pick up from the woodland walks. These are often on their heads where they have brushed through the undergrowth and the ticks have attached themselves. These are removed immediately by a tick remover and destroyed.

As flea infestation is often a product of fleas being endemic in the environment, for example eggs laid in your carpet, which when hatched re-infect your dog; the wolves seem rarely to get them, their enclosures being, we assume, flea free.

With other parasites, direct contact is needed, so sarcoptic mange which can survive for only a short time off the host would be a minor threat to their health.

As our wolves come in contact with the public it is even more important that not only are the wolves healthy but the risk to the public is minimised.

Evidence of endoparasites can often be seen in the wolves' scat either with the naked eye or when the faeces is tested.