

Wolf Diseases and Welfare

In the past, little was known of diseases and ailments affecting wolves in the wild due to the wolf being so elusive, however there is still much to learn. Often little is left of wolf carcasses for scientists to study unless the individual has been fitted with a radio collar which admits a mortality signal. Even then it is a race against time to find the body before scavengers strip the carcass. Of course wolves are susceptible to any of the diseases or ailments that dogs are prone to. However, the immune system and general constitution of the wolf is far superior to the dog. They also tend to live much shorter lives due to the harsh conditions in which they live; so many ailments that are generally associated with canine old age don't have time to develop. If a cub reaches its first year it's an achievement. Many don't even make it out of the den. More and more research is now being undertaken by scientists analysing blood samples taken from radio collared or dead wolves and from information provided by wolf scat (faeces). This shows the main medical causes of death to be disease and parasites, however a whole array of conditions can be present all of which you would recognise in your own pet dog.

There is more information on captive wolves. As a group they will potentially have more stress related medical conditions or inherited abnormalities due to the small gene pool from which they come. However, wolves appear to have strong immunity and seem to heal much quicker than domesticated dogs.

Little is known of wild wolves' diet beyond the prey they ingest, for example do they self medicate when feeling unwell? Providing a balanced diet in captivity or allowing access to healing herbs is difficult – which ones would they use? At present little or no studies have been made. Wolves are not strict carnivores they will strip the brambles of blackberries, eat fruit and take the stomach content from their prey. They will also eat the droppings of herbivores like rabbit, horse and sheep but rarely faeces from other carnivore unless it's a female clearing up after cubs. If conditions were really bad and cubs were starving there is also some evidence of them eating the adults faeces to survive but this is rare.

Wolves are susceptible to any disease or parasite domestic dogs can contract or some parasites can be passed from prey to predator. Apart from injury and death at the hands of humans the next two big killers of wolves are parasites and diseases.

Parasites

Wolves suffer from both internal and external parasites. Externally fleas, ticks, lice and sarcoptic mange are the biggest problem.

The most significant external parasite 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 to the wolf of infection is another wolf or other predators like foxes. 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. 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 sarcoptic mange mite is an important regulator in wild wolves. More wolves mean more mange is transferred and numbers are controlled.

Lice have been known to occur in wolves. These wingless insects, which fall into two categories of biting or sucking lice, spend their whole time on the host. Cubs can get infected in the den by the mother through direct contact. Symptoms include hair loss, matted under fur and a distinct mousy smell. Secondary bacterial infection can occur from the wolf scratching or from the action of the lice feeding.

Ticks, if in large numbers, can bleed a young cub dry but generally only cause irritation to the wolf. However Lyme's disease can be carried by ticks and though it is not known of the significance in wolves, it can cause foetal mortality or abortion in some animals.

Internal parasites 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 prey. The more wolves around, the more likely moose become infected from shed eggs ensuring the life cycle of the worm. Again predator and prey numbers are stabilised.

Diseases

Most of the information about infectious diseases in wolves is from analysing antibodies in blood samples taken from collared wolves or dead wolves. Death is probably more common in cubs as the immune system has not had time to form the proper responses to the disease. The stronger cubs survive. Although they may have some protection against diseases from the immunity passed on through the mother's milk, it takes at least 6 months for the immune system to fully develop. The cubs who survive a disease at this early stage in their lives will have antibodies against that disease for life. It is this that scientists can detect in blood samples. If the wolf encounters the disease again they may not fall prey to it or have a milder form due to the quickly responding antibodies.

Wolves are not thought to be the primary carriers of rabies except maybe in Asia and the Eastern Mediterranean region. Rabies is an infectious viral

disease affecting the central nervous system. Transmission is through a bite from an infected animal. It comes in two forms, dumb and furious. The symptoms of dumb rabies include paralysis of the throat, loss of voice, excessive salivation, general paralysis and death. Furious rabies goes through three stages but is marked by increased excitement and agitation where the animal will attack objects and bite other animals or humans as the disease drives the animal to spread the infection. The wolves can abandon their packs, or maybe it's the other way around, and can cover large distances in a day. It's not clear but the infected wolf may leave its pack's territory in the need for seeking out life forms to bite. The last stage of the disease is paralysis and death. If the wolf stays within its territory the disease can be self-limiting as it will die out with the last wolf to die. Whatever happens, it is known to be a regulator of wolf numbers in the wild. Wolf conservationists in Croatia say it is one of the commonest diseases they have found in post mortems carried out on collared wolves.

Distemper is possibly enzootic, in other words normally present in an area, and not thought to be a big problem in wolves. Cases seen have either been in captive wolves or those coming into contact with domestic dogs. It is thought to cause most deaths in young cubs that are immune deficient, or in wolves with malnutrition that are less able to fight off the infection.

Infectious canine hepatitis, parvovirus, leptospirosis, brucellosis and tuberculosis are also known to affect wild wolves but not in any significant numbers.

Disease will affect the population and dynamics of wolves through mortality, decreased reproduction and dispersal. Lack of food will also affect the animal's natural ability to fight disease. Disease plays a role in regulating wolf numbers as well as other species, playing its part in balancing the ecosystem.

Malnutrition

Malnutrition plays as big a role in wolf numbers as parasites and disease. Alpha breeding pairs have been known to selfishly eat the majority of food in lean times to ensure the survival of cubs and themselves. Juveniles starve and eventually may disperse due to lack of food. A wolf can call on its fat and protein reserves to see it through a fast. Usually the fat will be used up from under the skin first then from around other organs and eventually from bone marrow. If this all gets depleted then muscle can be used. A wolf would need to lose as much as a third or half its own body weight to die of starvation, depending on the individual. They have an ability to change enzymes within their body to survive on less protein. Animals near starvation however can make a very quick recovery if they receive food in time, gaining weight quickly on a day by day basis.

Injury

The UKWCT is all too aware of the potential dangers of injuries to wolves having rehabilitated Alba, a European male wolf, through a spinal injury. Impalement or collisions are all too frequent amongst wild wolves who often spend more time looking at the prey they are chasing than what's coming up in front of them. If the chase doesn't injure or kill a wolf the prey it is hunting might. Many wolves have succumbed to a kick by a moose or bison. The injury might not kill the wolf instantly but a lame wolf that can't hunt and can't keep up with the pack is at a serious disadvantage. Wild animals have a tendency to den-up when sick or injured. They either recover quickly or die. There have been reported cases of wolf sightings were a pack has stopped and waited for an injured wolf but as sightings of wolves are rare there is no way of telling if this is the norm.

One of the greatest dangers facing the wild wolf is of course humans. With our urban sprawl and need for faster roads, wolf habitats are destroyed and dispersal routes cut off. Pack territories get smaller and less sustainable or even have to overlap with neighbouring packs with devastating results of fighting to maintain their hunting ranges. There is however some evidence to show that some wolf pack territories do overlap, but then tracking has shown that the pack will never enter the same part of the territory at the same time. It may also be dispersed offspring from the parent pack so more likely to be tolerated within the territorial borders. Governments in Europe are now more proactive in supporting scientists by approving the building of green highways across valleys where new motorways are being built. This ensures not all dispersal routes are interrupted and the expansion of wolf country and the exchange of genes are guaranteed.

Although there is always a risk of being killed by another wolf, it is still the threat of man that is the greatest to wolves. Statistics show that wolf numbers always increase when humans are at war with each other, temporarily putting aside their war against the wolf in favour of a different kill.

The cycle of life is a fascinating subject. If left alone all Earths' creatures (except humans), balance themselves out, the most recent example being Yellowstone Park after the reintroduction of the wolf in 1995. It took only 10 years for the ecosystem to come back in to balance. Prey and predator are so closely linked where health and survival are concerned you can't help but wonder at and respect Mother Nature. If left alone, the wolf would be controlled and regulated by its fellow predators and prey.