

Kill to live

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ONE OF the biotic relationships between animals include predation which can be defined as a process of animals killing other animals or prey for food.

However, predation does not only simply involve the process of killing but the strategies used by these animals or predators to capture and kill their prey.

This may vary from solitary hunting in groups or relying on speed or traps to catch the prey. Also, the act of predation involves special adaptations in the predators for either catching prey or a specific type of prey. Therefore predation reflects a carnivorous lifestyle and spans many classes or groups some of which are the classes Mammalia, Aves, Reptilia and even some phylums or sub-groups such as Arthropoda and Chordata.

In this two-part article I would like to introduce you to some of the complicated lifestyle of many animals.

Firstly, in order to understand the term predation one can explore the various strategies of acquiring prey. The first one being hunting in groups, where this type of hunting strategy requires much experience. Animals, which

practice this obviously belong to small groups so their combined contributions keep the group well fed. Also, these animals have special adaptations to catch prey efficiently, for example, sharp talons in eagles or large canines and claws in lions.

However some animals that are capable of carrying out solitary hunting also hunt in groups, the advantage being that novices in the group gain experience as well as a share of the kill. But, if they were on their own they would starve by escaped prey due to a lack of experience. Also, by employing this method the group can employ different hunting techniques. For example, in lions some can chase the prey in the direction of others waiting in ambush in existing foliage. Thus by hunting in groups less energy is expended in the killing of prey.

Then there are other predators that rely totally on physical speed. This is the case with the cheetah, which has a very light and flexible spine, which it uses as a spring. Also its hind legs are capable of reaching forward to its forelegs when it runs thus enhancing the spring action and in turn its stride and speed. It would then attack the rump area of the prey usually gazelle to avoid its antlers. Also the partial retractable claws are an adaptation to speed.

The final strategy used is that of traps, exhibited by animals



such as the anglerfish, which has a projection from the top of its head that looks like a worm. This vermiform appendage is also located near its mouth so when a prey attempts to get the "worm"

the fish consumes it. Spiders also use traps, which can simply be a single long thread of web called a "fishing line", the end of which is sticky so any insect that flies by, usually mosquitoes or flies are

easily caught. The Portuguese Man of War (*Physalia* sp.) jelly fish also utilises fishing lines.

Therefore, with the strategies of predation explained, one can now go on to explain the different adaptations by each class of animals in order to capture and consume their prey. The first class being the Class Mammalia and order Carnivora or simply the "big cats". These animals have keen eyesight, sense of hearing, and smell in order to locate prey. They also have retractable claws which rely on strong retracto muscles and elastic ligaments for their action in and out of the paw. This is an advantage, in that it can be retracted while chasing prey and then extended in order to pierce and bring down the prey item. Their teeth are also adapted to bringing down prey items, especially the presence of very large long and pointed canine, which can pierce and kill the prey when bitten on the neck area usually severing the carotid artery. It should also be noted that Mandrill monkeys also possess such large canine, which are actually longer than all predatory cats but these are more used in self-defence against its predator, the leopard than in predation.

In the second part of this article we will look at how other groups of animals hunt for prey and more of their special adaptations to their predatory lifestyle.