ENVIRONMENT

Scavengers-Nature's clean-up crew

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VERY now and then I like to take the time to draw attention to certain groups of interesting or overlooked organisms, in this case those that get rid of the dead and decaying bodies of the plants and animals in ecosystems around the world.

Many people may turn up their noses at the mention of this group of organisms commonly referred to as "scavengers" but they should be considered nature's "clean-up crew". We will see from this article that scavengers play a very important role in our ecosystems and have adapted some unique features and lifestyles that help them carry out their function.

Nature's clean-up team can be thought of as consisting of two sections, the primary one consists of the scavengers which feed on dead or decaying matter including plants, detritus, corpses and carrion. While the secondary team consists of decomposers, also referred to as saprotrophs, which are microscopic such as bacteria, while the larger ones include fungi. I will be emphasising more on the function of the scavengers.

Scavenging is carried out by a wide variety of organisms such as, birds, fish, insects, arachnids and mammals both small and large. Scavengers also specialise in the type of decaying matter they consume for instance, organisms that feed on faeces like Dung beetles, are referred to as coprovores. However when animals specialise on feeding on decaying plant matter they are referred to as detritivores, for example millipedes which feed on the matter extruded by the decomposers, thus helping to further break it down.

Scavengers and decomposers are vital to the functioning of food webs both terrestrial and aquatic. When they feed, they break up the organic material into smaller pieces. The organic material is then consumed by a group of animals called decomposers which break it down even further, into chemical components such as nitrogen and carbon. These freed chemicals and nutrients are made available for plants in the ecosystem to absorb. Therefore decomposers are critical to the recycling of nutrients in an ecosystem.

Besides unlocking these nutrients, scavengers and decomposers prevent a build up of this dead matter in the ecosystem, which in fact pose a health hazard, providing the ideal home for disease causing organisms referred to as pathogens.

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Now that we have an idea of what type of animals are considered scavengers and decomposers, let's look in some more detail at the features these animals have evolved to help them carry out their job.

Turkey Vultures are the best group of animals to use as an example of how scavengers are adapted to their lifestyle; they are almost full time scavengers. Their featherless head and neck allows them to stick their heads into the carcases and feed. Large wings allow them to take advantage of pockets of rising warm air currents; allowing them to soar for long periods without flying thus saving a lot of energy. High altitudes achieved give them a good vantage point for spotting carrion. Finally they possess a keen sense of smell, which is rare among birds. They will often fly low so that they can detect a gas, Ethyl mercaptan, which is given off by carcases at the beginning of the decay process. Other species of vultures like the Black and King vultures do not have such a developed sense of smell and follow the Turkey vultures to obtain food.

Scavengers are also found in some of the world's most extreme ecosystems, like deserts. In deserts, it is all a matter of timing. Some of the scavengers found in this ecosystem include termites and decompose is such as bacteria and fungi; these animals do most of their work when it is raining. Water helps to quickly break down the waste material. Termites are not welcome in our homes, but in terrestrial ecosystems they are, as they break up the dead wood and grass that would accumulate if not digested. In deserts, such as the Schora desert there are about 40 species of

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material as they feed, they cannot digest the cellulose which is the substance that gives wood and plant material its strength. So in a termites' stomach, there are microorganisms called protozoa which produce the enzymes that break "own the cellulose. Earthworms which by the way are detritivores; aerate the soil as they dig to make their nests."

But scavenging is not a full-time job for all organisms that carry out this function. Take for example, birds like Crows that will occasionally eat the remains animals killed on the road or Sea Gulls that will pick between garbage on the shore. In terms of larger animals there are Hyenas which are known scavengers of the mammal world but do hunt as well. Finally there are Lions, one of the top predators which will resort to scavenging prey caught by other animals.

Scavengers are not only present in terrestrial ecosystems but in aquatic ones as well. For example in the ocean, young Eels will eat dead crustaceans and fish. Sharks are one of the top predators in the oceanic food web but they also act as scavengers, eating dead or wounded an mals, while Remoras would swim nea the sharks or other large fish and ea their scraps.

Therefore we see that scavenging is: dirty but necessary job. Without it ther would be a build up of dead and decayin matter which in addition to being breeding ground for diseases, also hole many valuable nutrients that need to b released for recycling by the organism present in various ecosystems Scavenging is also viewed as a demean ing job, however many top predators is both terrestrial and aquatic ecosystem do resort to scavenging to supplemen their diet, as do animals lower down is the food web that usually hunt for thei prey. But those who do it for a living like the Turkey Vulture are well adapted physically for this job. So that no job car be considered too small nor can at organism be considered too small o insignificant when it comes to the func tioning of an ecosystem and in turn th functioning and existence of our envi