Which prey do predators eat?

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It has long been held that predators preferentially take the young, weak and diseased prey. This concept is central to natural selection and is one of the tenets on which evolution rests. The premise is flawed. The entire superstructure built on natural selection providing a mechanism for evolution collapses into disarray if predators do not actually take the weakest individuals. Upon close examination, the thesis is neither logical nor supported by the scientific evidence. Natural selection therefore lacks as a mechanism for evolution.

Natural selection, combined with genetic mutations, is the foundation on which much of evolution rests, for it is thought to provide the mechanism by which a species can change, adapt and improve over time. Therefore, for over 150 years, it has been taught that predators capture the weak, young, and diseased prey thereby 'improving' the gene pool. Educational nature programs have replaced reading science material for many people, and many such programs simply repeat the mantra that predators can only capture the weak. We are repeatedly told predators perform the crucial task of allowing only the fit prey to survive and reproduce. By removing the weakest individuals, the predators are thought to power the evolutionary process. This 'selection of the fittest' is said to be the driving force of evolution. Without predators harvesting those less fit, evolution is a theory without a mechanism, an idea without scientific merit. But do the scientific data support this scenario?

Young animals are only available during a small fraction of the year and most wild animals are healthy. If predators had to rely on eating young or sick prey they would soon starve to death. There is another fundamental problem with this theory. If predators ate diseased animals they would likely become ill. This is common sense and has been known since at least the time of Moses: "Anyone, whether native-born or alien, who eats anything found dead or torn by wild animals must wash his clothes and bathe with water, and he will be ceremonially unclean till evening; then he will be clean" (Lev 17:15). People of all cultures learned to avoid eating sick animals or those that have died of disease.

Most predators have overkill potential. For example, cheetah or other cats are capable of catching, killing and eating prey larger than they are. The chase-kill instinct is a powerful driving force for many predators, as can be commonly observed in cats hunting mice, or dogs chasing cats or rabbits. In a 20 year study in New Zealand, it was demonstrated that well fed farm cats would travel 3 km to kill rabbits.[1]

Death feigning

One powerful argument that predators are not looking for an easy meal is death feigning, which is seen in a large number of animals. If predators were looking for an easy meal, for the prey to drop to the ground and feign death rather than running or hiding seems suicidal. Yet a number of animals take this approach when attacked by a predator and it must provide some level of protection. When disturbed, many insects drop to the ground and remain motionless. When frightened or injured the Eastern Hog-nosed snake, *Heterodon platyrhinos* rolls over on its back and feigns death. In an almost comic fashion, if you roll it over in the normal position, it immediately rolls back over on its back. The message seems to be, to properly 'play dead' you *must* be lying on your back.[2]

There is another example of death feigning that I remember from my childhood and studied later as a physiologist. The strong shell of the Ornate box turtle, *Terrapene ornata* provides protection from most predators. But their behavior associated with being threatened by a predator also has survival value. In addition to their protective shell, when disturbed they pull their head and feet inside their protective shell and remain motionless.[3] It feigns death and is inaccessible. Soon the dog or other predator loses interest in the non-responsive turtle and moves on in search of more challenging prey.

When frightened by an approaching predator many animals seek refuge in a safe hiding place. This passive fear response is equally widespread, but less well known than the classic fight or flight response. Such hiding animals remain motionless and reduce their metabolism, resulting

Photo by Sean Williams

Figure 1. Ornate box turtle, *Terrapene ornata*.

in a marked reduction in both respiration and heart rate. Unlike the sympathetically dominant fight or flight response, this passive response is parasympathetically dominant and reduces the likelihood of being detected and killed by a predator. The response has been described for every major group of vertebrates including man.[4] One can only conclude such a widespread and profound physiological response must have high survival value.[5]

There are variations in the details of how various animals respond to fear by hiding and remaining motionless. Perhaps the best death feigning 'actor' is the American opossum, *Didelphis virginiana*. Their heart rate drops 98% when feigning death and they are totally unresponsive to touch. Even the cornea of the eye can be touched without the normal blinking reflex. In spite of this appearance they are fully conscious. When the predator retreats their heart rate gradually returns to normal. If the predator returns they will again reduce their heart rate, even if they are not touched by the predator, clearly demonstrating they are conscious and aware of their surroundings.[6]

The opossum's death feigning performance has earned them a popular phrase in the American English language. People are said to be 'playing possum' when unresponsive to events around them. There is a similar and even broader term we sometimes hear, that of being 'paralyzed by fear'. This is another manifestation of the death feigning or thanatosis response and also provides a high level of protection from predators.[7,8]

Scripture provides an excellent example of this response from a most unexpected source. Many agree that Roman soldiers were the best trained and most disciplined warriors at the time. Yet, upon witnessing the bodily resurrection of Jesus Christ, even these veteran fighters were paralyzed by fear and feigned death. "The guards were so afraid of him that they shook and became like dead men" (Matt 28:4).

Chase-kill sequence

Dogs are well known to enjoy chasing things from chew toys to the neighbor's cat to automobiles. This is the case with most predators. They seem to enjoy the chase-kill sequence. Let me give some examples to illustrate this important but poorly recognized aspect of predator behavior.

It is common knowledge among herpetologists that it is difficult to get captive snakes to eat food they have not killed. For example pythons will sometime go months before they will accept dead prey. I had a pet boa constrictor for 23 years and often fed it fresh road killed rabbits. However in order to make it take the road kill, I had to warm the dead rabbit in the microwave and then move it inside its cage before it would strike. Boas have labial heat sensors and prefer warm prey. Such instinctive behavior helps many animals avoid eating dead prey that could make them sick.

There are exceptions. Vultures are known to eat animals that die of natural causes as well as road kill. Their stomach acid is exceptionally corrosive, enabling them to digest putrid carcasses infected with botulism and other bacteria lethal to other scavengers. Hawks, opossums and a few other animals are also known to eat carrion without ill consequences.

Mountain lions/cougars

While completing my doctoral research with alligators at the Welder Wildlife Refuge in south Texas I met graduate student Roy McBride. He was an expert at tracking cougars or mountain lions. Prior to becoming a graduate student he had worked as a bounty hunter tracking and killing nuisance mountain lions that killed livestock throughout the southwest and Mexico. He could recognize which individual cat had made the kill by careful examination of the carcass. Each lion had individual preferences. Some preferred internal organs like the liver or heart, which they would eat first. Others preferred muscle. He could also tell a lot about what the mountain lion was doing by following its tracks. For example, if a lion was simply moving from one area to another it would follow low lying areas and remain out of sight. If instead it was hungry and looking for prey, it would move from one high look-out area to another scanning the surroundings looking for something to eat.

McBride related several studies that bear directly on this discussion.

Study 1—Texas

He was tracking a large mountain lion in south Texas and it was hungry and looking for something to eat. He knew this because it was moving from one lookout place to another searching for prey. During its hunt, the hungry

Photo by author

Figure 2. Death feigning in the American opossum.

predator came across a live deer with its antlers tangled in a fence. The tracks revealed the lion approached the deer first from one side then the other, but moved on searching for other prey. If it were looking for an easy meal as evolutionists would have us believe, it would have killed and eaten the entangled deer, but it did not. This study and other mountain lion observations are reported in detail in his Master's Thesis (McBride, 1977).[9]

Study 2— Mexico

McBride worked with ranchers, again protecting the herd from predatory mountain lions. In this area of Mexico, cattle are taken to market only once a year. Some of the younger calves were weaned very young and had difficulty keeping up with the herd. They often straggled behind, making easy targets for the mountain lions. Without fail the lions ignored the young weak calves, but instead attacked and killed the large healthy 500-600 pound steers. Once again this demonstrated the fallacy in thinking these predators select the weak and flies in the face of evolution dogma.[10]

Study 3—Florida

Working in Florida with sheep farmers McBride has developed a collar that releases a poison to kill the mountain lion or other predator that attacks lambs. The ranchers did not want to sacrifice their strongest lambs and had him place the collars on the weakest and smallest lambs. Without exception, the lions left these animals alone and sought out and killed larger healthy lambs. In order to control these predators the ranchers allowed him to install the protective collars on their largest and healthiest lambs. McBride has continued his research in Texas with similar results.[11] We have been misled. Predators are not looking for an easy meal as evolutionists would have us believe. They prefer and seem to need the chase-kill sequence.

Certainly other factors are involved in determining which individual prey animal is taken by a predator. Some of the smaller predators may indeed select smaller individuals. Other predators may be opportunistic and take an individual that was simply in the wrong place at the wrong time. Still, the above observations are important and scientists need to know more of the details in what determines which individual prey is sought out and killed by various kinds of predators. Additional research is sorely needed in this important area.

Conclusion

Observations clearly show predators do not consistently select the weak, sick or young as evolutionists have long accepted and taught. Many predators have overkill potential and can easily catch and kill larger healthy prey. Predators also seem to seek the chase-kill sequence and will actually ignore live prey that will not flee when approached. Feigning death by the opossum and other animals provides strong evidence that something is amiss with the current view. The entire predator/prey relation needs to be studied in depth and re-evaluated. It appears the evolutionists have been misled and one of their important foundation cornerstones is cracked and should soon disintegrate.

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