

## 動物生態

### University of the Sunshine Coast (オーストラリア)

#### Video 1: What is a Food Chain?

Various organisms live on Planet Earth. They exist with other organisms in environments called ecosystems. Living organisms must eat food to live. Within an ecosystem, there are feeding relationships called food chains. A food chain is ordered according to which organisms are eaten and which organisms feed on them. Each of these relationships is called a trophic level and a food chain has several of these levels.

For example, plants are eaten by insects, and the insects are eaten by small animals. Then there are organisms at a higher trophic level that eat these small animals. In other words, we live in a world where the higher trophic level organisms feed on the lower-level ones. An organism that eats another organism is called a predator, and the organism that gets eaten is called its prey.

#### Video 2: The Cheetah: At the Top of Its Food Chain

At the top of these food chains are several species of meat-eating animals. One of them is the cheetah. What allows the cheetah to be at the top of its food chain? Its strength lies in its speed. Cheetahs are the fastest of all animals. It can reach its top speed within a few seconds of starting to run. That top speed can be up to 120 km per hour! A cheetah can run fast because it has a body structure that is well-adapted for running. Its small head and slim body minimize air resistance, and its long, slender legs and flexible spine enable a stride of up to seven meters. The cheetah is at the top of its food chain because its speed gives it an advantage over other animals. Similarly, other animals at the tops of food chains all have strengths they use to capture prey.

However, having a strength does not ensure that hunting will always be successful. The cheetah is the fastest land animal, but at high speeds, it cannot turn quickly. So prey species can try to escape by running and making quick turns. In short, prey animals with superior running and turning abilities have a greater chance of surviving.

### **Video 3: Ecological Pyramids: Keeping the Balance**

An ecological pyramid shows how different organisms in an ecosystem are related. As you can see from this pyramid, an ecosystem is in balance when the lower levels have larger populations. There is a fragile balance between animals at different trophic levels. If organisms are introduced from other ecosystems or if an organism decreases in number or becomes extinct, it may affect the balance of an entire ecosystem.

Currently, many ecosystems are threatened by human activities' impact on organisms in those ecosystems. However, it should also be possible to protect wildlife by understanding the consequences of our actions. Humans are not the only organisms living on Earth. We must protect other ones by maintaining the balance of our planet's food chains.