Chapter 20 Behavior, Selection and Survival

*When we try to pick out anything by itself, we find it hitched to everything else in the universe.*

- John Muir

**Introduction**

To use the vernacular of the average high school student (if there is such a thing), “Animals don’t chill.” This translates to the fact that animals are constantly doing something. Put in the words of a biologist, they are responding to *stimuli*, both *external* and *internal*. *Natural selection* tends to *favor* or “*select*” those individuals which are best able to *adapt* and *tolerate* environmental conditions in which they live. These are the organisms that survive to pass on their *genes* to the next generation.

**Animal Behavior**

Animal behavior is basically of two types: *Innate* or *genetic behavior* is sometimes referred to as *instinct*. It is “pre-programmed” and present at birth. *Learned behavior* is often acquired through a process of *trial and error*. Any behavior that helps the species survive will be passed on to future generations through genetics or instruction.

**Animal Interactions**

All animals *interact* with other animals in one form or another. If these interactions are among the same species, it is referred to as *social behavior*. Other types of animal interactions include *cooperative behavior* and *competitive behavior*. Animal *rituals* or *symbolic behavior* help a species avoid injury due to fighting. Members of the dog family, for example, bare their teeth in what is referred to as a *ritualistic snarl*.

**Animal Hierarchies and Territories**

*Hierarchies* in the animal world help establish *dominance*. Many animals defend defined living and feeding spaces known as *territories*. Often, *courtship behavior* results in *sexual selection*, in which only a select few of the population breed. Finally, some animals engage in *cooperative behavior* in which many individuals of the same population cooperate in the reproductive process as well as in the raising of the young. This behavior insures the survival of the species.

**Environmental Conditions and Animal Survival**

Since *environmental conditions* (such as *temperature*, *humidity*, *light*, etc.) can vary, animals must adjust or adapt quickly in order to survive. A fast response to an environmental condition is for the animal to simply *move* by flying, running, swimming, or otherwise establishing distance from the undesirable situation. A process that allows animals to survive cold winters is
**hibernation** in which the organism’s **metabolism** slows considerably. Some animals are more **tolerant** than others of environmental variations.

**Human Activities and Animal Survival**

Human activities can greatly impact the habitats of animals and their resulting survival and reproductive success. Simply put, when humans move in, animals are faced with one of three choices: 1. move, 2. adapt, or 3. die off. Plants of course cannot move.