

## AGC.....Autothysis

By David Everson

“Thou art worthy, O Lord, to receive glory and honour and power: for thou hast created all things, and for thy pleasure they are and were created.” Revelation 4:11

In the creation of “all things” God has designed animals with a whole host of self-defensive mechanisms. Some have hard shells, camouflage, speed, fierceness, stings, bites, shape changing abilities, and on and on we could go. But, there is a method of defense for the whole group that goes well above and beyond what we would normally believe possible. We know that Jesus taught that the greatest form of love would be to give up your life for someone else. “Greater love hath no man than this, that a man lay down his life for his friends.” John 15:13 And there are thousands of cases during wartimes of brave men and women remaining behind to fight allowing comrades time to make a safe retreat. This is called altruistic behavior, when one member of a group places the safety and well being of the others ahead of their own. Let’s look at the ultimate form of altruistic behavior when a member of an animal group gives up its life to protect the group. This type of behavior is called autothysis. Let’s look at some animals that exhibit behavior.

The word autothysis comes from the Greek roots *autos*- "self" and *thysia* -"sacrifice", and is defined as the process where an animal destroys itself via an internal rupturing or explosion of an organ which ruptures the skin. The term was proposed in 1974 to describe the defensive mechanism that was discovered in a species of carpenter ant. It is normally caused by a contraction of muscles around a large gland that leads to the gland wall breaking. The break normally sprays poisons on the attacker and kills the ant. It is a form of suicidal altruism.

To date autothysis has been observed in several species of ants, some termites, and in aphids. In each of these examples there are special glands near the head, neck and abdomen that “explode”. These glands have chemicals that are sticky and generally poisonous. The force of the rupturing or “exploding” is not terribly violent but still enough so spread the fluids around the area.

In many cases when it is a termite mound that is being attacked the workers will back into the tunnels leading into the nest. Then as the predator follows in it will hold on to the attacker and blow itself up, forming a plug in the tunnel that prevents others from getting in. The chemical that is released also has pheromones that signal the rest of the workers that a threat has been detected and further closing off of that tunnel will occur.

In the case of an ant living in Malaysia and Vietnam, the ants contain the toxic substance in their heads in 2 large glands on the sides. These are called mandibular glands. When under attack or a threat is identified they will explode their head to spew the poison or rupture their bodies by squeezing their abdomen. This causes the glands to break and spray the sticky poison in all directions to engulf the predators, immobilizing them.

This type of defensive behavior is very unique and points out that these animals have somehow been designed with methods of communication and a self awareness allowing them to realize that by the loss of their life the remainder of the colony might be saved.

Of course the most notable human behavior of this type was the death of our Savior on the cross. Giving His life that ALL mankind might have the hope of eternal salvation was the ultimate altruistic behavior of all times. Let us be thankful for a Savior such as this.