# Hymenoptera – Ants

As of 2010, there are about 12,500 ant species with an estimate that over 90,000 species live on this earth. It's not easy to ID them as there can be different appearances and sizes within the same colony. Male ants have smaller heads than the females. Because males don't live as long, they don't need large, strong jaw muscles. Males and worker ants have about a one year lifespan.

Although the *Odontomachus* sp of ant is only found in the rainforest, I have to mention them because their trap-jaw strike is the fastest known animal movement in the world! They close in about 1-3 thousandths of a second! Incredible!!

The Chinese characters for ant is a combination of righteousness and insect. The ants have earned this because as social insects, some individual sacrifice for the greater good of their society. There are many examples of this but here's a couple I find interesting. Honeypot ants hang upside down from the top of their nests and serve as storage vessels for honeydew. Kamikaze ants have glands that explode when predators attack, covering them with a sticky poison.

Ants are pretty desirable insects to have around.  Ants help the world by recycling nutrients into the soil, aerating the soil, helping to create great soil structure and consisting. They are also helpful with dispersing seeds. Some accounts I've read say they are responsible for dispersing up to 50% of the world's plant types.

A queen is the one who creates a new colony. The first 2 years of a new colony is a tenuous and critical time. Once a colony, with its queen, has existed for at least 2 years, then it's more likely to continue for another 15 years. When developing, ants work from the inside out, developing the nest first. Since ants have their differing activities, this work triggers

another type of work by another group of ants. Ants are very ritualistic. Their daily routines follow the same sequence day after day.

Most neighbor ant colonies are not related and each colony has its own unique scent. Ants recognize each other based on that scent. Having poor vision and up to 14 glands sending out different chemicals, ants are very sensitive to aromas. Scientists have shown that each chemical does not correlate to a specific reaction and that responses to chemical signals depend on what the ant is doing. Their antennae is what is used to sense odors. Particular ants doing a particular job may have their own aroma. When ants groom themselves they cover their bodies with fatty acids, this creates the scent of their colony as well as the scent of their task. This is important because ant activity is in response to other ant activity. For example, if an ant encounters more ants doing midden work (nest clean up), then they might switch tasks and start doing midden work. I always thought the different jobs done by an ant was decided at birth, but not with worker ants; their work varies as they age. Their work also varies with size; the larger the worker ant, the more specialized their job.

Scent is also the way ants communicate. When they find food, they drag their abdomen so that a chemical trail is left in the ground. In this manner, other ants can readily find the food.

Another interesting aspect to colony life is that new colonies tend to appear alongside other new colonies rather than alongside the older, larger colonies. Since the larger colonies have more ants, they would also have larger foraging areas, making it competitively difficult for younger, smaller colonies.

Each colony has their own foraging behavior. It isn’t known whether this is an inherited trait or something that they work

out with their fellow ants. Foraging also will follow along weather trends. If there was a bad storm the night before, more ants will be rebuilding the nest rather than searching for food.

Ants are among our more highly evolved insects and as such they have relationships that are good and bad with other insects. Ant enemies include parasitic wasps, especially the Eucharitidae family; larvae of flower flies in the Syrphidae family, and also flies in the Phoridae family.

I have listed these alphabetically for ease of use and created a gallery below because there is only one family. Information obtained about ants and these in specific came from various references. All photos were taken by me and great care has been taken to ensure accurate ID, but should you find a mistake, please let me know immediately!

**Formicidae (Ants)**

*Aphaenogaster tennesseensis* – Spine-waisted Ants
*Camponotus pennsylvanicus* – Eastern Black Carpenter Ant
*Crematogaster cerasi* – Acrobat Ant
*Formica fusca* group
*Formica obscuriventris*
*Lasius niger* – Common Black Ant
*Lasius umbratus*
*Myrmica* sp
*Prenolepis imparis* – False Honey Ant