TERMITE BIOLOGY & IDENTIFICATION

Termites belong to the insect group Isoptera and about 20 or so species have been identified in Hong Kong. There are at least 5 of them are treated as pest and have caused structural damages. They are *Coptotermes formosanus*, *Macrotermes barneyi*, *Odontotermes formosanus*, *Reticulitermes fukiensis* and *Cryptotermes dudleyi*.

Most of them are classified as termites living in drywood, in soil (subterranean) or both according to their preferred nesting sites.

**Termites Vs. Ants**

Flying ants are sometimes mistaken as swarming termites and resulted in unnecessary panic. The distinctive differences between termites and ants can be found in the following features:

1. **Wings** – Termites have two pairs of wings in equal size but ants have a smaller pair of hind wings.
2. **Waist** – Termites have a broad waist while ants have a narrowed waist.
3. **Antennae** – Termites have a pair of straight antennae but ants have a pair of elbowed antennae.

**Termite Biology**

Termites are social insects living in colonies with a division of labor among different types of individuals, the castes. Mature termite castes usually consist of reproductives, soldiers and workers. A colony of termites usually reach its maximum size in 3 to 5 years with a population ranging from few hundred to several million depending on the species.

**Termite Life Cycle**

Winged primary reproductives are produced in mature colonies and in Hong Kong, they usually fly for mating (swarm) on a warm day after rain in spring. When the winged male and female reproductives land on ground, they will shed their wings and pair off to search for a suitable harborage to build up a new colony. After mating, the new queen starts laying eggs in about a week.
Larvae hatch from the eggs and develop into different castes – nymphs, workers, soldiers, primary and supplementary reproductives during the growth of the colony.

The workers are creamy white, soft-bodied, wingless and blind. Workers, together with nymphs, are the most numerous individuals in a termite colony. Since they are responsible for expanding the nest, building tunnels and ingesting food, they are the culprits for causing structural damages.

The soldiers also have creamy white and soft bodies but their heads are brownish and elongated with a strong pair of jaws. Soldiers are responsible for protecting the colony from invaders like ants.

**Termite Behaviors**

**Feeding Habits** – Termites mainly feed on wood and wood products containing cellulose like paper, mulch, cardboard and fabrics made of plant materials. Basically, worker termites travel away from the nest to search for food and building tunnels while they are foraging. Once food source is found, more termites will be sent to feed on the food. Termites have microorganisms in their intestines to help digesting the cellulose.

**Communication in the Colony** – Termites in the same colony communicate with each other in several means. Basically, they communicate by a chemical called pheromone which odor is different in each colony. For example, worker termites will lay a pheromone trail to guide others to a food source. Sound produced by worker and soldier termites by banging their heads on mud-tube surfaces is also a communication used to alert other members. Mutual exchange of nutrients and transfer of food between colony castes is another means of communication.

**Mud Tubes** – Since all termite castes (except the swarmers) are soft-bodied insects, they are susceptible to rapid water loss when exposed in dry air. Therefore, termites will construct mud tubes against exposure in order to maintain a moist environment. Mud tubes can also serve as protective tunnels against predators or enemies.

**Damage** – Termites feed on wood and wood products and then cause
structural damage. They even penetrate and damage, while foraging for food, non-cellulose materials like plastering, plastic, rubber, polystyrene and soft metal covering. The degree of structural damage caused by termites depends on the colony size, duration of infestation and species of termites.

**Related Links on Termite Biology**

http://insects.tamu.edu/fieldguide/index.html#isoptera

http://www.ca.uky.edu/entomology/entfacts/ef604.asp

http://www.floridatermitehelp.org/

http://www.termites.cc/

http://www.qgby.com/