

INSECTA : HYMENOPTERA : FORMICIDAE

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INTRODUCTION

Ants are one of the world's truly spectacular animal families. They form a single large family - the Formicidae - of the Aculeate Hymenoptera. They occupy a place close to the tiphiid wasps. Originally of the tropics, ants have spread to various ecological niches and can survive very extreme climatic conditions. Ants by their very nature, are preadapted to life in a wide variety of environments, including some of the harshest on earth. They make up 10-15% of total animal biomass in most terrestrial environs, turn more soil than earthworms and play leading role in ecology as predators and scavengers. All true-ants are social and live in groups, normally representing the offspring of one or two queens or sexually developed females.

The study of ants has produced many basic insights into the origins of altruistic behaviour, the use of chemicals (pheromones) in communication, the functioning of caste system and division of labour, and other important phenomena of social organisation (Holldobler and Wilson, 1990).

Polymorphism attains its highest expression among ants and large number of types have been recognised. Normally there are males, queens and workers. The male is the least variable of the three castes and retains many scolioid features. However, the males of Dorylinae are characterized by its large, peculiar mandibles, long cylindrical abdomen and the specialized genitalia. The queen is a female, characterized by her large stature and well developed reproductive organs. Worker is a female, characterized by the absence of wings, reduced thorax and small gaster. Workers are variable in size, colour and structure. When they are dimorphic without inter-mediate, the larger type with large head and mandibles is termed a soldier. These are often adapted to particular functions such as fighting, guarding the nest, crushing seeds and other food particles etc. The cooperation of many individuals is advantageous in foraging, nest construction, defence and care of the young.

Ants nests are quite varied, often they are excavations in the soil. In the most primitive forms, they consist of chambers and passages in the ground. Some species, nest in soft wood of rotting trunks, hollow branches and even in fallen leaves. Yet some others make silken nests on leaves. There are others which chew up plant material, the resulting pulp is glued into elaborate nest of cardboard. These