Fauna regarded as domestic pests in the Maltese Islands (7)

The Hymenopteriods

By Arnold Sciberras

If you bug their house which is generally built on or under yours, they will sting you. If they don't sting you, they will invade your property with their large numbers of individuals. Wasps, bees and ants (collectivly known as hymenopterods) are the creatures this article is dedicated for.

Hymenoptera is one of the largest orders of insects, comprising the sawflies, wasps, bees, and ants. There are over 130,000 species described with many others remaining to be. It is yet unknown how many species exist in the Maltese Islands as new species are found frequently but a very rough estimate from local literature indicates that till 1995 over 178 species comprising of 113 species of wasps, 46 species of bees and around 52 species of ants were already known locally. A number of these are endemic species such as the Maltese Slave Keeping Ant (*Strongylognatus insularis*) Nemlu ta' Kemmuna, which is not only endemic to the Maltese archipelego but strictly to Comino Island.

Females typically have a special ovipositor for inserting eggs into hosts or otherwise inaccessible places. The ovipositor is often modified into a stinger. The young develop through complete metamorphosis — that is, they have a worm-like larval stage and an inactive pupal stage before they mature.

Hymenoptera vary from medium-sized insects to larger ones and usually have two pairs of wings. Their mouthparts are created for chewing, with well-developed mandibles. Many species have further developed the mouthparts into a lengthy proboscis (like butterflies), with which they can drink liquids, such as nectar. They have large compound eyes, and typically three ocelli.

In the more primitive hymenoptera, the ovipositor is bladelike, and has evolved for slicing plant tissues. In the majority, however, it is modified for piercing, and, in some cases, is several times the length of the body. In some species, the ovipositor has become modified as a stinger, and the eggs are laid from the base of the structure, rather than from the tip, which is in turn used to inject venom. The stinger is typically used to immobilise prey, but in some wasps and bees may be used in defence.

The larvae of most hymenoptera, however, closely resemble maggots, and are adapted to live in a protected environment. This may be the body of a host organism, or a cell in a nest, where the adults will care for the larvae. Such larvae have soft bodies with no limbs. They are also unable to defecate until they reach adulthood due to having an incomplete digestive tract, presumably to avoid contaminating their environment.

Among the hymenopterans, sex is determined by the number of chromosomes an individual possesses. Fertilized eggs get two sets of chromosomes and so develop into females, while unfertilized eggs only contain one set (from the mother), and so develop into males; the act of fertilization is under the voluntary control of the egg-laying female.

Different species of hymenoptera show a wide range of feeding habits. The most primitive forms are typically herbivorous, feeding on leaves or pine needles. Stinging wasps are predators, and will provide their larvae with immobilised prey, while bees feed on nectar and pollen.A number of species are parasitoid as larvae. The adults inject the eggs into a paralysed host, which they begin to consume after hatching.

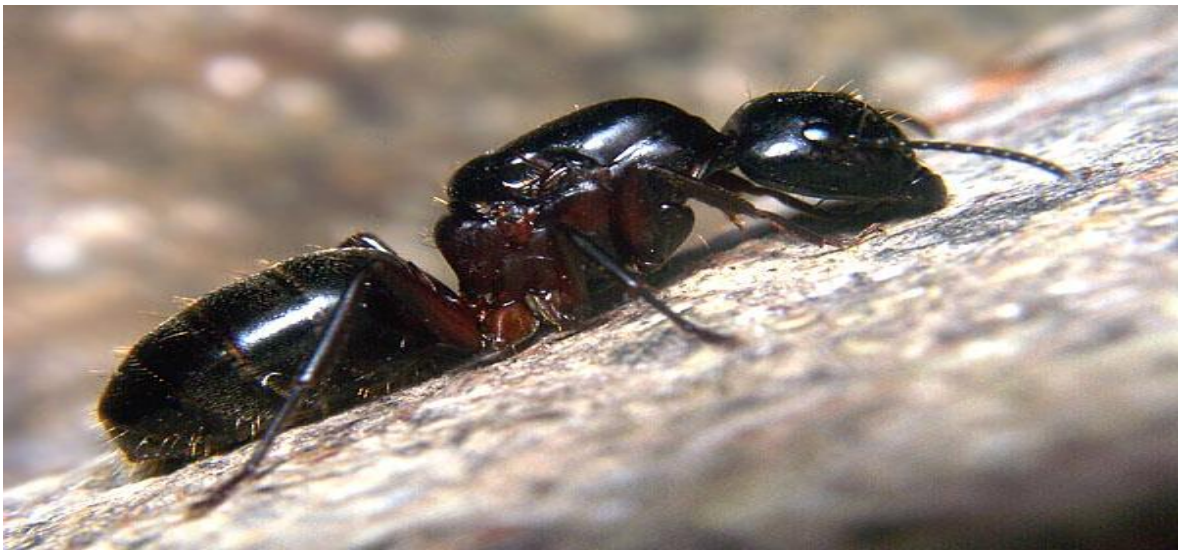
True wasps, bees, and ants together make up the suborder Apocrita, characterized by a constriction between the first and second abdominal segments called a wasp-waist (petiole), also involving the fusion of the first abdominal segment to the thorax (second part of the body). Also, the larvae of all Apocrita look exactly like maggots.

The term wasp is typically defined as any insect of the suborder mentined above that is neither a bee nor ant . Almost every pest insect species has at least one wasp species that preys upon it or parasitizes it, making wasps critically important in natural control of their numbers, or natural biocontrol. Parasitic wasps are increasingly used in agricultural pest control as they prey mostly on pest insects and have little impact on crops.The various species of wasps fall into one of two main categories: solitary wasps and social wasps. Adult solitary wasps generally live and operate alone, and most do not construct nests (below). All adult solitary wasps are fertile. By contrast, social wasps exist in colonies numbering up to several thousand strong organisms and they build nests – but in some cases not all of the colony can reproduce. In the more advanced species, just the wasp queen and male wasps can mate, whilst the majority of the colony is made up of sterile female workers.

Bees are flying insects closely related to wasps and ants, and are known for their role in pollination and for producing honey and beeswax. There are several different types of bees and

in lame terms they are categorised as: (a) sting less bees; (b) honey bees; (c) solitary and communal bee; (d) cleptoparasitic bees and (e) nocturnal bees. Obviously not all caterogerios exists locally.

Ants are distinct from other insects in their appearance in having elbowed antennae, and a strong constriction of their second part of their abdomen. Many animals can learn behaviours by imitation but ants may be the only group apart from mammals where interactive teaching has been observed. A knowledgeable forager of a particular ant (*Temnothorax albipennis)* leads a naïve nest-mate to newly discovered food by the process of tandem running. The follower obtains knowledge through its leading tutor. Both leader and follower are acutely sensitive to the progress of their partner with the leader slowing down when the follower lags, and speeding up when the follower gets too close.



Although many species are regarded as domestic pests, nearly none have proved to be an actual pest (e.g. carrying disease, etc) but their persistance in numbers is genrally regarded as a niusance to the owner of the establishment.

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