

Solitary Wasp (*Pseudepipona herrichii*)

The life cycle of the wasp is as follows. There is no contact between parents and offspring. The mated female only hibernates during winter. In late spring early summer the female excavates a nest by burrowing in the light sandy soil. The first cell 2 – 4 cm beneath the surface is polished with saliva and the egg is laid. The cell is then provisioned with live larvae of the Tortricidea family of moths 8 -10 to each cell, having been immobilised by the sting of *Pseudepipona herrichii*. The cell is then sealed and another cell prepared in the same burrow, the female cells will be below the male cells, males will hatch first.

The eggs will hatch after 2 – 4 days into a larvae larval stage lasting 5 – 7 days feeding on its larder and moulting at intervals to accommodate the growth and then it turns into a pupa. Cocoon spinning and pupation takes about 3 – 5 day, the imago emerging after another 15 days, the male first. Mating occurs and the male dies leaving the female to hibernate starting the cycle again.

Social wasp *Vespula vulgaris* fam. Vespoidae

Wasps are omnivorous but they do have a liking for nectar and other sweet food. *V. vulgaris* can be a pest by robbing bee hives. It has powerful jaws and a short tongue and its colouration is predominantly due to the colour of the body plates (tergites) rather than the hair covering as in the case of the honey bee.

Life history is as follows:

Only the queen hibernates over winter doing so in a variety of places. Food is stored in the fat bodies (40% of dry weight). In the spring the queen takes short foraging flights for nectar and the ovaries start to develop. The queen seeks out and selects a new nest site, initial nest building starts with a vertical spindle and a few cells (20 – 40) umbrella shaped all built in wood pulp. The queen forages for pulp up to the time the first egg hatches and the larvae need feeding. The queen then forages for food larvae of other species also nectar and pollen. Foraging continues until pupation of larvae.

Egg – 5 days

Larval stage – 12 – 18 days

Pupa to emergence – 10-15 days.

The first foragers start to forage for wood pulp and food. The queen's role changes to egg laying only. The workers continue to build and expand the nest. It has round layers of cells with a central spindle joining each layer together, the whole structure contained in a wood pulp sphere and can contain up to 12,000 cells.

Male pupae appear in July. Young queens appear in August and mating takes place near the nest. In September the colony behaviour changes and neglect the brood. As winter approaches the workers and males die and the mated queens start to hibernate and so start the cycle.

These wasps are very strong compared to the bee and can pose a threat to quite strong colonies but especially to nuclei.