

Death from within: Parasitoids

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What is a parasitoid?

A parasitoid is like a parasite in that they slowly feed on their host, but differ in that they kill it in the end.



Ant-decapitating flies (Phoridae) lay an egg on the head of an ant. The egg hatches into a maggot that feeds within the ant head, and when it is done feeding, the head of the ant falls off.



Some parasitoids can be bizarre looking. On the left is a snail-killing fly (*Tetanocera* sp.: Sciomyzidae) and on the right is a pyrgotid fly (*Pyrgota* sp.: Pyrgotidae) that parasitizes scarab beetles.



Tachinid flies (Tachinidae) like this *Epalpus signifier* (left) and *Gonia* sp. (right) can be very important in controlling caterpillar populations



Tachinid eggs are usually laid by the head of their host. Some species like this *Zelia* sp. though (right) scatter eggs on vegetation. Those eggs get accidentally eaten by caterpillars and hatch in its gut where they devour it from the inside.

Parasitoids are important

Parasitoids are common in natural environments and can be very important in controlling insect pests.



Thousands of species of tiny wasps parasitize pests, like this aphelinid wasp on scale insects (left) and this braconid wasp on Gypsy Moth eggs (right).



Braconid wasp larvae often feed in large numbers in a caterpillar, but are typically not noticed until they exit to pupate. On left, doomed caterpillar covered in wasp cocoons, on right a dead caterpillar with wasp exit holes.



Other braconids leave an empty shell of their host when finished feeding. Above is a caterpillar mummy caused by a rogadine braconid and an aphid mummy caused by an aphidiine braconid.



Ichneumonid wasps are diverse and common parasitoids of a broad variety of insects. They typically inject an egg into their host.



Some ichneumonids feed externally like the larva on the back of this spider. This nearly dead zombie caterpillar had its insides devoured by the ichneumonid that formed a cocoon underneath it. The caterpillar will now spend the rest of its short life defending the cocoon.