

Yellowjacket



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Class	Order	Family	Species
Insecta	Hymenoptera	Vespidae	<i>Vespa pennsylvanica</i>

Range	Reproduction	Special Adaptations
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North America, Eurasia, Asia

Growth: complete metamorphosis (egg-larva-pupa-adult)
Egg: the queen lays one egg in each cell of the nest which takes about 12 days to hatch
Larva: stay within the cell for about 12 days and are fed by the workers or the queen (when the colony is first started) enclosed in a cell by a cap, 13-32 days
Pupa: all females, can lay eggs but they will hatch into males only. When a new colony is started only workers are produced for the first 10-12 weeks.
Workers: towards the end of the summer, drones (males) and queens are produced
Reproductives: in colder areas like California a colony lives for only one season. The reproductives that are produced at the end of the summer leave the colony and mate. The drones die but the queens hibernate through the winter and in spring time start colonies of their own (build new nests or use old ones). In the fall, these queens and the workers in their colonies will die. The cycle begins again. In other parts of the world it is possible to find colonies at any point in development regardless of the time of year.
Behavior:

Nest building: the queen starts a nest in the spring by gathering wood fiber and chewing it up into a pulp. A thin papery substance is produced and used to construct cells in which eggs are laid. Workers will continue to add on to the nest throughout the season.

Habitat

Northern temperate zones and tropical Asia

Niche

They frequent build large paper nests in trees. Some related species also nest in the ground

Diet

Nature: larva - are fed insects which are chewed into a pulp by the workers.
 adults - nectar, insects
Captivity: dead insects, honey water

Ecological Impact

Though this particular species is introduced and can be aggressive and bothersome to humans during the late summer and fall, they feed on insects and so help to control population levels of some insects.

There are over 16,300 species of Hymenoptera in North America. Most play extremely beneficial roles in nature.

Physical Characteristics

Mouthparts: biting and sucking
Antennae: 1 pair
Legs: 3 pair, yellow
Wings: 2 pair held together by hooks, forewings are longer than the hindwings
Color: yellow and black
Body: conical abdomen, 10-15mm in length
Larva: legless, white grubs
Females: the queen is larger and thicker than the workers

Sting: the ovipositor of the queens and workers has been modified into a stinger. It has a gland which produces venom that can be injected by the stinger. The workers use it to aggressively defend their hive.

Social Organization

There are three main castes: workers, drones and queens. The sex that an individual becomes is determined by whether or not the egg is fertilized. Unfertilized eggs become males (drones) while fertilized eggs become females. Whether or not a female becomes a queen or a worker depends on the amount of nutrition it receives during the larval stage.

Sources

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