

## A beekeeping dictionary: helpful words from bee science and beekeeping

Rusty Burlew - Honey Bee Suite

<https://www.honeybeesuite.com/glossary/>

This beekeeping dictionary contains terms frequently used by beekeepers and melittologists. The words are taken from various disciplines including beekeeping, entomology, environmental science, biology, chemistry, and botany.

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A

**abdomen:** the posterior segment of the bee containing the honey stomach, stomach, intestines, reproductive organs, and stinger

**ABJ:** *abbr.* American Beekeeping Journal.

**abscond:** when an entire colony abandons its hive

**absconding swarm:** a swarm composed of an entire colony of bees that has abandoned its hive due to disease, predators, or a real or perceived threat

**acaricide:** a chemical designed to kill arachnids such as mites.

**acarine disease:** the condition caused by an infestation of tracheal mites, *Acarapis Woodi*.

**acid board** (fume board): a hive cover designed to hold bee repellent. The saturated board is placed over honey supers to drive bees out of the supers before harvesting.

**acnestis:** The acnestis is "The section of an animal's skin that it cannot reach in order to scratch itself, usually the space between the shoulder blades." (Wikipedia) The acnestis in honey bees is the place on the thorax where the bee cannot reach the pollen stuck on its back. After the bee swipes away most of the pollen with its legs, the remaining pollen looks like an hourglass.

**acute exposure:** a single exposure to a substance or a short-term exposure, usually lasting less than 24 hours.

**AFB:** *abbr.* American foulbrood

**Africanized:** refers to bees that are genetic descendants of the African subspecies *Apis mellifera scutellata*. We know them for aggressiveness, frequent swarming, and usurpation of other colonies.

**afterswarm:** a secondary or tertiary swarm that issues after the first (primary) swarm of the season. These swarms are usually smaller than the primary swarm and may contain one or more virgin queens.

**AHB:** *abbr.* Africanized honey bee

**AI:** *abbr.* active ingredient

**alarm pheromone:** a banana-like scent emitted by honey bees when they become alarmed or when they sting. The scent warns sister bees about the danger and its location, causing defensive behavior.

**alcohol wash:** a method for separating varroa mites from their host honey bees in order to estimate mite loads. The test is destructive to both the bees and the mites.

**alighting board** (landing board): a horizontal surface just below the hive entrance where bees may land or congregate.

**ambrosia:** see bee bread

**American foulbrood:** a fatal disease of larval honey bees caused by the spore-forming bacteria *Paenibacillus larvae*

**amino acid:** an organic compound composed of an amine group and a carboxyl group. The amino acids are the “building blocks” of proteins.

**Amm:** *abbr.* *Apis mellifera mellifera*; the European black bee

**anaphylaxis:** an acute allergic reaction to an antigen. Bee stings cause anaphylaxis in some sensitive individuals.

**anemophilous:** pollinated by the wind

**annual:** a plant that lives only one growing season

**antenna** (*pl.* antennae): one of the two long, thin sensory organs on the bee’s head involved in taste and smell

**anther:** a sac-like component of a flower where pollen grains arise; part of the stamen

**apiarist:** beekeeper

**apiculture:** a formal word for beekeeping, often having a scientific or commercial connotation. The word derives from *apis*, the Latin term for bee.

**apiary:** a place where beekeepers keep and manage bee hives

***Apis cerana*:** the scientific name for the Asian honey bee

***Apis dorsata*:** the scientific name for the giant honey bee

***Apis florea*:** the scientific name for the small honey bee

***Apis mellifera*:** the scientific name for the European honey bee. The word mellifera means honey carrier. For derivation see: Latin for beekeepers.

**APU:** *abbr.* Apis production unit (worker bee).

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B

**bee beard:** a swarm of bees hanging from a person's face that looks like a beard. Beekeepers can form bee beards by affixing a queen cage containing a fertile queen to a person's skin, causing the bees to gather there.

**bearding:** bearding occurs when bees cluster on the outside of their hive, usually because of excessive heat or overcrowding in their hive

**bee bread:** pollen mixed with nectar and bee secretions and stored in the comb for later use as brood food

**bee escape:** a one-way passage often inserted between the honey supers and the brood chamber, used to clear the honey super of bees before the super is removed from the hive.

**bee glue:** propolis

**bee gum:** a hive made from a hollow log

**bee-haver:** A derogatory epithet for a person who owns bees but who lacks essential beekeeping skills and knowledge.

**bee hive:** a man-made structure for housing honey bees

**beekeeper:** a person who keeps bees

**bee louse:** an insect, *Braula coeca*, frequently found in honey bee hives

**bee moth:** a general term used for either of two species of wax moths.

**bee nest:** a place where bees raise their young. It may be large and contain many individuals, as in honey bees or bumble bees. Or the nest may be small and contain just a few eggs, as in most of the solitary bees. Nests may be built in hollow cavities either above and below ground, depending on the species. See **brood nest**.

**bee tree:** a hollow tree containing one or more colonies of bees.

**bee yard:** an apiary.

**beeswax:** a substance secreted by four pairs of ventral glands in the bee abdomen that is molded to form combs and cappings.

**biennial:** a plant that lives through two growing seasons before it sets seed and dies.

**biodiversity:** The relative abundance and variety of plant and animal species and ecosystems within a particular habitat.

**bivoltine:** insects having two generations per year, usually one that is completed in summer and one that overwinters

**brood:** all immature bees in a hive, including the eggs, larvae, and pupae; eggs and larvae are in open cells, pupae are in wax-covered cells

**brood chamber:** the place in the hive where the brood is being raised, consisting of one or more hive bodies

**brood comb:** any comb in the hive in which brood is found; multiple combs of brood make up the brood chamber

**brood food:** glandular secretions of nurse bees that are used to feed larvae and, to a lesser extent, to feed the queen, drones, and foragers

**brood nest:** the area in a hive devoted to brood rearing. Nest shape is roughly spherical, but in cold areas it may be taller and less wide (to limit heat loss) and in warm areas it may be wider and less tall (to encourage heat loss).

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## C

**candy plug:** a piece of fondant or marshmallow placed in one end of a queen cage in order to delay the queen's release

**capped brood:** brood that is covered with a wax capping; usually comprised of bees in the late larval stage and pupal stage.

**capped honey:** honey that has been dehydrated to the proper moisture content and covered with wax

**cappings:** wax coverings used by the bees to seal either pupae or honey, however the term usually refers to the cappings which cover honey

**cavity tree:** a tree that contains one or more hollowed out holes in the main trunk. The holes (or cavities) are potential nesting sites for honey bees and some wasp species.

**cell:** a hexagonal compartment in a honey bee comb used for rearing of brood and storage of pollen and honey

**central nervous system:** the part of the nervous system which includes the brain and main ganglia.

**chilled brood:** brood (eggs, larvae, or pupae) that have died due to exposure to cold temperatures

**chocolate brood:** capped brood [origin: southeastern U.S.].

**chorion:** the membrane covering a bee egg.

**clearcut:** an area of forest land from which all the trees have been harvested. Clearcuts can provide a rich source of wildflowers and nesting opportunities for native bee species.

**cluster:** a group of bees clinging together to maintain temperatures inside the hive. The cluster expands as the seasonal temperature increases.

**cocoon:** the protective covering around the pupae

**cold way:** when frames in the brood box are perpendicular to the hive opening

**coleoptera:** an order of insects that includes the beetles, weevils and fireflies

**colony:** a community of bees composed of one queen and many workers. In the spring and summer it also includes drones. See hive.

**comb:** an interconnected group of wax cells

**competition:** struggle among bees and other insects for limited resources such as nesting sites, nesting materials, nectar, pollen, and water.

**complete metamorphosis:** the four stage development process of an insect that includes egg, larva, pupa, and adult

**corbicula** (pl. corbiculae): a widened portion of the rear legs of female honey bees covered by curved spines where pollen is stored for transport, also known as pollen baskets.

**corridor:** a band of vegetation, especially one containing flowering plants, which serves to connect patches of habitat, which would otherwise become fragmented. Corridors allow gene flow between populations of bees and help prevent inbreeding.

**chronic exposure:** continuous or repeated exposure over a long period of time (greater than 24 hours or much longer)

**cross pollination:** fertilization by transfer of pollen from the anthers of one flower to the stigma of another

**cuticle:** the waxy outer layer of an insect

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D

**dearth:** a lack of availability usually referring to nectar or pollen

**diatomaceous earth:** a porous sedimentary deposit formed from the remains of diatoms, a type of hard-shelled algae. Dried diatomaceous earth is roughly 80-90% silica, 2-4% alumina, and 0.5-2% iron. It is frequently used by honey packers to filter raw honey and remove pollen, insect parts, dust, and wax bits.

**dioecious:** species of plants where the male and female reproductive organs are on separate individuals. Pollen from a male plant must be moved to the pistil of a female plant in order to accomplish fertilization.

**diploid:** having two sets of homologous chromosomes

**drone:** a male haploid bee that develops from an unfertilized egg

**Dufour's gland:** A gland in the abdomen that, in solitary bees, secretes a substance used for lining and waterproofing nest cell walls. The chemical composition and purpose of the secretion varies with the species.

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E

**ecology:** the study of plants and animals in relation to their physical and biological surroundings.

**EHB:** European honey bee

**eke:** a very shallow super designed to provide extra room for things such as feeders, treatments, upper entrances, and absorbent or insulating material. The word comes from the verb "to eke" as in "I need to eke out some extra space."

**endangered species:** a plant or animal species that is declining to the extent that it may become extinct if it is not protected by law or regulation.

**endemic species:** a species whose natural occurrence is confined to a certain region and whose distribution is relatively limited.

**endotoxin:** a toxin secreted by certain bacteria that is released into the surrounding environment only when it dies.

**enzyme:** a protein with specific characteristics that allow it to aid certain chemical reactions

**exine:** the outer covering of pollen grains, often containing sporopollenin

**exocrine:** a gland that secretes externally through a duct

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## F

**flow:** the presence of large amounts of nectar or pollen, usually used in reference to a particular plant species, as in “a good maple flow”

**foraging:** the collection by bees of water, nectar, pollen, and propolis from their environment

**forb:** a non-woody (herbaceous) broad-leaved (not a grass, sedge, or rush) flowering plant. The term usually refers to species growing in fields, prairies, or meadows.

**foundation:** a commercial product made from beeswax that is used as a starter substrate for bees to build comb. Although not necessary, its use results in evenly-spaced and parallel comb

**frame:** a rectangular structure, with or without foundation, in which bees build comb. Frames allow combs to be removed for inspection or harvest without damaging the colony

**fructose:** a monosaccharide (simple sugar) frequently found in honey

**fungicide:** a chemical designed to kill fungus or mold

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## G

***Galleria mellonella*:** the science name for the larger wax moth, a pest of honey bee hives and stored wax combs

**grafting:** the manual transfer of eggs or young larvae from a brood comb into queen cups

**granulated honey:** another term for crystallized honey

**guttation:** The exudation of water from leaves as a result of root pressure.

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## H

**haploid:** having only one set of chromosomes

**hemimetabolism:** incomplete metamorphosis. A hemimetabolous (or paurometabolous) insect goes through three life stages including egg, nymph, and adult. Because the nymph stage gets larger after every molt but generally looks the same, this is sometimes called gradual metamorphosis.

**hemolymph:** The circulatory fluid of invertebrate animals that is comparable to blood

**herbicide:** a chemical designed to kill plants

**HFCS** *abbr.* high-fructose corn syrup

**high-fructose corn syrup:** corn syrup that has undergone enzymatic processing to convert its glucose into fructose and then has been mixed with pure glucose to produce a desired level of sweetness

**hive:** usually refers to a man-made structure that houses bees, but may also be a synonym for a bee colony

**hive stand:** a structure used to hold a hive above ground level

**hive tool:** a metal tool of various types used for beekeeping; may be used for scraping, prying, lifting, and cleaning.

**holometabolism:** complete metamorphosis. A holometabolous insect has four life stages including egg, larva, pupa, and adult (imago).

**honey stomach:** an enlargement of the esophagus that is used to collect and transport nectar

**honey:** nectar that has been dehydrated by the bees so that it contains no more than 17-18% water

**honey bound:** a condition in which the brood nest has restricted space because all the cells are filled with honey

**honeydew:** a sweet liquid excreted by aphids, leafhoppers, and some scale insects that is collected by bees, especially in the absence of a good source of nectar.

**HMF** *abbr.* hydroxymethylfurfural

**hydathode:** a specialized leaf structure through which water is discharged from the interior of the leaf to its surface

**hydroxymethylfurfural (HMF):** an organic compound derived from the dehydration of sugars; HMF can form in both honey and high-fructose corn syrup (HFCS) when heated and is toxic to bees

**hymenoptera:** an order of insects that includes sawflies, wasps, bees, termites, and ants

**hypopharyngeal:** in honey bees, a pair of exocrine glands in the head segment which secrete a protein-rich substance used to feed certain categories of bees, including larvae.

**hypopus:** a nymph stage in certain parasitic mites having well-developed claws for hanging on to a host. As a “hitch-hiker” the mite is able to move to a new feeding location or nest site. This adaptation is found in the mason bee parasite known as the “hairy-footed mite” or “pollen mite.”

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## I

**IAPV:** *abbr.* Israeli acute paralysis virus; is one of the many bee viruses carried by *Varroa* mites.

**IGR:** *abbr.* insect growth regulator; an insecticide that works by disrupting the growth or development of an insect by mimicking natural hormones

**II:** *abbr.* instrumental insemination

**imago:** The adult stage of an insect.

**insecticide:** a chemical designed to kill insects

**instar:** a stage of larval development between two molts; the first instar occurs after the first molt

**integument:** an insect’s covering or “skin”

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## JKL

**landing board:** a small platform at the entrance to a bee hive where honey bees can land before entering the hive. Also called an alighting board.

**larva:** an immature, grub-like bee intermediate between egg and pupal stages. For derivation see: Latin for beekeepers.

**lepidoptera:** an order of insects that includes moths and butterflies

**long hive:** a hive where the frames are all side-by-side instead of stacked vertically

**lumen:** in biology, the interior space of a tubular structure

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## M

**mandibles:** the jaws of an insect

**mast tree:** a tree that produces hard or soft edible fruit, such as nuts and berries. A “mast year” is a particularly productive year that yields many flowers and fruits, which benefit bees and other wildlife

**melittology:** the study of bees

**mesosoma:** the middle section of a bee’s body, which supports both the legs and wings. The mesosoma is roughly equivalent to the thorax, except it includes the first abdominal segment, referred to as the propodeum.

**metabolite:** a substance that is the product of biological changes to another chemical, such as those from pesticides

**metasoma:** the third section of a bee’s body, roughly equivalent to the abdomen, but lacking the first abdominal segment (propodeum) which is fused to the thorax

**miticide:** see acaricide

**monoculture:** the agricultural practice of growing one single crop over a wide area

**monolectic:** a pollinator that visits only one species of plant

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## N

**nadir:** (used as a verb) to add a bee box *under* the others, as in Warre beekeeping

**nectar:** a sweet solution secreted by the glands of plants

**nematicide:** a chemical designed to kill roundworms

**neonicotinoid:** a class of insecticides that act on the central nervous system of insects and are chemically similar to nicotine

***Nosema apis*:** a microsporidian parasite of honey bees that lives in the intestines and destroys the epithelial cells of the midgut. It affects honey bee nutrition and shortens the life of worker bees.

**nuc:** a shortened form of “nucleus hive,” a small brood box designed to contain 2, 3, 4, or 5 frames. These are often used to start new colonies.

**nurse bee:** a young worker bee that produces brood food and feeds the larvae

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O

**oligolectic:** a pollinator that visits only a small number of plant species

**orientation flight:** short flights around the hive taken by young bees in order to prepare for foraging.

**over-wintering:** the process of survival over winter, during which the bee lives on supplies collected during the spring and summer. Honey bees do not hibernate but actively maintain colony temperatures by clustering.

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P

**panicle:** a type of inflorescence with a pyramidal, loosely branched flower cluster

**papillate:** a surface covered with small bumps that are often open (porous) at the top. Certain species of bees have papillate wings, a character that can aid in identification.

**parthenogenesis:** development from unfertilized eggs. In honey bees, the drones (males) result from parthenogenesis

**pellet:** the contents of a pollen basket (corbicula)

**perennial:** lasting a long time, such as a plant that lives more than two years

**pesticides:** a chemical designed to kill a pest

**phenology:** the study of periodic plant and animal life cycles and how these are influenced by seasonal and interannual variations in climate

**pheromone:** a chemical substance released by an animal to induce a response in another animal of the same species

**pistil:** the female ovule-bearing part of a flower composed of stigma, style, and ovary

**pollen:** a powder-like substance produced by the anthers of flowering plants and containing the male gametes

**pollen basket:** see corbicula

**pollen bee:** a general term for any bee other than a honey bee.

**pollen patty:** a mixture of sugar syrup (or honey) and pollen (or pollen substitute) used as a winter source of protein and amino acids

**pollen pellet:** the ball of pollen carried in a pollen basket (corbicula) on a bee's hind leg.

**pollen substitute:** a high-protein powder used as a protein supplement in lieu of pollen; may contain soy flour, brewer's yeast, and other products

**pollen trap:** a device for removing pollen pellets from the corbiculae of incoming bees.

**pollenkitt:** a sticky substance adhering to the outside surface (exine) of a pollen grain, which aids bees in the collection of pollen

**pollination:** the movement of pollen from the anthers of one flower to the stigma of a compatible flower

**pollinator:** an agent that transfers pollen from one flower to another

**polyfloral:** made from many different flower types, such as polyfloral honey

**polylectic:** pollinators that visit many different plant species

**prepupa:** a stage between the last larval instar and the true pupal stage

**proboscis:** the multipart "tongue" of a bee used to suck nectar and water

**propodeum:** the first abdominal segment. It is fused to the thorax and is separated from the rest of the abdomen by a so-called "wasp waist"

**propolis:** plant resins that are collected by bees and used to seal cracks and soften rough edges in the hive. Also called “bee glue” propolis is high in antimicrobial substances

**protein:** an organic compound made of amino acids arranged in a linear chain in an order specified by a gene’s DNA sequence

**pupa:** the stage of development immediately preceding the adult stage. A pupa is sealed under a wax capping where it spins a cocoon and completes development. For derivation see: Latin for beekeepers.

**pygidium:** an abdominal plate of some female mining bees with a pointed tip. The pygidium is used for compacting soil particles in the nest cells and to apply water-proofing secretions from the Dufour’s gland to the cell walls. Also called the “pygidial plate.”

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## Q

**queen:** a fully developed female honey bee. Once mated, the queen stores sperm for as long as three or four years and lays eggs at varying rates throughout the year. Normally, there is just one queen per hive.

**queenless:** a colony without a mated queen

**queenright:** a colony with a fully functioning mated queen

**quilt:** in Warre beekeeping, a box placed above the topmost top bars which contains natural materials such as sawdust, woodchips, straw, or dry leaves that absorb excess hive moisture

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## R

**refuge:** a kink in the main tunnel of some mining bees, such as *Andrena armata*, where the female can rest out of view of the tunnel entrance.

**requeen:** a process in which a beekeeper removes the queen from a colony and replaces her with a different one

**robber bee:** bees that enter weak or dying colonies to steal honey.

**robber fly:** a type of fly that preys on other invertebrates, including bees. They sometimes mimic the appearance of the bees they prey on.

**royal jelly:** a glandular secretion originating in the head segments of nurse bees and used to feed the larvae.

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S

**SBB:** *abbr.* screened bottom board, but also solid bottom board. Best to just say what you mean.

**spermatheca:** an organ in the queen's abdomen in which sperm is stored.

**stamen:** the male (pollen-bearing) part of the flower consisting of the anther and the filament.

**steady bee:** hover fly [origin: southeastern U.S.].

**sublethal dose/concentration:** a dose or concentration that induces no statistically significant mortality in the experimental population

**sublethal effect:** a physiological or behavioral change found in individuals that survive exposure to a pesticide

**supersedure:** a process in which a colony replaces its queen with a different one

**swarm:** the reproduction of an entire colony that occurs when a colony splits into two parts. The old part is left with a new queen, and the part that splits off takes the old queen

**synergistic:** cooperative, working together, interacting, or mutually stimulating.

Synergistic toxicity occurs when two pesticides acting together are more toxic than either one acting separately.

**systemic pesticide:** a pesticide that is absorbed and circulated by a plant or animal so that the plant or animal is toxic to pests that feed on it.

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## T

**thorax:** the middle region of a bee's body that supports the wings and legs

**tracheal mite** (*Acarapis woodi*): parasites that live in the trachea

**trachea:** a breathing apparatus consisting of branching tubes that conduct oxygen to the inner tissues of the bee

**transgenic:** an organism that has had genes from another organism inserted into its chromosomes

**trophallaxis:** direct food transfer between bees

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## UVWXYZ

**uncapped brood:** a beekeeping term for eggs and larvae not covered by a layer of beeswax

**uncapping knife:** a knife designed to easily remove the cell cappings from frames of honey before extraction

**unite:** to combine two or more colonies into one

**univoltine:** insects having one generation per year. Many solitary bees are univoltine.

**Varroa mites** (*Varroa destructor*): parasites that feed on the hemolymph of bees and reproduce on the pupae

**virgin queen:** an unmated queen found in a colony of social insects, including bees, ants, and wasps

**viscin:** a clear, tasteless, sticky substance made from the sap of flowering plants. In some plants, pollen is held together in clumps or strings with viscin.

**walk-away split:** a new colony started by putting a few frames of brood, honey, and pollen into a nuc or brood box and allowing the bees to raise their own queen. The brood must contain fertilized eggs or very young larvae in order for the bees to succeed at raising a viable queen, and drones must be available in drone congregation areas for her to mate.

**warm way:** when frames in the brood box are parallel to the hive opening

**wax glands:** the four pairs of glands on the underside of the honey bee abdomen where beeswax is secreted. The beeswax is secreted as a liquid that hardens into transparent flakes.

**wax moth, greater:** the greater wax moth, *Galleria mellonella*, is common wherever honey bees are found. The larvae burrow into wax combs where they consume cast-off honey bee cocoons, pollen, propolis, and honey.

**wax moth, lesser:** the lesser wax moth, *Achroia grisella*, is about 0.5 inches long with a yellow head. They are common throughout the world except in very cold climates. They are a pest of unoccupied wax combs.

**wired foundation:** pressed wax foundation with wires embedded in the wax to add strength

**wired frames:** bee hive frames fitted with wires that help to hold sheets of foundation in place

**worker:** an infertile, diploid female bee adapted to perform a variety of functions in the colony depending on her age and the colony's needs

**worker egg:** a fertilized honey bee egg that will grow into a worker. The word also applies to the fertilized eggs of ants, wasps, and other social bees.

**xenobiotic:** chemical substances that are foreign to a biological system