



4-H Study Materials for Entomology Contests

January 2003

VIII. Glossary

alate - winged form of insect

aphid - an insect in the family Aphididae sometimes called a plant louse

beneficial insect - any insect that has a life style that is advantageous to man. Insects that preserve the balance of nature by feeding on others, pollinators, and recyclers are examples of beneficial insects.

carnivore - an insect that feeds on living animal

caterpillar - the immature stage of any Lepidoptera (butterflies and moths)

cephalothorax - a single body segment with the head (ceph) and chest (thorax) areas fused together

cerci - paired appendages on the end of the abdomen of many insects which are used for sensing, defense or mating

chelicerae - front pair of appendages of an arachnid often specialized with fangs

chewing (mouthparts) - any mouthpart that bites to feed; other mouthpart types are piercing-sucking and sponging

clavus - the enlarged terminal antennal segments that form a club

collophore - a tube-like structure on the underside of the first abdominal segment of Collembola

compound eyes - the large multi-faceted eyes of insects

coreids - a member of the family Coreidae which are leafhopper bugs

corium - the elongate, thickened basal portion of the forewing of Hemiptera

cornicles - tubular structure on each side of the abdominal region from which pheromones or honeydew is expelled.

coxa (pl.=coxae) - basal portion of the leg

crepuscular - having activity periods during low light levels at dawn and evening

cursorial - adapted for running

dactyl - literally a finger or fingerlike projection on an insect body part

dealate - winged form that has shed its wings, like a reproductive termite or ant

defoliate, defoliation - removal of foliage from plants, often by chewing insects

detritivore - any organism that eats decaying organic matter

diapause - an insect resting stage, usually induced by environmental signals or extreme conditions like winter or summer

dimorphic - having two distinct forms

dorsal - relating to or situated near the back

estivation (aestivation) - a resting stage (quiescence) resulting from continued high temperature or xeric conditions; diapause; hibernation

exoskeleton - the outer portion of an insect body which may be relatively soft like a caterpillar or hardened like many beetles

femora - a segment of an insect leg; usually the largest segment

filiform - linear shaped as the antennae of ground beetles

frass - solid larval insect excrement; plant fragments made by wood-boring insects, usually mixed with excrement

furculum (plural: furcula) - the elongate fork-like appendage on the end of the abdomen (folds under the body) of Collembola which is used as a spring action for leaping

genera - plural of genus; a genus is a group of plants or animals with similar characteristics

girdle, girdling - damage of a plant that circles the stem or branch cutting off the connective plant tissue

gradual metamorphosis - see metamorphosis

harmful insect - an insect pest that destroys homes, buildings, crops or hurts animals

hemelytron - the first wing of a Hemiptera which has the base more thickened than the membranous outer portion

herbivore - an insect that feeds on living plants

imago - the adult stage of an insect

instar - an insect stage between molts; molting is growth.

larval stage (larva, larvae) - an immature insect, sometimes used to include all immature stages, even eggs. Usually this term refers more specifically to the feeding stages of insects with complete metamorphosis like grubs, caterpillars, and maggots.

lateral - relating to or situated near the side of the body rather than the upper or lower surfaces

maggot - in most Diptera, legless larva lacking a distinct head, with cephalic (head) end pointed and caudal (rear) end blunt

membranous - thin and semi-transparent; like a membrane

mesothorax - the second section of the insect thorax which includes the attachment points for the second pair of legs and the first pair of wings

metamorphosis - change in form during an insect's growth and development

gradual metamorphosis - incomplete metamorphosis in which there is no pupal stage and the immatures and adults look similar excluding the wings of the adults

incomplete metamorphosis - any metamorphosis type that does not include the pupal stage. Incomplete metamorphosis is present in Orthoptera, Hemiptera, and several other orders.

simple metamorphosis - any metamorphosis that occurs in insect groups that where they are not winged and have no pupal stage. Insect groups with simple metamorphosis include the Collembola and Thysanura.

metathorax - the third section of the insect thorax which includes the attachment points for the third pair of legs and the second pair of wings

mite - a member of the order Acari (ticks and mites)

molt, molting process - in insects, the process of shedding the exoskeleton

naiad - a term for immature insects that are aquatic from the orders Plecoptera, Odonata, and Ephemeroptera. This term is now being replaced by the more general term "immature" insect.

necrosis - death of tissue in plants or animals

nymph - an immature stage of hemimetabolous insects (those with incomplete metamorphosis)

oothecae - a bean-like hardened egg capsule produced by female cockroaches

organism - a certain species of plant or animal

osmeterium (pl. = osmeteria) - scent-producing area behind the tibia

overwinter - time spent during the winter months. Insects are often in hibernation or at least rather immobile in colder temperatures.

ovipositor - the egg-laying apparatus of an insect. The stinger of a bee is actually a modified ovipositor.

parasitic insect (parasite) - an insect that lays its eggs in or on another insect and usually kills it. Some insect parasites live on large hosts like dogs, cows or man, and usually do not kill them; however, most parasites, like fleas and lice, keep an animal from being in "top condition." Some parasitic insects are good, since they destroy harmful insects; others are harmful.

parthenogenesis - egg development without fertilization

pedipalps - second pair of appendages of the cephalothorax corresponding to the mandibles of insects

petiole - attachment of a leaf to a stem

phytophagous - plant eating; an insect using plants as a food source

phytotoxemia - a toxic reaction in plants

predaceous insect (predator) - an insect that attacks and kills other insects

proboscis - a nose, or in the case of butterflies the coiled sucking mouthpart

pronotum - the plate on top of the prothorax

prothorax - the front part of an insect thorax which includes the attachment points for the front legs

protozoan - a microorganism in the kingdom Protozoa

pseudergates - caste found in the lower termites (Isoptera), comprised of individuals having regressed from nymphal stages by molts eliminating the wing buds, or being derived from larvae having undergone non-differentiating molts, serving as the principle elements of the worker caste, but remaining capable of developing into other castes by further molting

psocids - any insect in the order Psocoptera, which includes booklice and barklice

pupal stage (pupa) - the stage in complete metamorphosis between larva and adult like the cocoon in moths

pustulate - pus-forming, as in spider bites

rosetting - malformation of a plant resulting in a bunched irregular growth of the leaves

scavenger - an insect that feeds on dead plants or animals

scutellum - a triangular shaped section on the back of Hemiptera and some Coleoptera. It is often the identifying characteristic of Hemipterans.

secondary reproductive - a caste of subterranean termite; also called supplemental reproductives. If these termites develop from nymphs, they are called secondary reproductives (primary reproductives are the king and queen). If they develop from pseudergates, they are called tertiary reproductives. Supplementals may be responsible for most of the egg production in the colony.

soldier termite - see termite.

spinneret - a small tubular appendage from which silk threads by spiders and many larval insects

subgroup - a subset of a group with related characters. The term group is a general and non-specific collection of similar organisms regardless of taxonomic hierarchy.

subimago - the first winged stage of a mayfly. This is the only order to have a winged stage that molts. The final stage is the imago, or adult.

tarsi - a foot. Insect feet are made of several segments and may have pads, hairs, or hooks.

tegmina - plural of tegmen, a hardened covering like the forewing of many Orthoptera and Hemiptera

tenaculum - a tiny two-pronged structure on the underside of the third abdominal segment of Collembola which holds the furcula (appendage used for jumping) before it is released to jump

termite - any wood-eating insect in the order Isoptera

soldier termite - a caste of termites with specific structures to defend the colony,

such as large mandibles or nasute mouths that produce sticky defensive substances.

worker termite - a caste of termites that do most of the work in the colony. Worker termites can be all immature termites and forms that do not develop into reproductive forms or soldiers.

tertiary reproductive termite - see secondary reproductive

tettigoniid - a family of Orthoptera often called long-horned grasshoppers which includes katydids

thorax - the second body segment of an insect. The thorax has all of the wings and legs attached to it.

true bugs - insects in the order Hemiptera. They are usually characterized by a scutellum, a triangular-shaped section on the back.

venation - the pattern of veins in the insect wing

wing pads - incomplete wing structures like those formed on immature grasshoppers

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