

VETERINARY PARASITOLOGY

Restricted Glossary

Many of the words in this list apply also to organisms other than parasites, but the definitions are given with special reference to parasitism.

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- Accidental parasite** Parasite in unusual or abnormal host. Also called **incidental** or **aberrant parasite**.
- Ala** Wing-like expansion of cuticle of nematodes. (plural, alae)
- Anterior station** Development of parasite in anterior (or middle) section of insect vector's gut and passed in the saliva of the insect, e.g., of Trypanosomatidae.
- Anthroponoses** Human diseases that can be transmitted to animals.
- Apical complex** Electron-dense ring and cone-like structures made up of microtubules and found at anterior end of apicomplexan trophozoites.
- Autochthonous** Native to the place inhabited, e.g., a disease that originates in the organ or tissue where it is found or a disease acquired in the area where the host lives.
- Autoinfection** Reinfection by the progeny of a parasite while they are still within the host, as sometimes occurs with *Strongyloides stercoralis*, *Taenia solium*, and *Cryptosporidium* spp.
- Aexenic** Free from other organisms, such as occurs in a "pure" cultivation medium.
- Axoneme** Central core of microtubules, within flagellum or cilium.
- Basal body** Structure from which axoneme arises; same as blepharoplast and kinetosome.
- Biological vector** Vector in which parasite lives/develops or multiplies, unlike **mechanical vector** in which parasites simply persist.
- Bladderworm** Metacestode with fluid-filled "bladder."
- Bot** Larval stage of certain flies that parasitize various hosts in a variety of anatomic locations.
- Bubo** Enlarged lymph node; sometimes swell to point of rupture through the skin.
- Bursa** Structure at posterior end of many male nematodes that resembles a ribbed skirt, the "ribs" being **bursal rays** that give form to the skirtlike structure, which is used to clasp the female during copulation.
- Campestral** Related to fields or open country; rural setting. (Similar to pastoral.)
- Capitulum** Anterior of two body parts of mites/ticks; also called **gnathosoma**.
- Cement glands** Glands that produce secretions used by male acanthocephalans to seal the female reproductive tract following insemination.
- Cercaria** A larval digenetic trematode produced by asexual reproduction within a sporocyst or redia.
- Chelicerae** Anterior pair of appendages of ticks/mites/spiders; usually important in feeding.

- Chagoma** Swollen eye associated with entry of *Trypanosoma cruzi* into the eye membranes.
- Circadian rhythm** Occurring approximately every 24 hours or about once a day.
- Coelozoic** Descriptive term for parasites that live in lumen of intestine or other hollow organs.
- Coenurus** Metacestode of some taenioid tapeworms characterized by several scolices budding from germinal membrane.
- Commensal** An organism living in close association with another and benefitting therefrom without either harming or benefitting the other.
- Contagious** Transmissible via direct contact.
- Coprophagous** Feeding on feces.
- Coprophylic** Associated with feces, or preferring feces as a habitat.
- Coprozoic** Living in feces; usually implies a nonparasite.
- Coracidium** A larva with a ciliated epithelium, hatching from the egg of certain cestodes; a ciliated onchosphere or hexacanth embryo.
- Coxa** Proximal segment (podomere) of arthropod limb.
- Coxal gland** Excretory organ that opens on coxa of ticks and other arachnids.
- Cyst** A parasite surrounded by a resistant wall or membrane; technically, the wall or membrane constitutes the cyst. Also a resistant, inactive, dormant stage in the life cycle of many protozoans, important in protection and in dispersal.
- Cystacanth** A juvenile acanthocephalan that is infective to its definitive host.
- Cysticercoid** A cestode larva that develops from the onchosphere in many Cyclophyllidea; usually possesses a tail-like appendage and a well-formed scolex.
- Cysticercus** Metacystode with fluid-filled bladder with one invaginated protoscolex.
- Dauer juvenile** Immature nematode in arrested development that may resume development when conditions change/improve.
- Definitive host** The host in which the parasite undergoes sexual reproduction.
- Diapause** A temporary suspension in growth and development.
- Diel** A 24-hour period including a day and the previous or following night.
- Digenetic** A term used in combination with those flukes (trematodes) that have alternating sexual

Dioecious	and asexual generations that take place in different host species. (Unlike Monogenetic .) Male reproductive organs in one individual and female organs in another, in contrast to Monoecious , in which both male and female organs exist in one individual.
Direct development	Development of arthropods in which juvenile that hatches from egg looks much like adult except for size and degree of maturity.
Disease	A specific morbid process that has a characteristic set of symptoms, and that may affect either the entire body or any part of the body; the pathologic process, cause, and prognosis may or may not be known.
Diurnal	Often used interchangeably with circadian, diel, or 24-hour period; also used to mean daytime, as opposed to nighttime.
Dysentery	Severe diarrhea with passage of mucus and blood, often with intestinal ulceration.
Ecdysis	Molting. Inexpansible portions of cuticle are discarded and there is an increase in physical dimensions of the body before newly secreted cuticle hardens.
Ectoparasite	A parasite that lives on the outside of its host.
Endemic	Usually present in a particular geographic area. Often used interchangeably with enzootic .
Endemicity	Severity of disease or prevalence of the disease in a geographic region.
Endodyogeny	Asexual multiplication in some protozoans where two daughter cells are formed within a parent cell.
Endoparasite	Parasite that lives inside its host.
Enzootic	Denotes a disease or an infestation of non human animals that is a constant feature of an area.
Epidemic	A disease that affects a large number of organisms and spreads rapidly, i.e., a sharp rise in incidence .
Epicuticle	Outermost layer of arthropod cuticle, which contains sclerotin but not chitin.
Epizootic	1. Denoting a disease attacking many animals simultaneously. 2. The prevalence of a disease among animals; the same as an epidemic among human beings.
Estivation	State of torpidity or dormancy induced by heat or dryness of summer (opposed to hibernation).
Ethology	A branch of ecology that deals with the behavior of animals.

- Euryxenous parasite** A parasite that has a broad host range.
- Eutely** Cell or nuclear constancy, i.e., the adult has the same number of cells or nuclei as the first-stage juvenile. Tissues, organs, or entire animals may be eutelic.
- Exflagellation** Rapid formation/release of microgametes from microgametocyte, e.g., as seen in *Plasmodium* spp.
- Facultative parasite** Capable of living apart from a host; that is, potentially free-living and not physiologically dependent on host.
- Festoons** Sclerites on posterior margin of opisthosoma of some hard ticks.
- Final host** See **Definitive host**.
- Fomite** Inanimate substance that transmits infective stages of parasites or of other pathogenic organisms.
- Gametocyst** Cyst in which sexual reproduction and spore formation occur in some apicomplexans.
- Gamont** Stage of apicomplexan committed to undergoing gametogenesis.
- Gena** Anterioventral part of the insect head.
- Genal ctenidium** A row of spines on the gena of a flea.
- Genital atrium** Space/cavity in body wall of flatworms into which male and female genital ducts empty.
- Gid** CNS disorder with incoordination associated with cysticerci (bladderworms) in the brain.
- Glycocalyx** A mucopolysaccharide layer on the surface of cells external to the cell membrane; it is involved with molecular interactions between body surface and surrounding medium.
- Gnathosoma** Anterior one of two basic body regions of ticks/mites; **capitulum**.
- Gnotobiology** The study of a germ-free animals in which there is no other form of life.
- Ground itch** Skin rash associated with invasion by hookworm larvae.
- Gubernaculum** A sclerotized accessory structure associated with the copulatory spicules of many nematodes.
- Gynocophoral canal** Longitudinal groove on ventral surface of male schistosome (a type of trematode in which the sexes are separate).
- Habitat** The specific place where an organism usually lives, for example, the small intestine.
- Haller's organ** Structure on front tarsi of ticks which serves as a humidity receptor and olfactory organ.

- Haltere** Vestigial wing of flies (Diptera) that is important in balance.
- Hemocoel** Main body cavity of arthropods.
- Hematophagous** Indicates the eating of blood.
- Hemoglobinuria** Hemoglobin in urine.
- Hemolymph** Fluid found in body cavity of arthropods. (Also the fluid in pseudocoelom of nematodes.)
- Heterogenetic parasite** A parasite that has alternation of generations.
- Heterogonic life cycle** Alternating parasitic and free-living generations in a life cycle.
- Heteroxenous parasite** A parasite that has two or more types of hosts in its cycle.
- Hexacanth** An onchosphere, a 6-hooked larva hatching from the egg of a cestode.
- Histozoic** Descriptive term for parasites that live within tissues.
- Homogonic life cycle** Life cycle characterized by all generations being either parasitic or all being free living, i.e., little or no alternation of life style.
- Homoxenous parasite** A parasite that uses only one host during its life cycle.
- Host** Living animal or plant harboring or affording subsistence to a parasite; also a cell in which a parasite lodges (host cell). The relationship implies loss of some sort by the host, often not measurable by veterinarians/physicians/parasitologists but often resulting in lesions/ morbidity and, less often, mortality.
- Host specificity** Degree to which a parasite can use different hosts. Restriction of a parasite to one kind of host would be extreme host specificity.
- Hydatid cyst** Metacestode of *Echinococcus* spp., characterized by secondary budding, usually with many protoscolices present.
- Hydatid sand** Free protoscolices forming “sediment” in hydatid cysts.
- Hyperparasitism** The presence of a parasite in or on another parasite.
- Hypodermis** A syncytium that secretes the cuticle of nematodes.
- Hypobiosis** A condition of reduced body functions during such periods as hibernation or estivation; some parasites undergo hypobiosis with their hosts, and some parasites become hypobiotic even in actively metabolizing hosts.
- Hypostome** Part of the mouthparts of acarines, rod-like in appearance and sometimes with barbs.
- Incidence** The number of new cases of infection occurring during a given period of time in relation

to the population unit in which they occur (a dynamic measurement); not to be confused with **prevalence**, a static measurement.

Indirect development Type of development of arthropods in which larva or nymph is distinctly different from adults in appearance, i.e., metamorphosis occurs with development.

Infection The presence of parasites within a host; in medicine, parasitic invasion of cells or tissues resulting in injury and reaction to injury.

Infestation Invasion by parasites (generally restricted to ectoparasites), some of which may invade superficial tissues, as with the mite, *Sarcoptes*.

Inoculation The active introduction of an organism through the skin by physical or biologic means.

Intermediate host Ordinarily, a necessary host and one in which only the asexual or immature stages occur; note that fertilization in *Plasmodium* occurs in the mosquito, sometimes listed (improperly ?) as an intermediate host.

Juvenile stage A stage preceding the sexually mature adult stage; it is less fully developed than the adult.

Kinetosome Basal body of blepharoplast; structure from which axoneme arises.

Koch's blue body Schizont (meront) found in circulating lymphocytes of animal infected with *Theileria parva*.

Larva A stage clearly different from the adult, requiring metamorphosis for further development. (Unfortunately "larva" is often used when "juvenile" is preferable, especially when discussing nematodes.)

Latent infection An infection that is neither visible nor apparent.

Mange Dermatitis caused by mites; usually designated by causative parasite as in demodectic mange caused by *Demodex* spp. Called scabies in human beings infected with *Sarcoptes* species. Some consider scabies in domestic animals to be condition caused by more superficial-feeding mites, such as *Psoroptes* species.

Mechanical transmission The transference of a parasite from one host to another without development in the vector, as might occur when a biting fly has contaminated mouth parts from a recent bite; the vector may also be an inanimate object such as a contaminated hypodermic needle.

Mechanical vector A vector that transmits an agent by mechanical means only, i.e., without biological development.

Merogony Schizogony (asexual reproduction) during the vegetative phase of the life cycle (in Apicomplexa, Microspora, Myxozoa).

- Meront** Stage or form in the life cycle that undergoes **merogony**; often substituted for the term **schizont**.
- Merozoite** A daughter cell resulting from schizogony (merogony).
- Mesocercaria** A non-encysted stage of trematode (genus *Alaria*) that occurs between the cercaria and metacercaria.
- Metacercaria** A stage (between cercaria and adult) in the life cycle of digenetic trematode; usually encysted and quiescent.
- Metacestode** A larval cestode that is infective to its definitive host.
- Metamorphosis** Types of development in which immature (juvenile) forms differ markedly from adults.
- Microfilaria** First-stage juvenile of filariid nematodes usually found in blood or tissue fluids of the definitive host.
- Micropyle** Pore in oocysts of many coccidian parasites. (Also in egg of some insects.)
- Miescher's tubules** Tissue cyst of *Sarcocystis* spp.; also called "sarcocysts."
- Miracidium** Ciliated, first larval stage of trematode.
- Monoecious** Individuals contain both male and female reproductive organs; hermaphroditic.
- Monogenetic** A term used in combination with those flukes (trematodes) that do not have alternation of generations (no multiplication in the larval stage and no intermediate host; unlike **Digenetic**.)
- Monostome** A trematode with oral sucker but lacking a ventral sucker.
- Monoxenous parasite** A parasite that has a single host in its life cycle. "Monoxenous" is generally used with reference to host specificity.
- Mutualism** An association whereby two species live together in such a manner that their activities benefit each other.
- Myiasis** Infestation with/infection by larval flies (maggots). (Some restrict use of the term to invasion of living tissue, excluding infestation of hair, wool or necrotic flesh.)
- Naive** In immunology, a host without previous experience of infection with a particular parasite.
- Neoteny** The achievement of sexual maturity by an immature form; sometimes used to indicate the persistence of youthful characteristics into maturity.

Niche	The position or status of the organism within its habitat.
Nidus	A focus or nest from which infections or infestations spread among animals.
Normal hosts	The host in which a parasite usually develops in nature.
Nymph	Juvenile insects/mites/ticks. Nymphal mites and ticks have 8 legs like adults, whereas larvae have only six legs.
Nurse cell	Specialized cell in muscle of vertebrate host that is inhabited by a parasite; used especially for cell in which larval <i>Trichinella</i> species reside.
Obligatory parasite	Unable to live and to multiply except as a parasite on or in a host.
Oncomiracidium	Ciliated larva of monogenetic trematode.
Oocyst	Cystic form of apicomplexan that marks the end of sporogony.
Oocyst residuum	Amorphous mass in oocyst that remains after sporocysts have formed within the oocyst.
Operculum	A lid-like specialization of certain parasite egg-shells through which the larva escapes.
Opisthosoma	Body of tick/mite that is posterior to the legs.
Otoacariasis	Infestation of ear canal by ticks or mites.
Pandemic	Epidemic that is very widespread, even global.
Parasite	An organism that depends on its living host for protection and for some essential metabolite; the relationship implies gain for the parasite and expense for the host.
Parasitemia	The presence of parasites in the circulating blood.
Parasitism	An association between two specifically distinct organisms in which the dependence of the parasite on its living host is metabolic and involves mutual exchange of substances. One organism derives benefit and the other is presumed to be harmed, although not always measurably so.
Parasitoid	A term embracing several types of relationships between parasitism and predation; generally refers to arthropods, especially Hymenoptera (wasps) that are parasitic only in their immature stages.
Parasitophorous vacuole	The space around an intracellular parasite, for example, <i>Babesia</i> in a red blood cell, bounded by the portion of invaginated host cell membrane that surrounds the parasite as it enters the cell.

- Paratenic host** A potential host in which there is no development of the immature parasite but the organism remains infective for the definitive hosts. Also called **transport host**.
- Parthenogenesis** Reproduction by the development of an unfertilized egg.
- Paruterine organ** Structure in some cestodes that replaces the uterus, as seen in most other cestodes.
- Patent** Point at which infectious/parasitic agent produces evidence (such as eggs/oocysts) of their presence.
- Pathogenesis** Course of development of a disease.
- Pathogenic** That which causes disease or morbid symptoms.
- Pathology** Study of disease, especially structural and functional changes caused by disease.
- Pedicel** “Waist” of Hymenoptera. (This slender abdominal segment is also called the **petiole**.)
- Pedogenesis** Reproduction by young or larval forms.
- Periodicity** Regularly recurrent rhythmic changes in vital functions or recurrence of a parasite at regular intervals of time, for example, nocturnal recurrence of microfilariae in peripheral blood of infected host, or recurrence of paroxysms in malaria.
- Peritrophic membrane** Delicate, acellular membrane that lines the midgut of insects.
- Phagolysosome** Vacuole in cell in which phagocytosed particle (sometimes a parasite!) is digested.
- Phagosome** Vacuole in a cell containing phagocytosed material.
- Phoresy** A relationship between host and commensal (**phoront**) involving only passive attachment of the commensal to the surface of the host; there is no metabolic dependence.
- Pinocytosis** Feeding by ingesting macromolecules in small pinocytic vesicles (also called pinosomes) that are formed by invagination of the cell surface; the macromolecules cross surface membranes.
- Pleomorphic** Indicates the occurrence two or more different forms in one life cycle; also different morphologic forms of the same life cycle stage.
- Plerocercoid** A cestode larva that develops from a proceroid.
- Plica polonica** Condition that develops with untreated headlouse (*Pediculus humanus capitis*) infestation; matted hair may have bad odor and fungal growth in it.
- Polar filament** Threadlike tubular structures in Microspora and Myxozoa.
- Polyembryony** The formation of two or more embryos from a single ovum.

- Posterior station** Development of parasite in posterior midgut or hindgut and passed in the feces of the insect, e.g., of Trypanosomatidae.
- Predator** That which is predatory, living by preying on other animals; the predator consumes all or part of its prey, generally killing the latter, which is generally smaller than the predator. [**Micropredator** is a term sometimes used to refer to a **temporary parasite** that is smaller than the host on which it preys, e.g., a horse fly that sucks its blood meal from a horse or cow.]
- Prepatent period** Time during which developmental stages of parasites have not been produced to give evidence (such as eggs/oocysts) of their presence.
- Premunition** A state of resistance to infection which is established after initial infection has become chronic and which lasts as long as the target agent (e.g., *Anaplasma marginale* in cattle) remains in the body. Similar to **concomitant immunity**. The degree of protection is unspecified, lasting only while the host continues to harbor the parasites; the host is susceptible to reinfection when the parasites are no longer present.
- Prevalence** Number of individuals or percentage of the population infected at any one time; not to be confused with **incidence**.
- Proceroid** A tapeworm larva developing from a coracidium in some orders of cestodes.
- Proglottid** One segment of a tapeworm strobila.
- Prolegs** Unjointed abdominal appendages of some larval insects, especially Lepidoptera.
- Protandry** Early maturation of male gonads followed by that of female gonads in hermaphroditic organism.
- Protelean parasite** Organism that is parasitic as a larva or juvenile and free living as an adult.
- Protoscolex** The juvenile scolex budded within larva (**metacestode**) of a taeniid cestode.
- Pseudomyiasis** Presence within a host of fly larva(e) that is (are) not usually parasitic.
- Recrudescence** A new outbreak after a period of abatement or inactivity.
- Redia** A larval digenetic trematode produced by asexual reproduction within a miracidium, sporocyst, or mother redia.
- Reservoir host** An infected animal serving as a source from which other animals can become infected, e.g., antelopes are reservoir hosts for *Trypanosoma rhodesiense*, the causative agent of African sleeping sickness in human beings.
- Retrofection** A process of reinfection whereby larval (juvenile) nematodes hatch on the host's skin and reenter the body before molting to third-stage.
- Salivaria** Infective trypanosomatids that develop in the salivary glands (**salivarian/anterior**

station) of insects and emerge from the vector through its mouth when the insect “bites” its host.

Scabies Disease (sarcoptic mange) caused by *Sarcoptes* spp. infection/infestation.

Schizogony Asexual reproduction by multiple or binary fission. Also called **merogony** in many instances.

Schizont Stage or form in the life cycle that undergoes **schizogony**; often substituted for the term **meront**.

Scolex Holdfast organ of adult tapeworm; sometimes called a “head” on the strobila.

Scutum Large anteriodorsal sclerite on a tick or mite.

Slime ball Object released by land snails infested with dicrocoeliid trematodes, actually a mass of cercariae surrounded by mucus which protects the immature flukes from desiccation.

Solenophage Blood feeding arthropod that ingests blood directly from host’s blood vessel.

Sparganum Cestode plerocercoid.

Spicules Copulatory organs of male nematodes, usually dual but sometimes singular (**spicule**).

Spiracle Opening of respiratory system on body surface of arthropods.

Sporocyst A stage of development of certain protozoans, usually within an enclosing membrane, the oocyst. The same term is also used to refer to an asexual stage of development in some trematodes.

Sporocyst residuum Amorphous material that remains in sporocyst after sporozoites have developed.

Sporogony The production of sporoblasts by multiple divisions of a zygote (in Apicomplexa, Microspora, Myxozoa).

Sporont Undeveloped mass within unsporulated oocyst.

Sporozoite Motile, vermiform stage (cell) that develops during sporogony; it is infectious for next host and usually initiates an asexual cycle of development.

Stenoxenous parasite A parasite having a narrow host range.

Stercoraria Infective trypanosomatidae that develop in the posterior part of the insect gut (**posterior station**) and emerge from the vector with feces that contaminates bite wound.

Sterile immunity An immunity persisting after the host has lost its parasites.

Strobiloercus Type of cysticercus (**metacestode**) in which there is some evidence of strobilization.

- Superinfection** A second infection of a host that already is infected by the same species of parasite.
- Sylvatic** Existing normally in the wild, as opposed to in domestic settings. (Similar to pastoral.)
- Symbiosis** The living together of different species of organisms.
- Symbiote** The smaller of two organisms living together in symbiosis. (The larger is called the **host**.) Also called symbiont.
- Synergism** Cooperative action producing an effect greater than the sum of the two effects taken independently.
- Syngamy** Sexual reproduction by fusion of male and female gametes either attached or lying together within a cell membrane.
- Temporary parasite** Parasite that contacts its host only to feed and then leaves. Also called **intermittent parasite** and/or **micropredator**.
- Teneral** Adult arthropod that is newly emerged; exoskeleton is soft and organism is weak.
- Tetrathyridium** Metacystode of *Mesocestoides* spp.
- Tolerance** In the immunologic sense, an induced state of unresponsiveness to a specific immunogen.
- Tracheal system** Cuticle-lined tubes for respiration in insects and acarines; opens to outside via spiracles.
- Transport host** An organism that merely carries the nondeveloping parasite to the next host. Also called **paratenic host**.
- Trophozoite** The motile feeding stage of Protozoa. Also called the **vegetative stage**.
- Urban** Peculiar to environment of human beings, as opposed to that typical of wild animals.
- Uterine bell** Structure in female thorny-headed worms (acanthocephalans) that “sort” fully developed, shelled embryos from undeveloped ones; undeveloped ones retained in worm’s body whereas those that are mature are released.
- Vagabond’s disease** Condition of darkened, thickened skin which results from longstanding infestation of body with lice, *Pediculus humanus humanus*.
- Vector** Any agent that transmits a disease organism. In a more restricted sense, some authors define as: an essential intermediate host, usually an arthropod, in which the parasite undergoes a significant change.
- Vermiform** Wormlike in structure.
- Virulence** The capacity to damage the host; actual damage may be modified by host defense mechanisms.

Winterbottom's sign Swollen lymph nodes at the base of the skull; often seen in human beings with African sleeping sickness.

Xenodiagnosis A method of diagnosis in which an uninfected vector is fed on a suspected host and is later examined for the presences of the parasite in question.

Xiphidocercaria Cercaria with a stylet associated with the oral sucker.

Zoonosis A disease or infection that is naturally transmissible between animals and human beings; in the broad sense, it includes any animal, but most studies of zoonoses (plural) involve only diseases of vertebrates.