

Cannabis Aphid

Cannabis aphid (*Phorodon cannabis*) is found on the leaves and stems of *Cannabis*. Cannabis aphid is a pale-colored insect that occurs on leaves and stems. Indoors, they are often pale yellow, but they range from light green, to pale pink, to light brown.

Both wingless and winged forms occur. Some dark spotting occurs on winged forms. Wingless forms lack this patterning but may have pale striping running along the top of the body.

Cannabis aphid feeds on fluids of the plant phloem, which it extracts through its "piercing-sucking" mouthparts. Very little, if any, injury occurs to cells from this feeding, so there are no symptoms on leaves of white flecking or surface scarring, such as is produced by spider mites or thrips.

Damage is caused by the loss of plant fluids. When high numbers of aphids are present and sustained this can cause reductions in plant vigor that can result in slowed growth, wilting, and leaf yellowing.

As cannabis aphids feed, they also continuously excrete a sticky fluid, known as **honeydew**. This is produced in the form of tiny droplets which drop onto leaf surfaces below where it can be noticed as small shiny spots. This excreted honeydew can be an excellent diagnostic sign for detecting cannabis aphid infestations.

As cannabis aphids grow they must periodically shed their external "skin" (exoskeleton) and as they produce a new and larger exoskeleton for the next, larger life stage. These "**cast skins**" will collect around colonies of aphids and often drop onto leaves below an aphid colony. Along



Wingless forms of cannabis aphid.



A mixture of winged and wingless form cannabis aphids.



The white objects are "cast skins" of cannabis aphid. These are shed when the aphid molts to a new, larger stage and often collect on the leaves below the colony.

with honeydew, the cast skins can be an excellent diagnostic sign for detecting cannabis aphid infestations.

Cannabis aphid is only reported to develop on cannabis. Therefore, where cold winters prevent survival of live cannabis plants this insect will also not survive outdoors between growing seasons. It will be sustained only on plants where there is year round production on protected indoor-grown plants. Indoor facilities may potentially be infested in late summer from winged aphids originating from outdoor-grown crops of cannabis. However, the most likely route of infestation is through the introduction of infested plants or cuttings.

Cannabis aphid reproduces asexually - only females are present and they hatch their eggs internally giving live birth to genetically identical daughter aphids. As aphids feed and develop, they will periodically molt, discarding their old exoskeleton (cast skin) while growing into a new, larger one. The ultimate adult form is normally wingless, but some are winged and winged stages may be particularly common to see in late summer.

Biology of cannabis aphid is very little studied. Presumably it is fairly typical of most other aphids, which can become mature adults within a couple of weeks or so after birth. (Development is always strongly related to temperature.) Adult females may give birth to perhaps 1-5 young per day for their remaining life, which likely will normally be short, perhaps a 3-4 week maximum. Where natural enemies are present, aphid survival will average a much shorter period.

In outdoor plantings there are normally numerous natural enemies (e.g., lady beetles, flower flies, green lacewings, parasitic wasps) that limit aphids, of all species, to levels that do not produce significant plant injury. In indoor planting these natural enemies are normally not present, unless introduced.



Two of the more common natural enemies of cannabis aphid. (Top) Lady beetle larva feeding on aphids. (Bottom) An "aphid mummy" (left) this is produced when a cannabis aphid is parasitized by a tiny wasp that develops within the aphid body. A healthy, young stage cannabis aphid is on the right.

Cannabis aphid is very similar in appearance to **hop aphid**, *Phorodon humuli*, and can only be distinguished by closely examining, under a microscope the area at the front of the head. Hop aphid is a common species found on hops in North America and it is also reported to develop on *Cannabis*. Hop aphid has a life cycle that involves alternating between different host plants through the year, with certain *Prunus* species (cherries, plums) serving as the hosts on which it survives (as an egg stage) between outdoor growing seasons. Green peach aphid (*Myzus persicae*) and bean aphid (*Aphis fabae*) are among the other aphids that have been reported as feeding on hemp, but these have not yet been confirmed from hemp in Colorado.

Rice root aphid (*Rhopalosiphum abdominalis*), which develops on roots of Cannabis, has been noted to be a common species in Cannabis grown as indoor production. This is an unusual species in that it develops on roots, and can thrive in very moist conditions, including hydroponic culture. Rice root aphid is discussed in a separate section.

Hemiptera: Aphididae