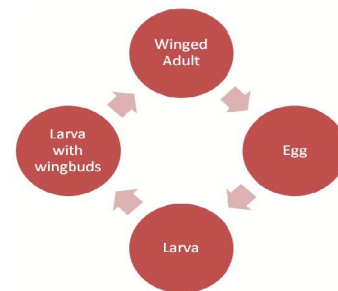


Hemiptera–Leafhoppers & Planthoppers

Suborder Auchenorrhyncha (includes cicadas, spittlebugs, treehoppers)

Life Cycle--Gradual metamorphosis (sometimes called incomplete or simple). Winged adults lay eggs. Larvae (nymphs) look more and more like adults as they grow and molt. Wings begin as tiny wingbuds on larvae and gradually grow larger and larger until fully developed and functional on adults. Cicada metamorphosis can take up to seventeen years.



Adults--Wedge-shaped or teardrop-shaped from above. The wings are held like a tent over a narrow body, the peak of the tent running down the center of the back while the sides slant downward. The wings of planthoppers are more sharply peaked than other hoppers. Wings are membranous (e.g., cicadas) to leathery. In most the pronotum is unremarkable, but in treehoppers the pronotum (a protective plate between the head and wings) is enlarged and often pointed giving them the appearance of thorns. Leafhoppers are extremely agile and can move with equal ease either forwards, backwards, or sideways like a crab. This crabwise motion distinguishes leafhoppers from most other insects. All hoppers can jump to escape danger or to move to another plant, making them very difficult to control. The enlarged hindlegs are usually positioned out of sight beneath the body, poised for jumping. The short, threadlike antennae are usually invisible without extreme magnification. *(Click images to enlarge or underlined captions for more information.)*



[Teardrop-shaped from above](#)



[Wedge-shaped](#)



[Wings held like a tent over the body](#)



[Enlarged hind legs](#)



[Antennae under eye almost invisible](#)



[Planthopper wings meet in a sharp peak](#)



[Treehopper with enlarged thorn-like pronotum](#)



[Some adults are minuscule](#)

Eggs--Cicadas use their ovipositor to cut into twigs and lay their eggs in shredded bark. Some hoppers also lay their eggs in the same way, by slicing into plant tissue, but they are so tiny that both the eggs and the damage are hard to find and hard to see.

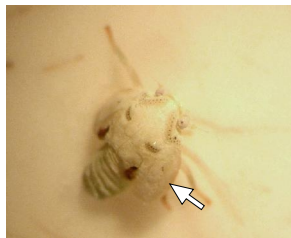
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Larvae (Nymphs)--Look similar to adults. After each molt, the larvae look more adultlike and the wings are larger and more developed than the previous instar (the stages between molts). In cicadas, larval stages can last seventeen years. Front legs of cicadas are enlarged for digging, while hoppers have enlarged hindlegs for jumping. Eyes prominent. Like the adults, leafhopper nymphs can move in a telltale sideways, crabwise motion. Spittlebug nymphs are covered after their second molt in spittle, while planthopper nymphs are often covered in white cottony filaments. The short, threadlike antennae on all are usually invisible without extreme magnification. *(Click images to enlarge or underlined captions for more information.)*



[Larvae are usually tiny](#)



[Wingbuds](#)



[Big eyes](#)
[Threadlike antennae](#)



[Enlarged hind legs](#)



[Spittlebug nymph](#)
[in frothy spittle](#)



[Cast skins mixed](#)
[with white filaments](#)
[from planthoppers](#)



[Cicada nymph](#)
[ready to molt](#)
[into adult](#)



[Molted cicada skin](#)
[Note: enlarged](#)
[front legs](#)

Pupae--None. All go through gradual metamorphosis. Each larva (nymph) looking more and more adultlike.

Hemiptera–Leafhoppers & Planthoppers

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Damage--Both adults and nymphs have piercing/sucking mouthparts. They pierce plant tissues and suck out juices, sometimes transmitting diseases, such as, aster yellows. They do NOT make holes. Damage on leaves may appear as white or yellow stippling, distortion, discoloration, or shriveling. Leaf drop may also occur. Feeding of some species causes stippling) on the upper leaf surface along the midribs and larger veins. Cicadas and spittlebugs are xylem feeders, so produce no honeydew. Cicada feeding damage is negligible. Leafhoppers, treehoppers and planthoppers are mostly phloem feeders and so produce honeydew. [Sooty mold](#) may also be present growing on the honeydew. However, some leafhoppers feed on cell contents, removing the chlorophyll and causing a condition called hopper burn. Cicadas and hoppers use their ovipositor to slit plant tissue into which they insert their eggs. Ovipositor damage of cicadas is usually on the underside of twigs; ovipositor damage of hoppers is usually too small to notice. (Click images to enlarge or underlined captions for more information.)



[Stunted, distorted growth](#)



[Stippling along midrib](#)



[Typical feeding damage](#)



[Hopper burn resembles scorch](#)



[Spittlebugs feed & hide beneath spittle](#)



[Cicada ovipositor wounds in underside of twigs](#)



[Hole left behind by cicada emergence](#)



[Vectors aster yellows](#)

Comments--Formerly classified in the order Homoptera.