



# A Guide to Mosquitoes Biology



Mosquitoes have four distinct life stages. The egg, larval and pupal stages are aquatic, and the adult stage is terrestrial. Mosquito eggs are deposited either directly onto the water surface or onto an area that will later become flooded. After hatching, the larvae undergo four growth stages, called instars. During this time they consume microorganisms, algae, or organic matter. They can often be found at the water surface, but when disturbed, exhibit a distinct movement that give them the name “wrigglers”. At the end of the fourth instar, larvae undergo metamorphosis and become pupae. The pupal stage is a non-feeding stage, and it is where the transformation into an adult mosquito occurs. Pupae exhibit a distinct movement in the water, giving them the name “tumblers”. The aquatic stages may last from 5-14 days, or longer, depending on temperature and mosquito species. After emergence, the adult females seek a blood meal, which is digested and used to develop her eggs. A typical adult mosquito may live 2-3 weeks, but some species may live for a few months.



Mosquitoes may be arranged into groups based on various biological and ecological factors. Examples include host preference (the type of host upon which an adult feeds), larval breeding areas, and egg laying strategies. Aedes mosquitoes usually bite mammal hosts and deposit their eggs singly in areas that will flood, either on vegetation or soil. Their larval breeding sources are quite varied, and may include man made containers, tree holes, marshes, or depressions in wooded areas. Most Culiseta mosquitoes prefer mammal blood and deposit their eggs in clumps or “rafts” of 50-200 eggs. They prefer fresh water and can be found in marshes, wooded areas near creeks, or often in back yards. Anopheles mosquitoes are mammal biters and lay their eggs individually on the water surface, often preferring fresher water and algae. Culex mosquitoes may exhibit a wide preference for host blood. Although the majority prefer bird blood, they occasionally will feed on mammals and some are strictly reptile/amphibian feeders. Like Culiseta, this group deposits eggs as rafts. Breeding sources are extremely varied and include open marshland, agricultural areas, storm drains, canals, and sewer ponds.



# MOSQUITO LIFE CYCLE

