

Mosquitoes

Terrestrial Macroinvertebrates

- Members of 3,600 species of small flies. Culicidae (Latin culex meaning gnat). Spanish/Portuguese for "little fly".

- Aedes vexans - most common species in Minnesota; aka Summer Flood Water Mosquito

-Description: slender segmented body, one pair of wings, one pair of halteres, three pairs of long hair-like legs, and elongated mouth parts.

-Life cycle- ELPA. After a blood meal; female lays 100-300 eggs

-EGG; Hatches within 48 hours after coming into contact with water

-LARVA; Live in water and feed on algae and microorganisms. Siphon on one end to breathe (surface). Shed four times (Instar). After fourth instar the larvae shed their skin and emerge as a pupae.

-PUPA: Does not feed (24-48 hours). Floats on the surface and uses two tracheae to breathe. When ready, the pupa sheds the skin and emerges out of water as a mosquito.

World impact: By transmitting diseases, mosquitoes cause the deaths of more people than any other animal taxon: over 700,000 each year. Death toll of humanity is estimated to be between 50% to a more conservative estimate of 5%

10 fast facts:

- 1) Cannot function properly when the temperature is below 50 degrees Fahrenheit; most active between 60-80 degrees.
- 2) Morphology: Wings are scaled, At rest, they hold their first pair of legs outward.
- 3) Adult mosquitoes usually mate within a few days after emerging from the pupae. The males form large swarms, usually around dusk, and the females fly into the swarms to mate.
- 4) Males live for 5-7 days and feed on nectar and other sources of sugar. After obtaining a full blood meal, the female will rest for a few days while the blood is digested and the eggs form. Once the eggs are laid, the female resumes host-seeking
- 5) Antennae are specialized. Compound eyes. Can fly for 4 hours, traveling up to 7.5 miles in a night. The abdomen can hold three times its weight in blood.
- 6) Feeding preferences typically include: those with type O blood, heavy breathers, an abundance of skin bacteria, high body heat, and pregnant women. Also, a heritable, genetically-controlled component. Females hunt hosts by carbon dioxide output (breath and sweat) and visual detection.
- 7) Crepuscular- (dawn or dusk feeders) active at twilight.
- 8) Mouth parts(6): Labium (sheath for the other parts); 2 mandibles, 2 maxillae, the hypopharynx, and the labrum. Mandibles are sharp, maxillae are blades work together to cut the skin, hypopharynx injects anticoagulant and the labrum draws the blood.
- 9) As the gut fills with blood, the stomach lining secretes a membrane that surrounds the blood. This membrane keeps the blood separate from anything else in the stomach.