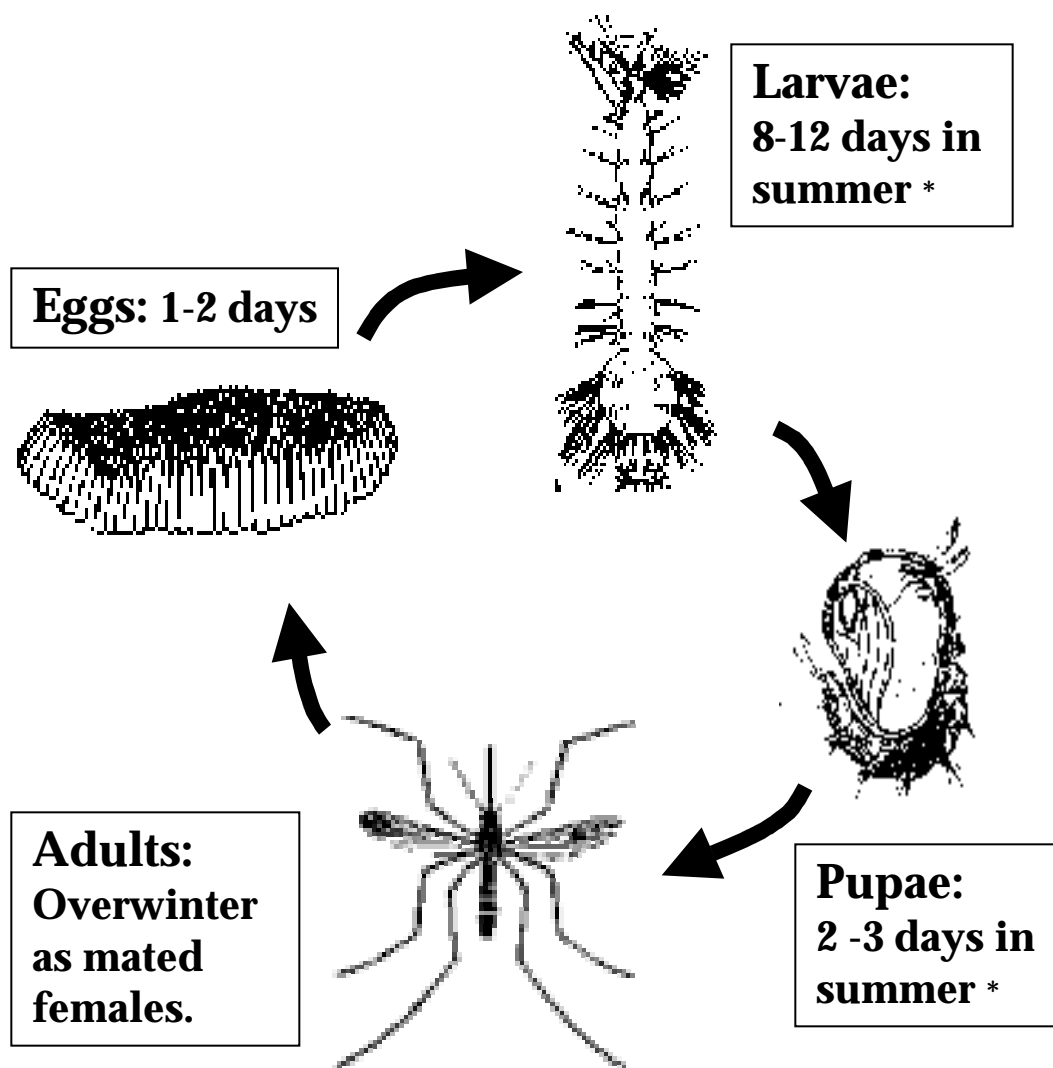


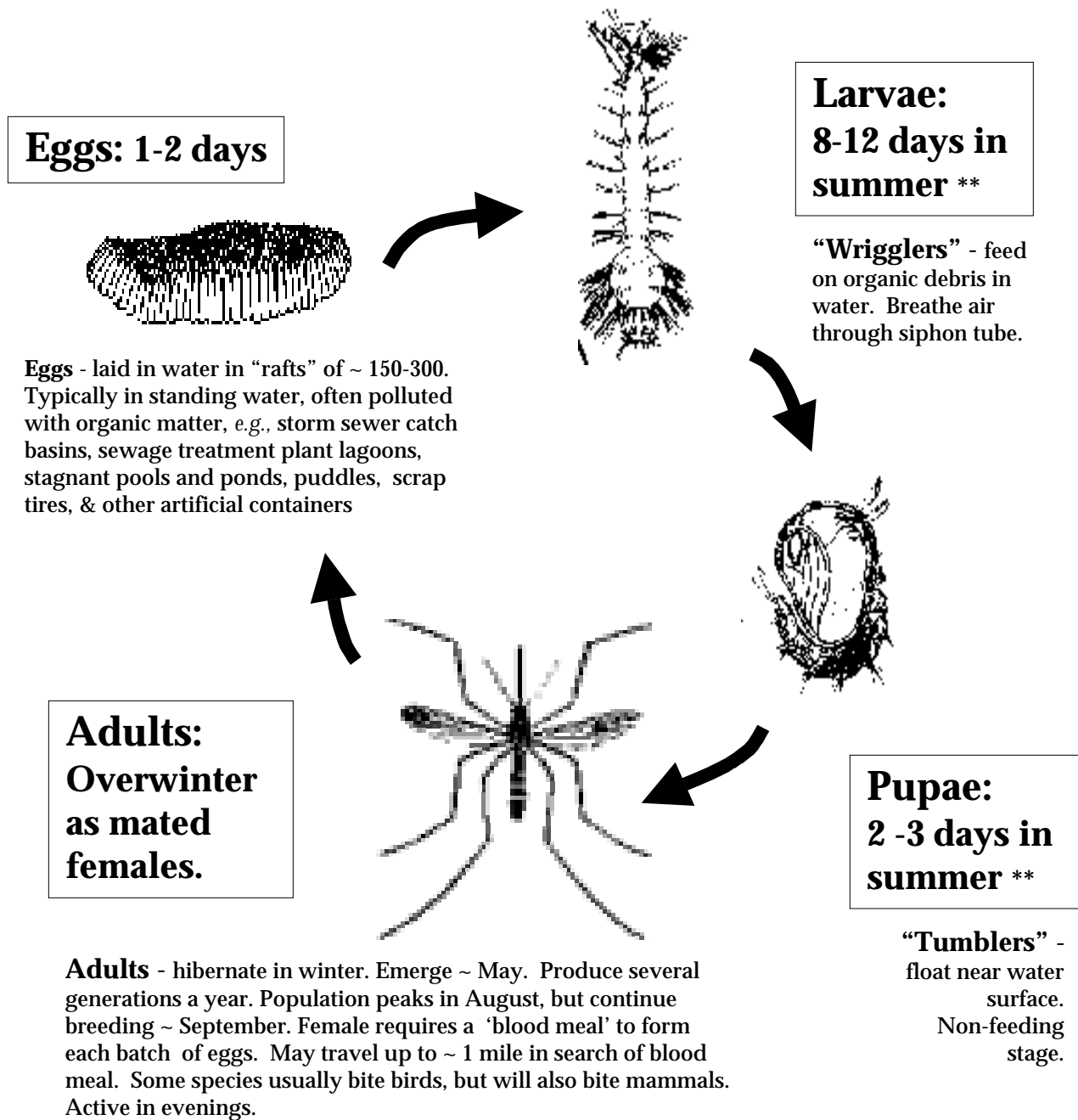
Typical Life Cycle of *Culex* Mosquitoes (Family Culicidae, Order Diptera)



*Length of life stage is temperature dependent

Typical Life Cycle of *Culex* Mosquitoes *

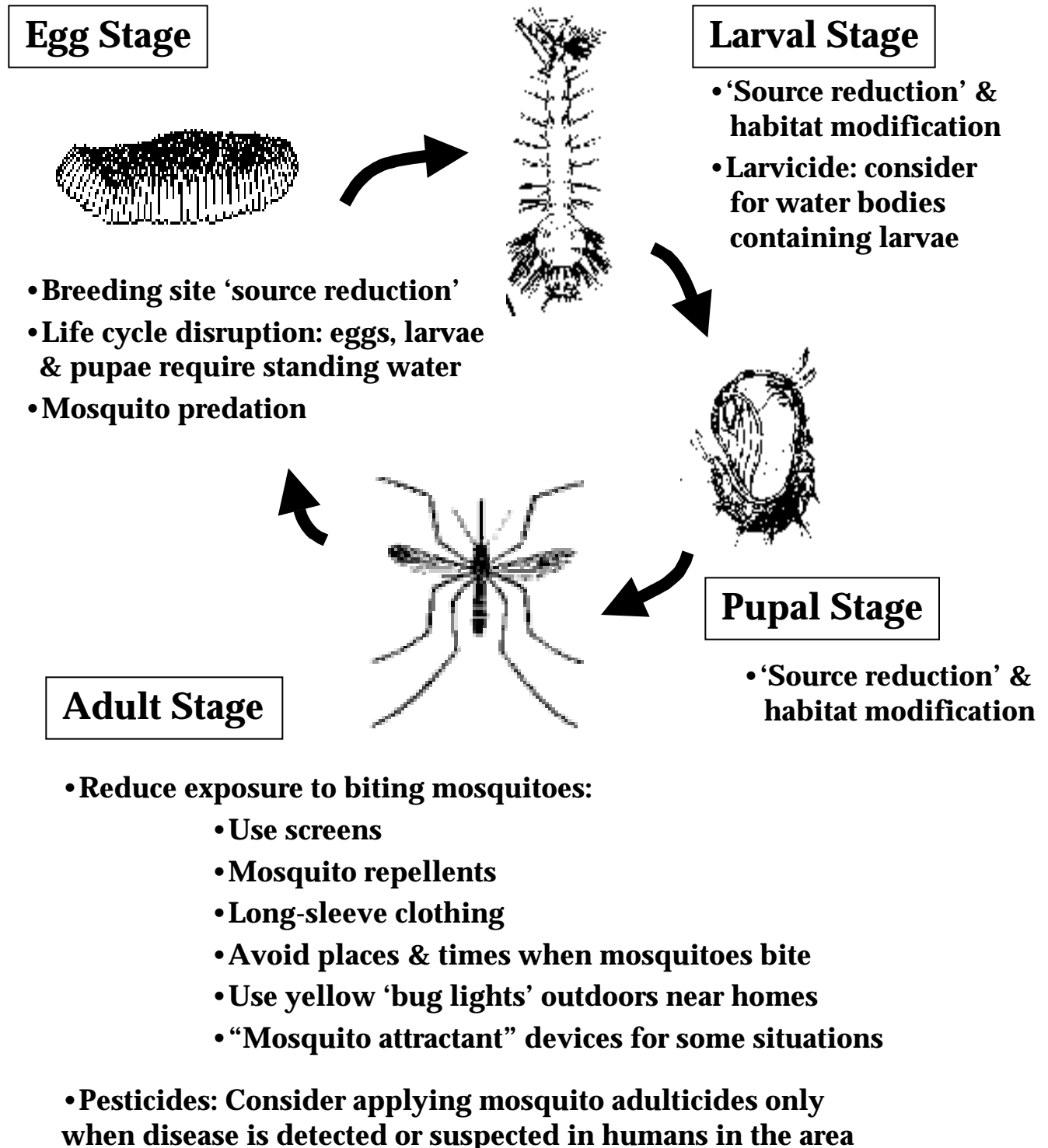
(Family Culicidae, Order Diptera)



* All *Culex* in New York State follow a similar life history that varies only in development time &/or where egg rafts are laid. *Culex pipiens*, the "northern house mosquito," breeds in polluted waters. *Culex quinquefasciatus* fills this niche in the southern US. Some other of *Culex* species breed in clean standing water.

**Length of life stage is temperature dependent

“Mosquito Hygiene” throughout Life Cycle



“Mosquito Hygiene” throughout Life Cycle

Egg Stage

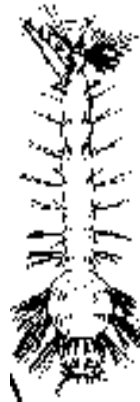


• Breeding site ‘source reduction’:

Eliminate standing water. Clean up garbage. Store tires *dry* & under cover. Fill puddles. Remove decaying vegetation & floating debris from ponds & treatment plant lagoons. Change water weekly in bird baths, other containers.

• **Life cycle disruption:** Eggs, larvae & pupae live in standing water. Keep rain gutters, roadside ditches, etc. free of debris so water can flow. Aerate ‘lily ponds’ etc.

• **Mosquito predation:** Encourage natural aquatic ecosystems. Introduce permitted fish in closed water bodies. Clear decaying vegetation from shallow water edges & construct ponds so as to facilitate predation.



Larval Stage

• ‘Source reduction’ & habitat modification (see ‘egg stage’)

• **Larvicide:** If elimination or modifications of breeding sites is not possible, consider applying larvicide to water bodies containing larvae. Only one product is permitted for use by the ‘lay person’: *Mosquito Dunks™* (a formulation of *Bacillus thuringiensis israelensis*)--sold in garden supply stores, etc.

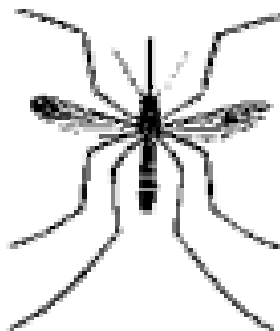
Certified pesticide applicators have several ‘reduced risk’ options including bacterial toxins specific to mosquitoes, monomolecular films that coat water bodies, methoprene insect growth regulator (IGR).



Pupal Stage

• ‘Source reduction’ & habitat modification (see ‘egg stage’)

Adult Stage



• Reduce exposure to biting mosquitoes:

- Use screens on houses and tents
- Avoid places & times when mosquitoes bite
- If in places where mosquitoes are biting, wear long-sleeve clothing
- Apply mosquito repellents to skin &/or clothing (Read label instructions & precautions prior to use. Pay attention to the type and concentration of ‘active ingredients’ in the product)
- Use yellow ‘bug lights’ -- insects don’t see the light, but people do
- “Mosquito attractant” devices (e.g., the Mosquito Magnet) for some situations

• **Pesticides:** Consider applying mosquito adulticides (pesticides that kill mosquito adults) only when disease is detected or suspected in human population in the area