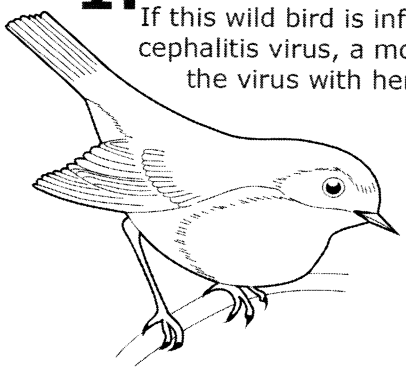
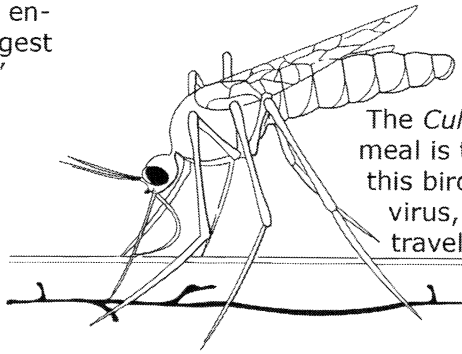
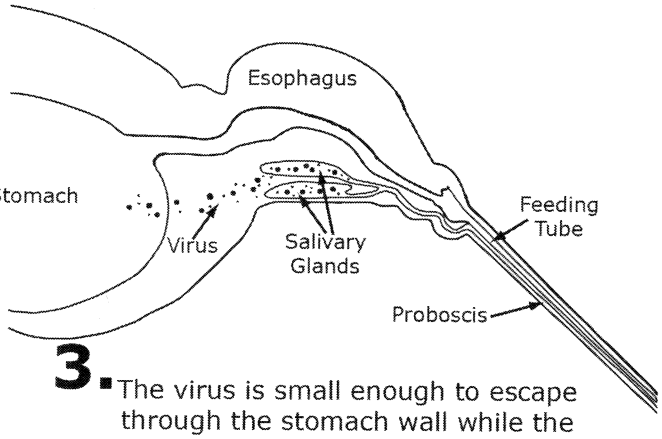
This Is How It's Done...

1. If this wild bird is infected with an encephalitis virus, a mosquito can ingest the virus with her "bloodmeal."





2. The *Culex tarsalis* mosquito's favorite meal is the blood of birds. If she bites this bird infected with an encephalitis virus, the blood with the virus will travel to the mosquito's stomach.



3. The virus is small enough to escape through the stomach wall while the blood is being digested. The virus travels to the mosquito's salivary glands where it multiplies and grows.

4. If the mosquito needs another bloodmeal 7-10 days later and bites a human, the human will get the virus from the mosquito's saliva.

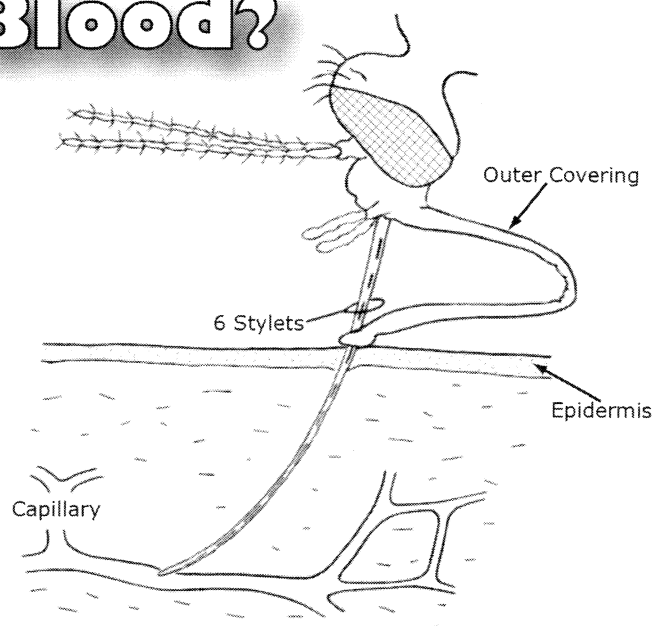
5. An infected human may become sick with flu-like symptoms

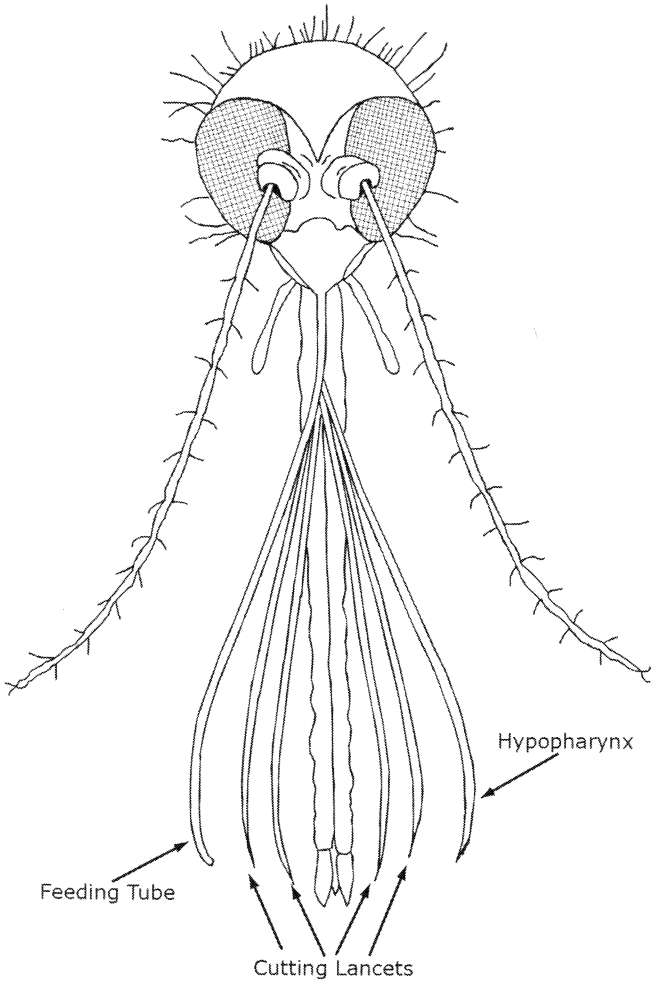
When a female mosquito sucks blood from an infected animal, that blood might contain a ***virus***. Some wild birds carry a virus that causes ***encephalitis***. The most common encephalitis viruses in the Western USA are West Nile virus, St. Louis encephalitis and Western Equine encephalits. Even though birds and mosquitoes aren't affected by these viruses, humans and other animals can get very sick and even die from them.

Mosquitoes can transmit many other diseases too, such as malaria, dengue fever, yellow fever, dog heartworm, just to name a few.

How Does the Female Mosquito Drink Blood?

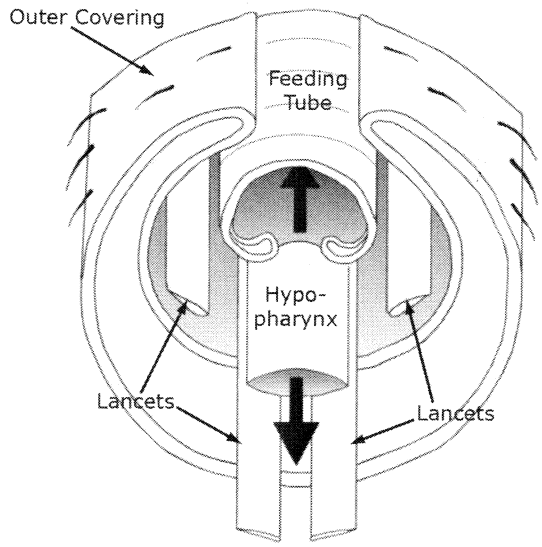
Her proboscis is inserted through the ***epidermis*** (the outermost layer of the skin) to a blood ***capillary*** (a tiny blood vessel that carries the blood between the smallest arteries and veins.) The outer covering stays on top of the skin as the 6 ***stylets*** are pushed underneath.





The four outer stylets are sharp, cutting ***lancets*** that cut through tissue, while the two tubes in the middle reach the blood supply.

Proboscis Cross-Section



As she inserts her proboscis, she injects ***saliva*** into the wound with the ***hypopharynx***. Mosquito saliva contains an ***anesthetic*** which numbs the wound. Her saliva also contains an ***anticoagulant*** which thins the blood to make it easier to suck up. She draws blood with the feeding tube upon reaching a capillary.

So, how do mosquitoes make people sick?