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FEMALE CULEX

MEDICAL ACADEMY NAMED AFTER S.I GEORGIEVSKY OF VERNADSKY CFU

DEPARTMENT OF MEDICAL UNIVERSITY

COURSE STUDENT

ABHILASHA SINGH

SCIENTIFIC LEADER

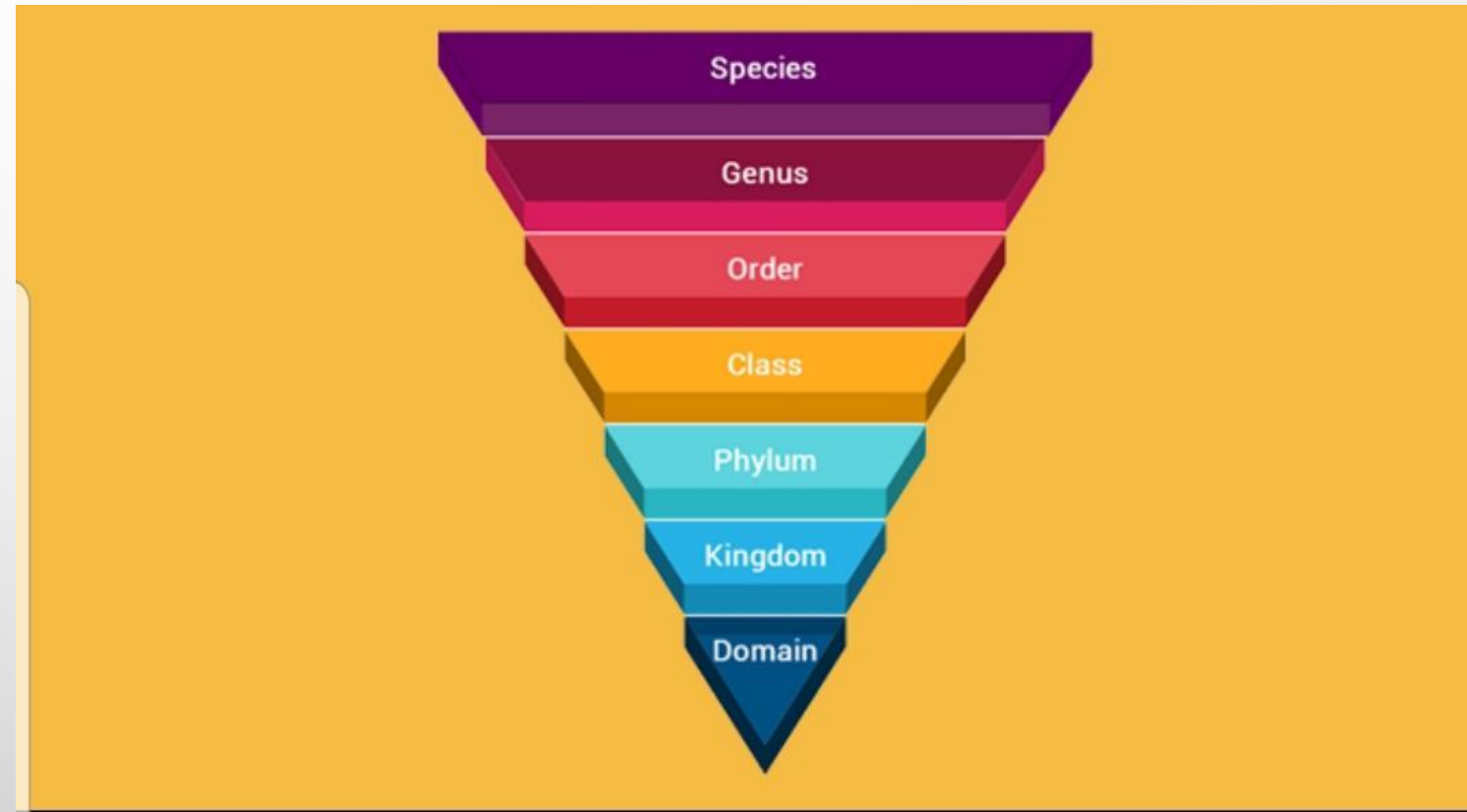
PHD SVETLANA SMIRNOVA



CLASSIFICATION

- SCIENTIFIC CLASSIFICATION

Kingdom:	Animalia
Phylum:	Arthropoda
Class:	Insecta
Order:	Diptera
Family:	Culicidae
Genus:	Culex
Subgenus:	Neoculex
Species:	C. pipiens
	Binomial name
	Culex pipiens Linnaeus, 1758



FEMALE CULEX

WHAT IS FEMALE CULEX

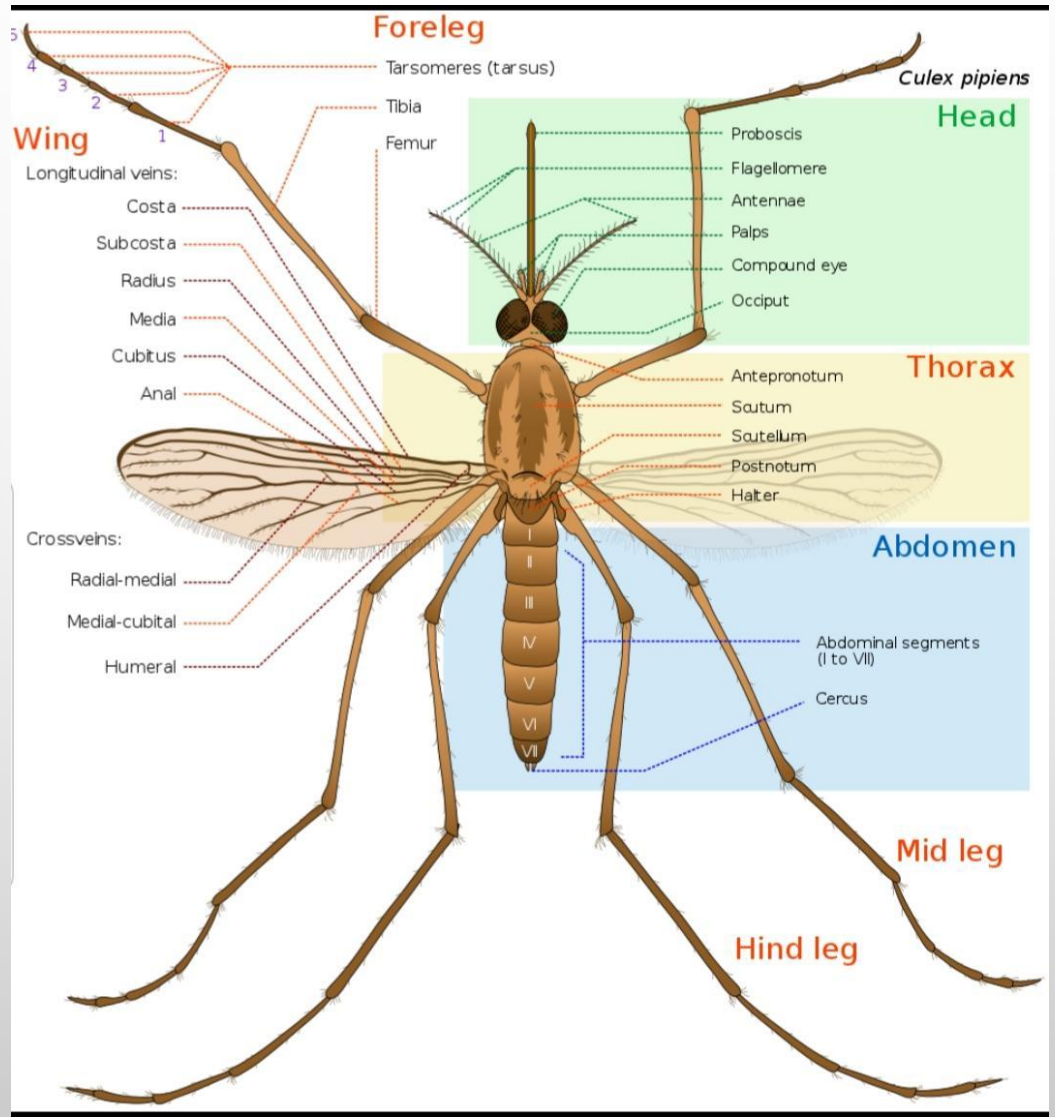
Culex is a [genus](#) of [mosquitoes](#), several species of which serve as [vectors](#) of one or more important diseases of birds, humans, and other animals. The diseases they vector include [arbovirus](#) infections such as [West Nile virus](#), [Japanese encephalitis](#), or [St. Louis encephalitis](#), but also [filariasis](#) and [avian malaria](#). They occur worldwide except for the extreme northern parts of the [temperate zone](#), and are the most common form of mosquito encountered in some major U.S.



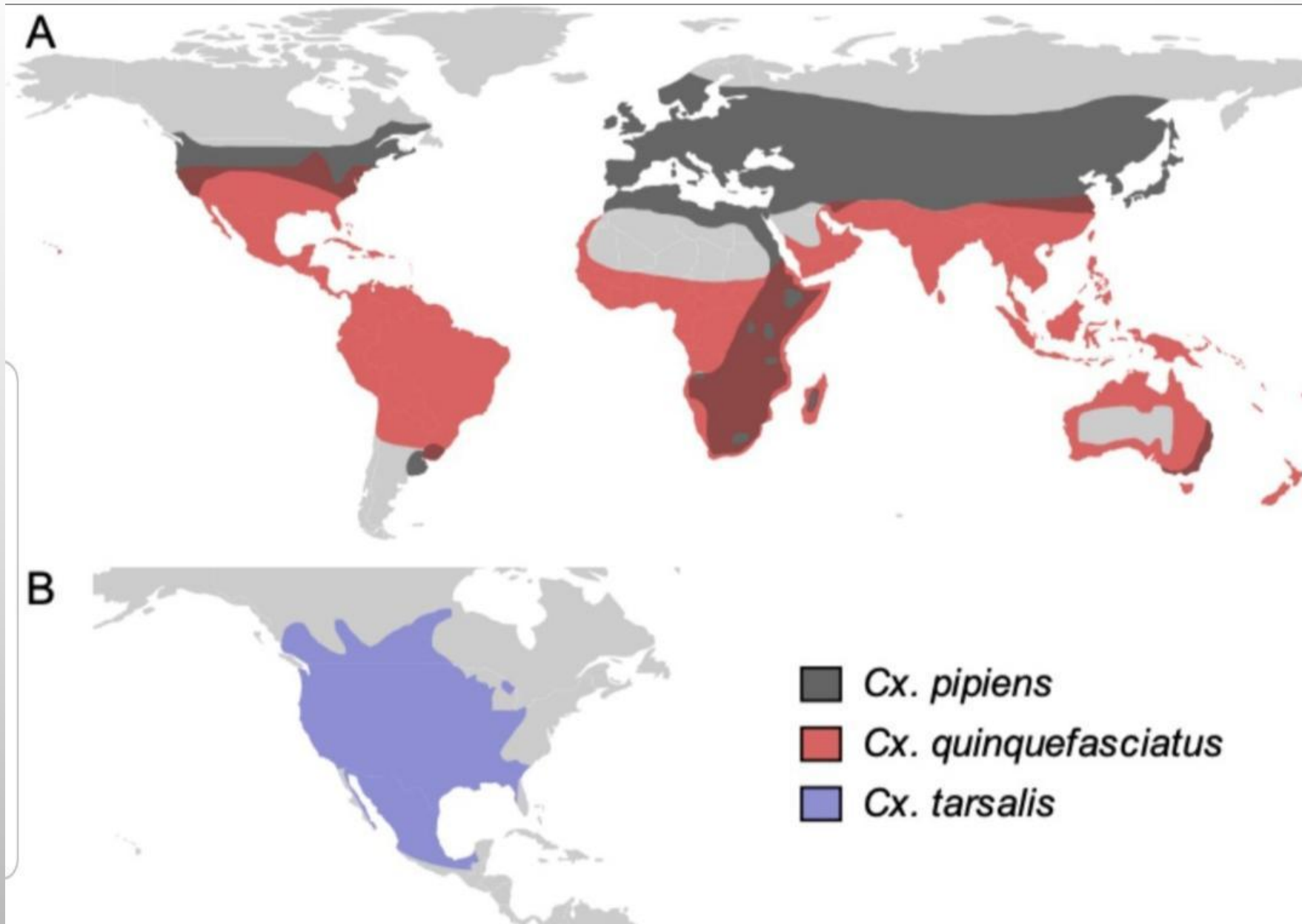
GENERAL MORPHOLOGY

Culex is a [genus](#) of [mosquitoes](#), several species of which serve as [vectors](#) of one or more important diseases of birds, humans, and other animals. The diseases they vector include [arbovirus](#) infections such as [West Nile virus](#), [Japanese encephalitis](#), or [St. Louis encephalitis](#), but also [filariasis](#) and [avian malaria](#). They occur worldwide except for the extreme northern parts of the [temperate zone](#), and are the most common form of mosquito encountered in some major U.S. cities, such as [Los Angeles](#).

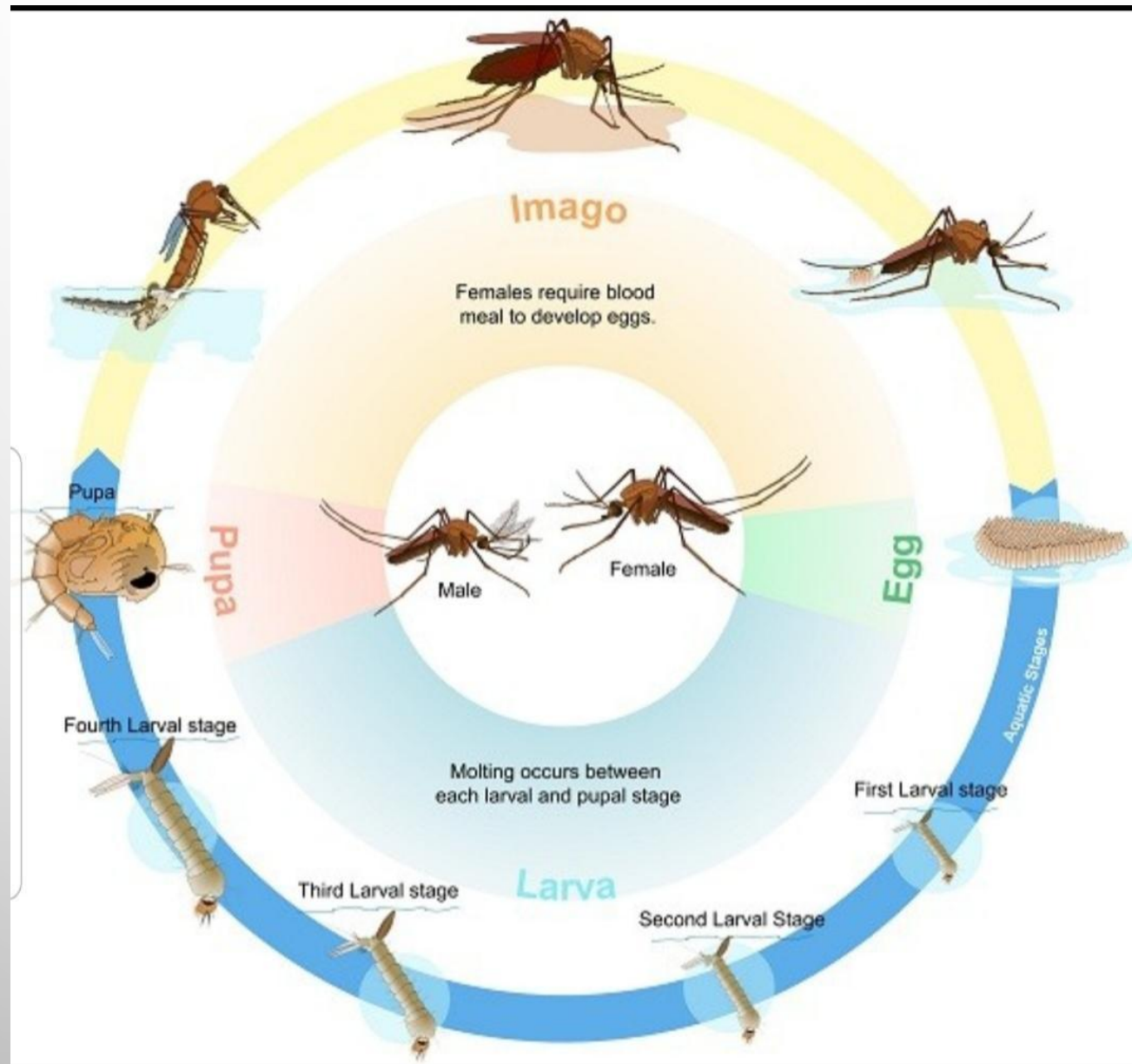




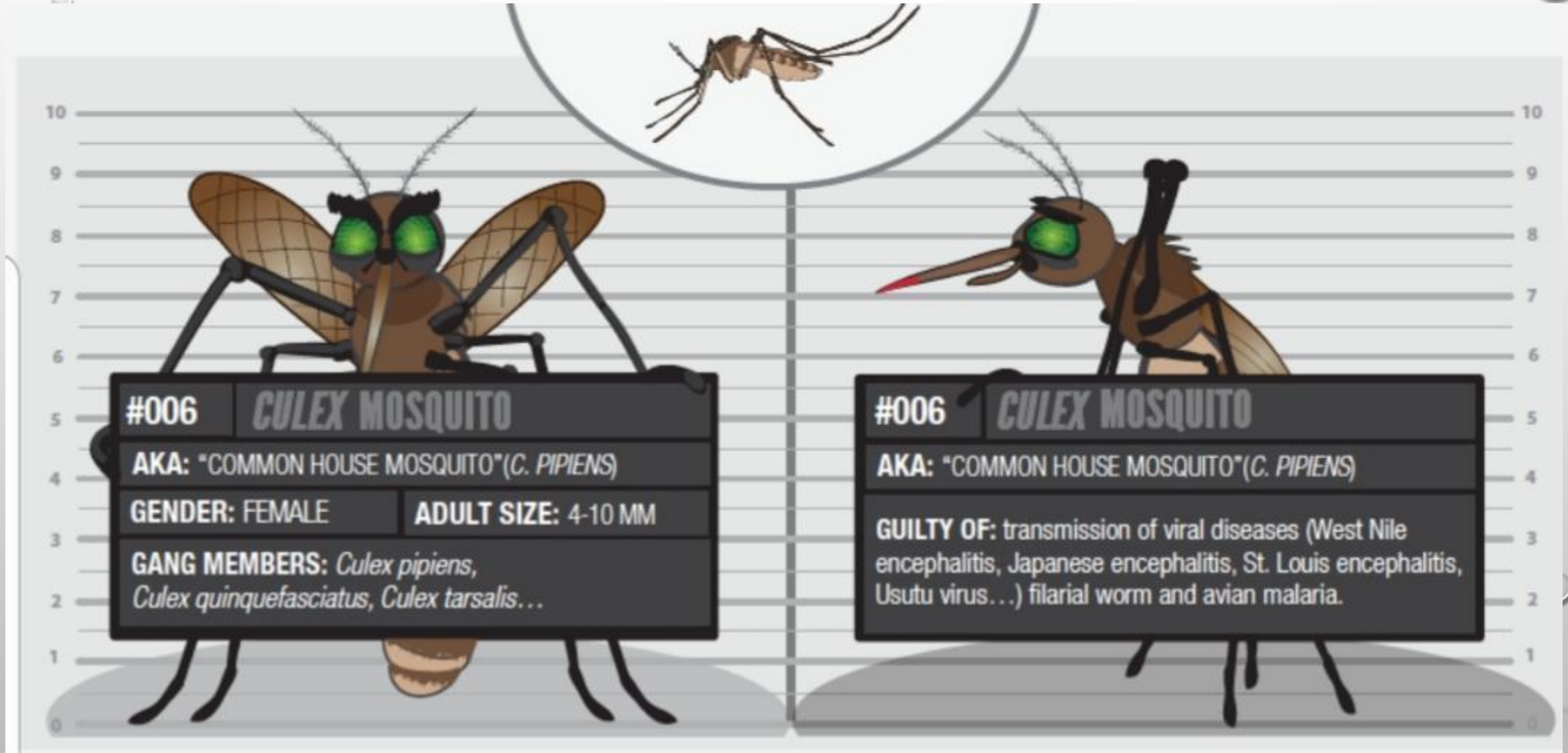
DISTRIBUTION OF CULEX



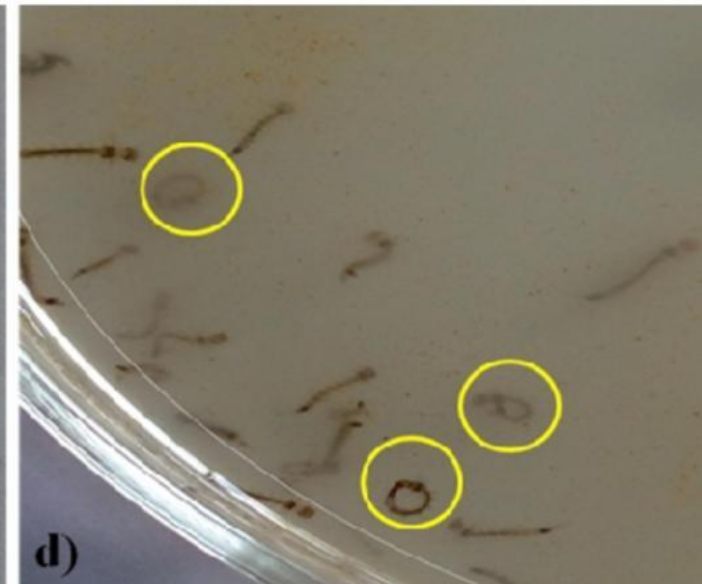
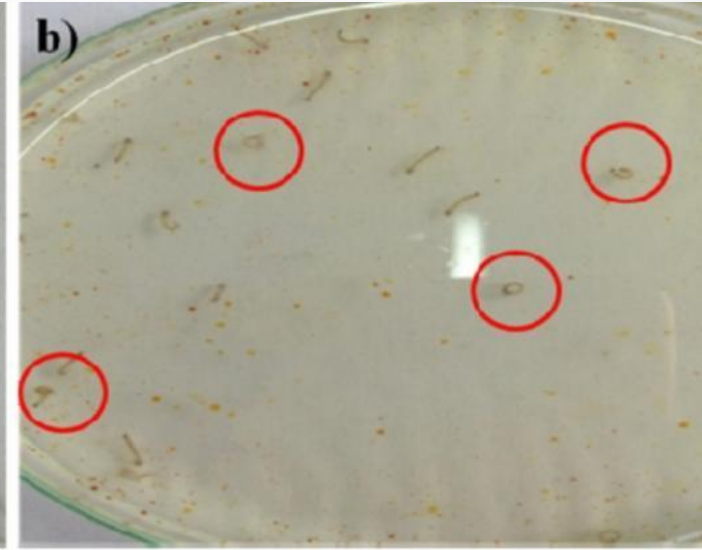
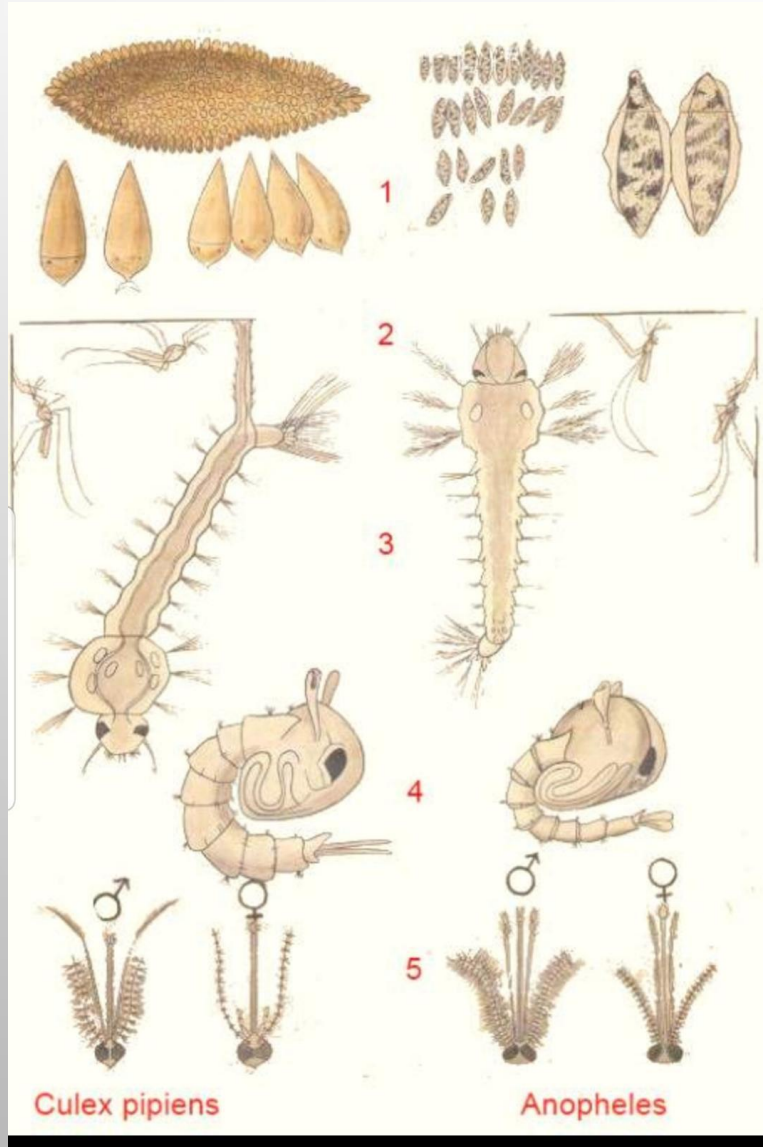
LIFE CYCLE OF FEMALE CULEX



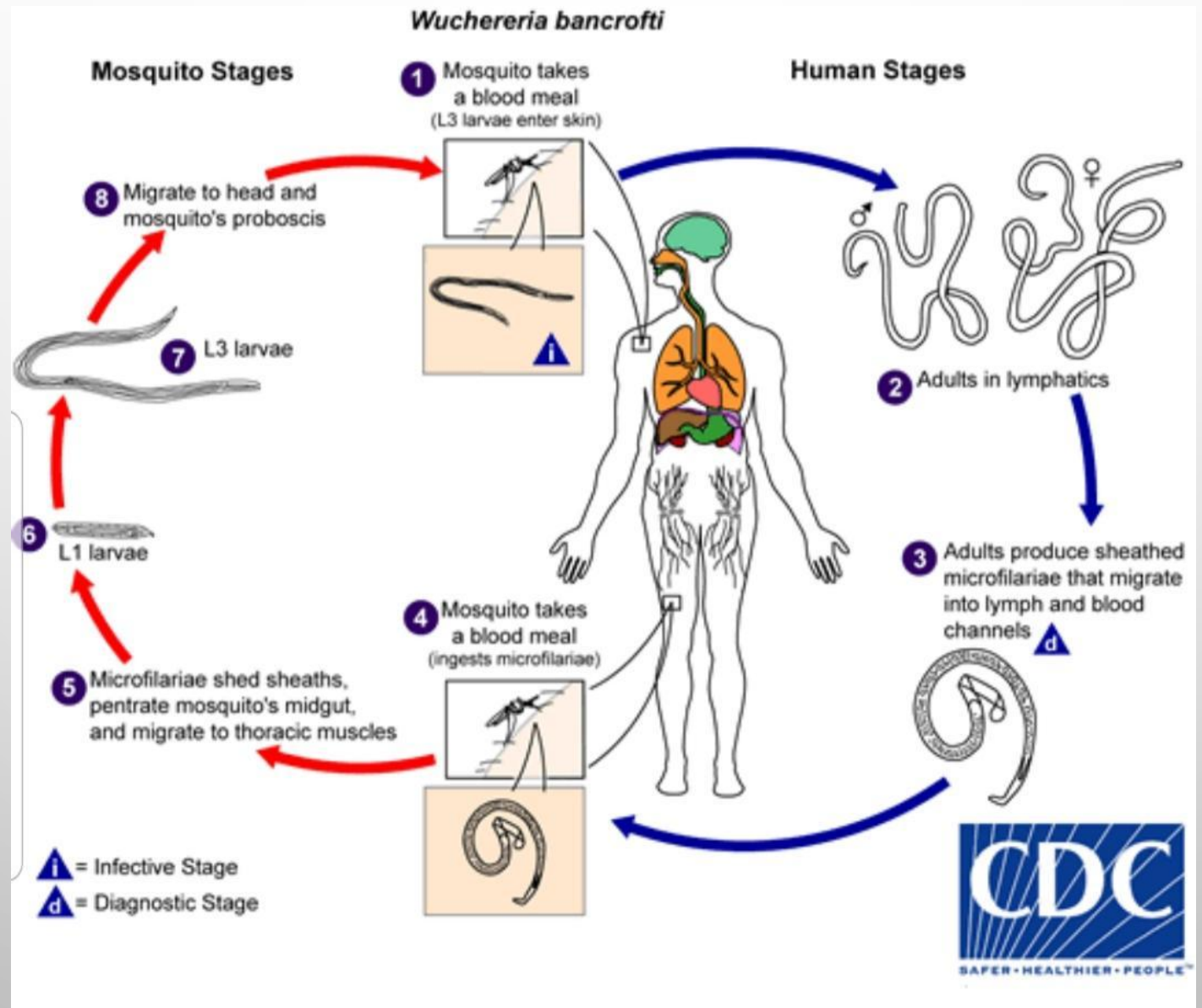
SOMETHING MORE DETAILS ABOUT THEM



DAIGRAMATIC STRUCTURE OF THEIR DIFFERENT FORMS



HOW DOES IT TRANSMIT WUCHERERIA BANCROFTI



SOME MORE FEATURES OF WUCHERERIA BANCROFTI

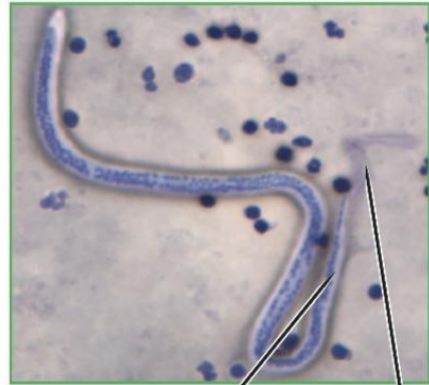
Lymphatic Filariasis

Wuchereria bancrofti
Brugia malayi

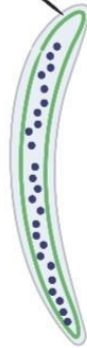


- ✓ Microfilariae are transmitted by mosquitoes.
- ✓ Larvae grow to adults in host lymphatic system.
- ✓ Females give birth to larval microfilariae, which travel to bloodstream. Can be ingested by mosquito, transferred to new host.
- ✓ Adults rely on *Wolbachia* bacteria for metabolic/reproductive functions.
- ✓ Infection can lead to chronic leg swelling. Fibrous tissue can form and block lymphatic flow; massive swellings in legs, groin.

Wuchereria bancrofti
Microfilaria



Sheath

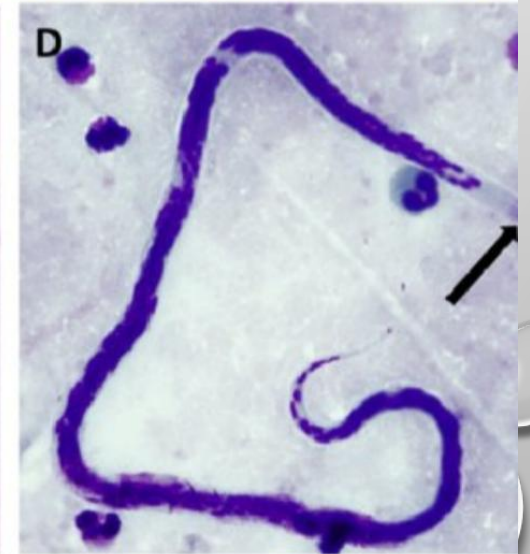
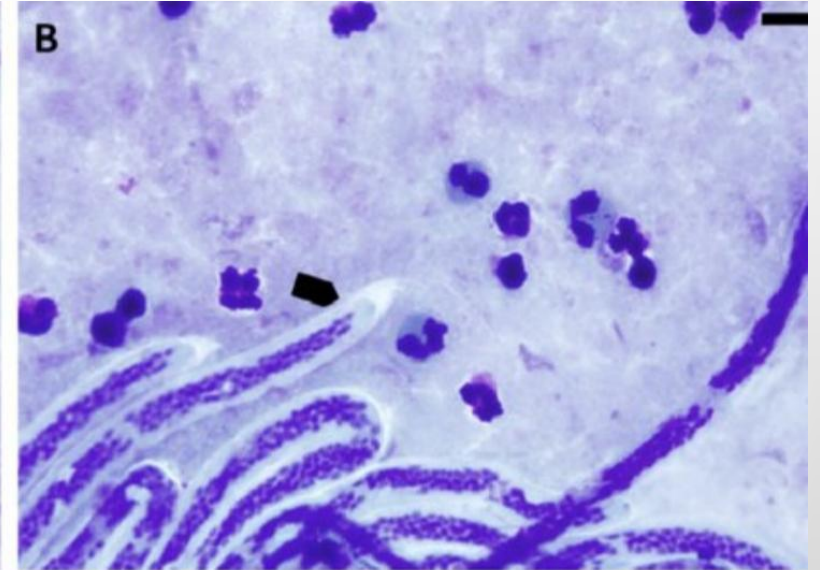
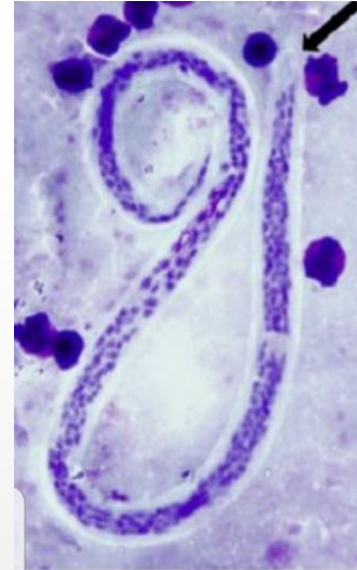


Tapered tail Sheath


Elephantiasis



Elephantiasis

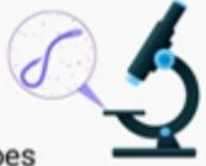


DETAILS ABOUT DISEASE LYMPHATIC FILARIASIS

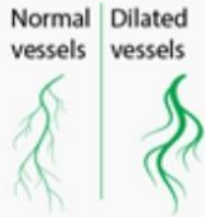
LYMPHATIC FILARIASIS 

DISEASE


Infection
Filarial parasites spread by mosquitoes



Disease
Impairs function of lymphatic vessels



856 Million people AT RISK




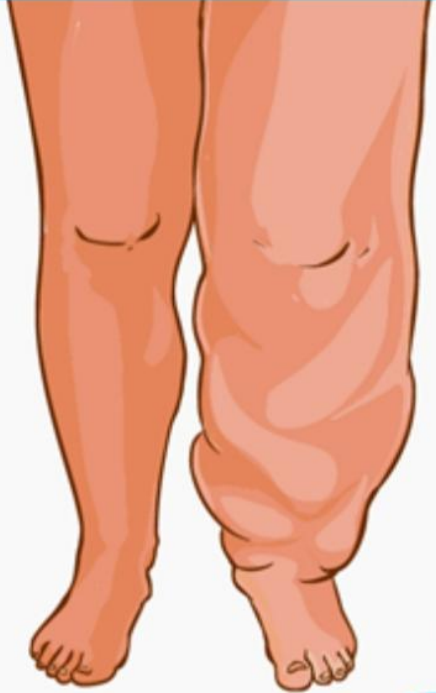
ELIMINATION

Large-scale treatment of all at-risk populations can stop spread of infection

Vector control can supplement impact of large-scale treatment

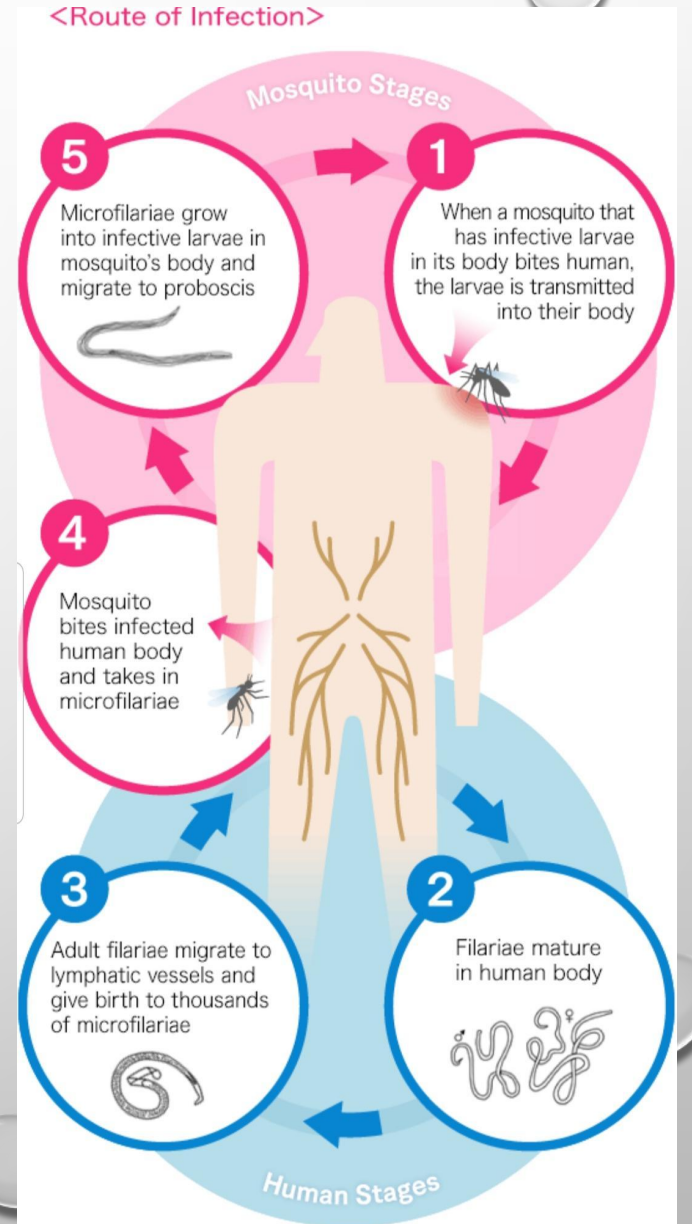
Morbidity management & disability prevention to alleviate suffering due to disease



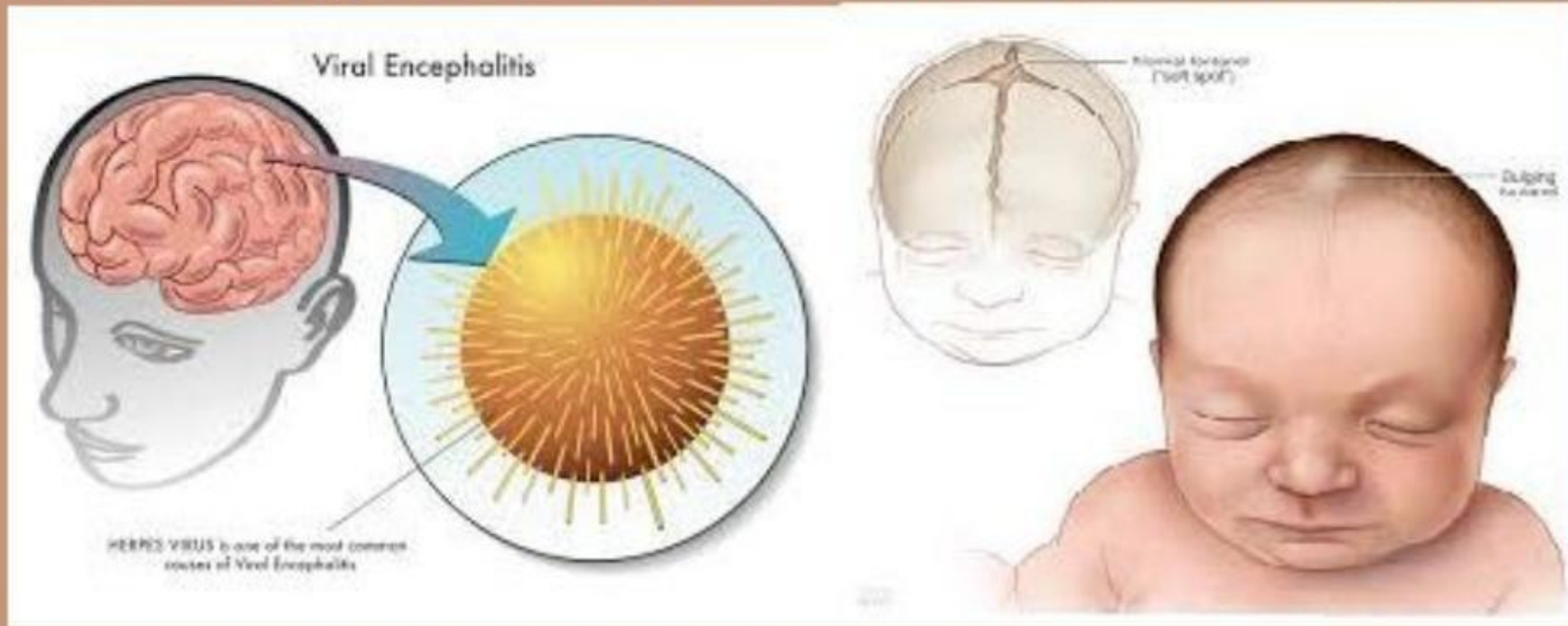


- **6.7 billion** treatments delivered (2000-2016)
- **499 million** people no longer require treatment
- Prevented or cured more than **97 million cases**
- **US\$ 100 billion** averted lifetime economic loss

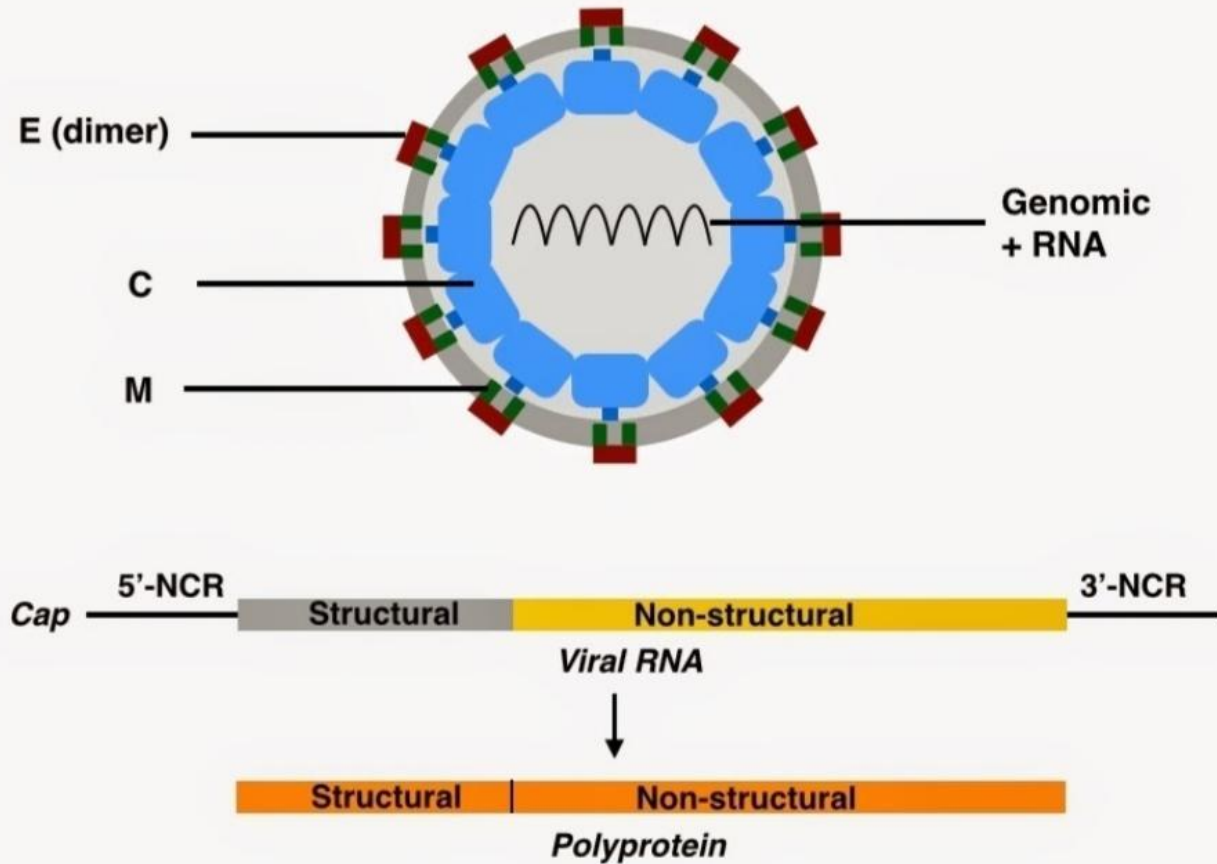
Lymphatic Filariasis eliminated as a public health problem in 10 countries



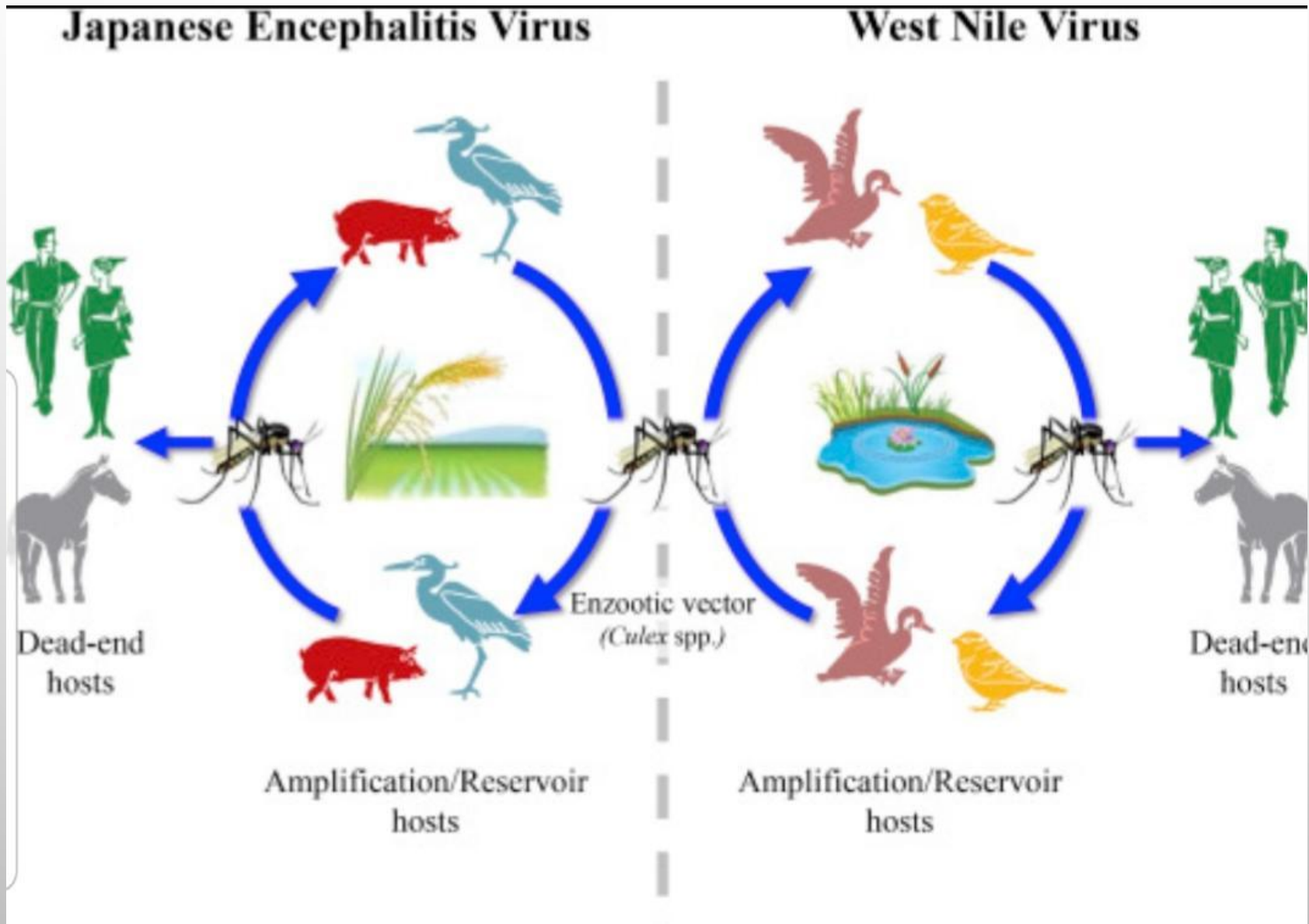
What is Encephalitis or Acute Encephalitis Syndrome?



VIRUS ENCEPHALITIS STRUCTURE



LIFE CYCLE OF VIRUS ENCEPHALITIS

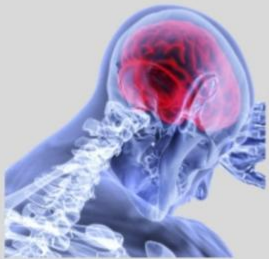


ENCEPHALITIS

Encephalitis is an inflammation of the brain, most often caused by infections.

What are the causes of encephalitis?

In the UK, the cause in over 50% of cases is unknown, despite extensive testing. Where the cause is identified, it is most likely to be the Herpes-Simplex virus, but there are a number of other viruses or bacteria that can cause encephalitis.



How is encephalitis diagnosed and treated?

Encephalitis resulting from Herpes-Simplex virus can be treated quite effectively with an anti-viral drug, but early diagnosis is important to reduce the long-term damage.

At present, there are few effective treatments for encephalitis caused by different viruses, and care mainly focuses on support and symptom management.



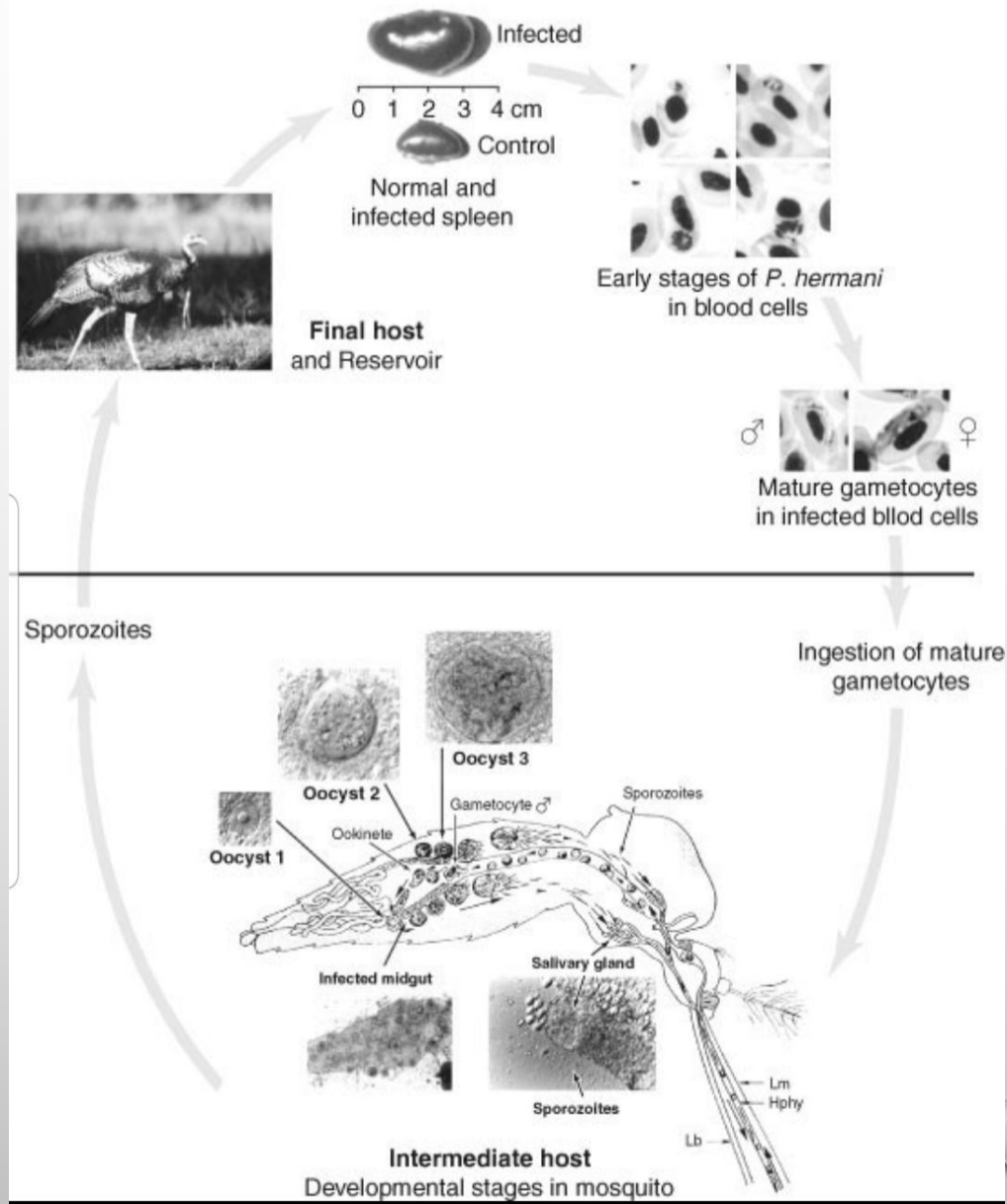
What are the effects of encephalitis?

In many cases, people will make a good recovery from encephalitis, but nerve cells in the brain may be damaged. This can lead to long-term effects, which are sometimes severe.



BIRD MALARIA

Life cycle of avian (bird) malaria



CURE AND SYMPTOMS OF BIRD MALARIA

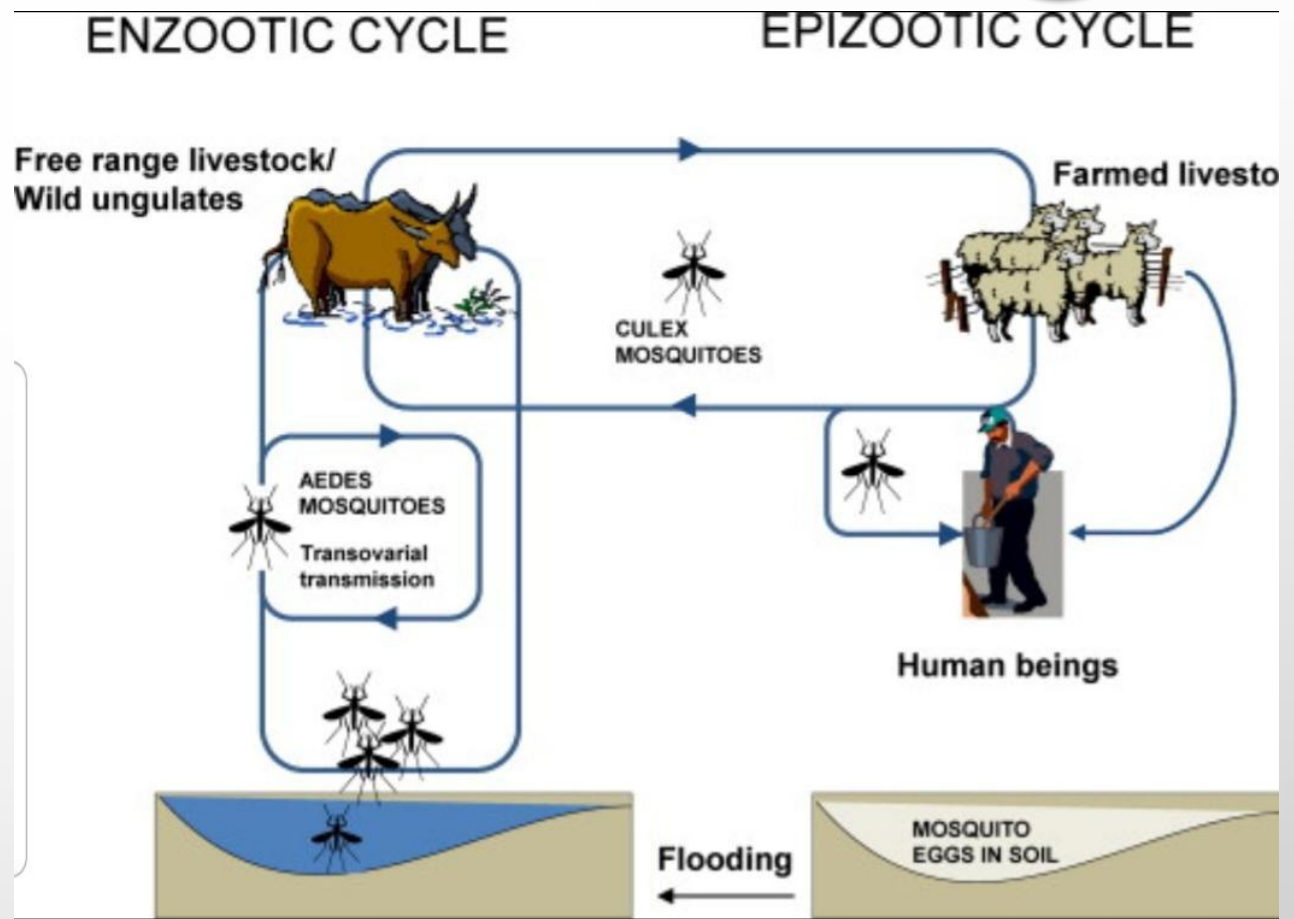
Avian malaria is most notably caused by *Plasmodium relictum*, a [protist](#) that infects birds in all parts of the world apart from Antarctica. There are several other [species](#) of *Plasmodium* that infect birds, such as [Plasmodium anasum](#) and [Plasmodium gallinaceum](#), but these are of less importance except, in occasional cases, for the [poultry](#) industry. The disease is found worldwide, with important exceptions.^[3] Usually, it does not kill birds. However, in areas where avian malaria is newly introduced, such as the islands of Hawai'i, it can be devastating to birds that have lost evolutionary resistance over time.



Rift Valley fever (RVF) is a viral zoonosis that primarily affects animals but also has the capacity to infect humans. It is transmitted by mosquitoes and blood feeding flies. In humans, the disease ranges from a mild flu-like illness to severe haemorrhagic **fever** that can be lethal.

Transmission. People usually get **Rift Valley fever** through contact with blood, body fluids, or tissues of infected animals, mainly livestock such as cattle, sheep, goats, buffalo, and camels. ... The virus can be **spread** from female mosquitos to their offspring through the eggs (vertical **transmission**).

Treatment. There are no FDA-approved **treatments for Rift Valley Fever**. Because most cases of **RVF** are mild and self-limiting, a specific **treatment for RVF** has not been established. Symptoms of mild illness such as **fever** and body aches can be managed with standard over-the-counter medications.



LINKS FROM WHERE YOU CAN LEARN MORE

<https://youtu.be/A6HbCUvGe5A>

<https://youtu.be/BBWePqINg9s>

<https://youtu.be/vVZYgkqgOew>

<https://youtu.be/m034H8De4kM>