

# # Wuchereria bancrofti

Part - 1. (zoology)  
Paper - 1st

## Introduction:-

- \* Wuchereria bancrofti is an Endoparasite.
- \* It is also known as filarial worm.

## Discovery:-

- \* The larval form of wuchereria bancrofti was first discovered by "Demarquay" in the hydrocele fluid of man in (1863.)
- \* "Joseph Bancroft" in 1876 discovered adult worms in lymphatic abscesses in patients with larvae in blood.

## Classification:-

PHYLUM → Aschelminthes  
CLASS → Nematoda  
ORDER → Filarioidea  
GENUS → Wuchereria  
SPECIES → bancrofti.

## Habit and Habitat:-

- \* It is largely confined to the tropical & sub-tropical countries of the world. However it is also occurred in India, Southern China, Japan, Central Africa & South America etc.
- \* In India, the parasite is chiefly distributed along the sea-coast and the banks of big river except Indus.
- \* It has been reported from Rajasthan, Punjab, Delhi and from many more state of India.

Size:-

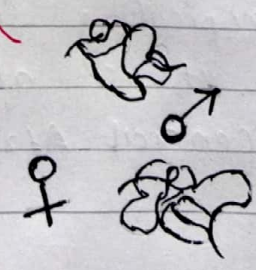
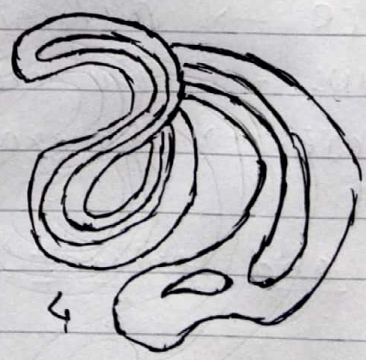
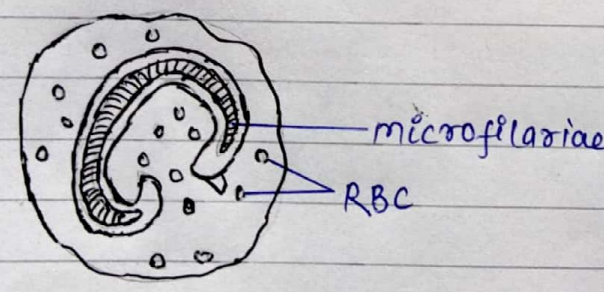
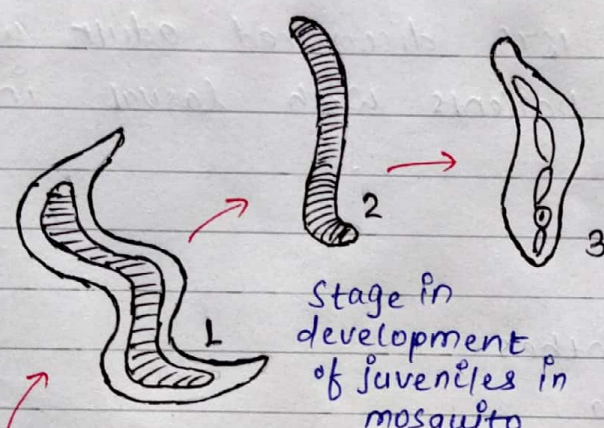
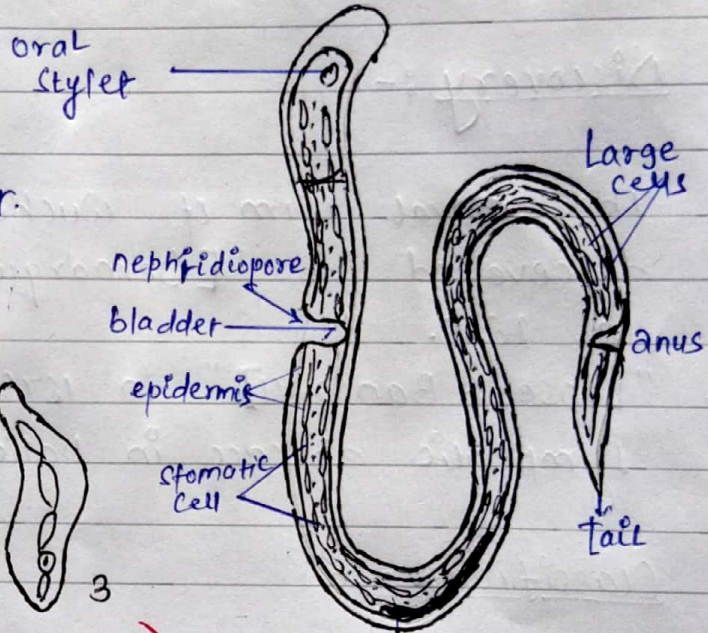
Male *Wuchereria bancrofti* → 2.5cm to 4cm long.

Female *Wuchereria bancrofti* → 8cm to 10cm long.

Colour:-

\* It is creamy white in colour.

Structure:-



adult worms (life-size) in lymphatic tissue of man.

Wuchereria bancrofti (Life cycle)

- \* It shows sexual dimorphism i.e., Male & female separate.
- \* The male *Wuchereria* consists of a curved tail in which cloaca with two unequal spicules & gubernaculum are present. While, female looks like a pointed tail. Sub-terminal anus and a gonopore just behind anterior 3rd part of body.
- \* It is an ovo-viviparous giving birth to Larvae which are called microfilariae.
- \* The microfilariae are very active and are able to move with or against blood stream.
- \* A microfilariae measures approx 290  $\mu\text{m}$  in length and 6-7  $\mu\text{m}$  in diameter.
- \* The microfilariae do not undergo further development in human body unless they are taken by secondary host i.e., female *Culex* mosquito.
- \* If these microfilariae are not sucked up by the female *Culex* mosquito, they die in a given course of time.
- \* Its life span in man is approx 70 days.

### # Life cycle in Man:-

- \* It is a Digenetic parasite means, its life cycle completes into two hosts -
  - i) Primary host  $\rightarrow$  Man (harbours adult worm)
  - ii) Secondary host  $\rightarrow$  Female *Culex* mosquito (Larval stage).

In man the fertilized ovoviviparous female worms produce Microfilariae - The Microfilariae showing nocturnal periodicity appear in peripheral blood only during night (10pm to 4am) but disappear in day time.

### Life cycle in Culex :- (Female)

The Microfilariae are sucked by mosquito along with human blood and reached the stomach of mosquito. It penetrates stomach wall of mosquito to reach its thoracic muscles. In next two days they develop into "1st stage" larva. Now, it moults twice to form 3rd stage "filiform larva" which is infective to man. Then migrate into proboscis sheath of mosquito.

### Infection to man :-

The Filiform Larvae are inoculated on man skin during mosquito bite. They penetrate the skin to reach lymphatic system. In lymphatic system of man, the moult twice to form the adult worm, which matures in 12-18 months. Thus further the life cycle continues.

### Pathogenesis :-

\* It is the causative agent of filariasis or elephantiasis.

### Symptoms :-

\* It produces filarial fever, enlargement of affected part to form tumour like solidity, headache, loss of appetite and loss of weight etc.

## Prophylaxis / Controls :-

- \* Keep <sup>away</sup> yourself from mosquito bites.
- \* Destruction of larvae and adult mosquitoes.
- \* Treatment of carriers.

## Treatment / (Remedy) :-

- \* It is done by Hexozaan, Benocide, Netezine and compounds of Antimony and Arsenic are used to reduce microfilariae from circulatory system.