

**Family : Psychodidae**

**Genus : Phlebotomus**

**Morphology, bionomics, life cycle,  
pathogenesis & control.**

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# Phlebotomus :Introduction

- **Common name** : Sand flies, Owl midge
- **Host** : All domesticated animals, reptiles ,birds and man
- **Species** : *Phlebotomus argentepes* ,  
*Phlebotomus papatasi* .

# Phlebotomus : Morphology

- These are brownish moth like small sized flies.
- The piercing proboscis is short thorax is humped over the head.
- The whole body and wings are hairy.
- The mouth parts contains several knife like stylets.
- The antennae is 16 segmented.
- They have large black eyes
- The legs are long and stilt .



# Phlebotomus spp.

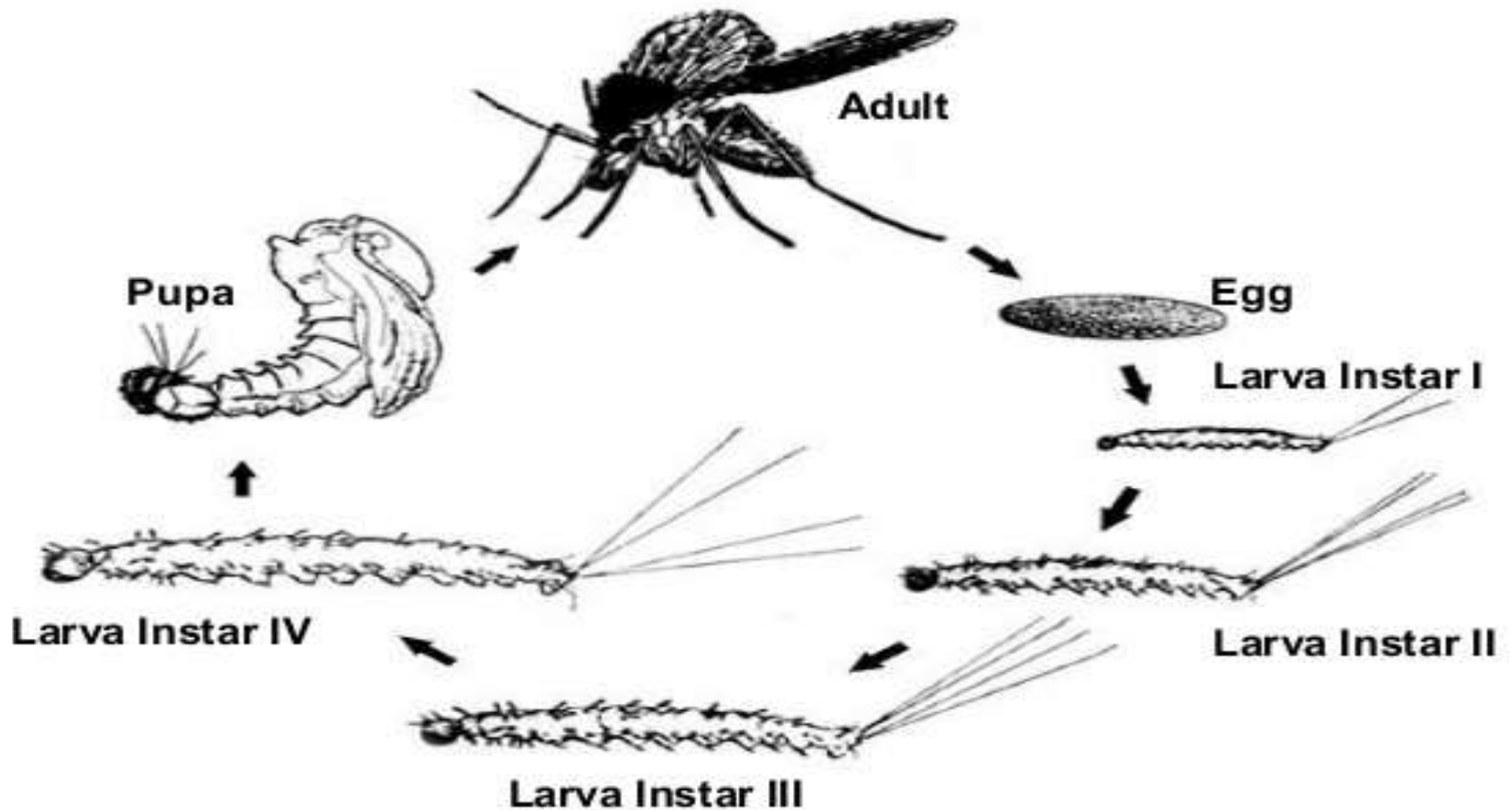


# Phlebotomus spp.

# Phlebotomus : Life cycle

- They have a four-stage life cycle: egg, larva, pupa and adult.
- Eggs hatch after 4-20 days, although this is likely to be delayed in cooler weather.
- Larval development involves four instars, and is completed after 20-30 days depending on species, temperature and nutrient availability.
- Environmental extremes e.g. heat, cold, or drought, can cause larvae to diapause, prolonging development time for months.
- The pupal stage lasts 6-13 days before the adult sand flies emerge.
- Larvae are mainly scavengers, feeding on organic matter e.g. fungi, decaying leaves, animal faeces and decomposing arthropods.

# Life cycle of sandfly



## Phlebotomus : Life cycle

# Phlebotomus : Pathogenesis

- They are blood feeder causing Leishmaniasis, a parasitic disease.
- The disease is spread by the bite of phlebotomine sand flies.
- This disease is classified as a 'Neglected tropical disease' (NTD).
- There are several different forms of leishmaniasis.
- The most common forms are :
  - (A) Cutaneous leishmaniasis, which causes skin sores, and
  - (B) Visceral leishmaniasis, which affects several internal organs e.g usually spleen, liver, and bone marrow.





# **Kalazar or Visceral leishmaniasis**

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SOURCE-GOOGLE



# Jerico boil / Kalazar or Black fever



# Cutaneous leishmaniasis





# Sand fly fever / Carrion's disease

# Phlebotomus : Control



- The leishmaniases are a group of vector-borne diseases.
- The disease is transmitted through the bite of infected female sandflies
- Measures used to control adult sandflies include the use of insecticides (mostly pyrethroids) for residual spraying of animal shelters
- Space-spraying, insecticide- treated nets can also apply.
- Impregnated dog-collars used in case dogs.
- For personal protection, we can practice application of repellents/insecticides .