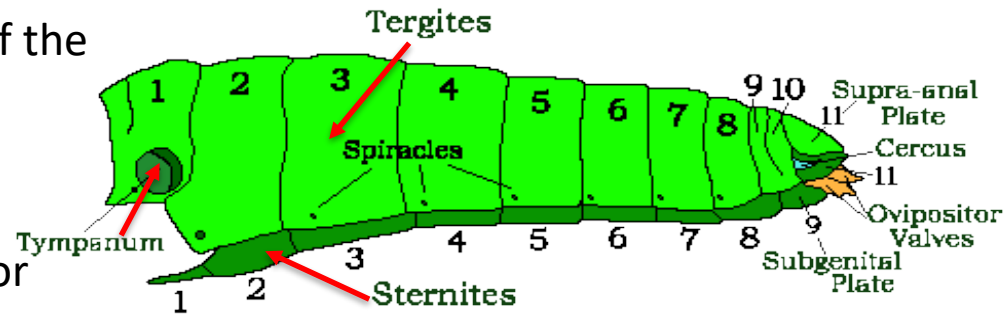


# Insect Abdomen Ak Grasshopper (*Poekilocerus pictus*)

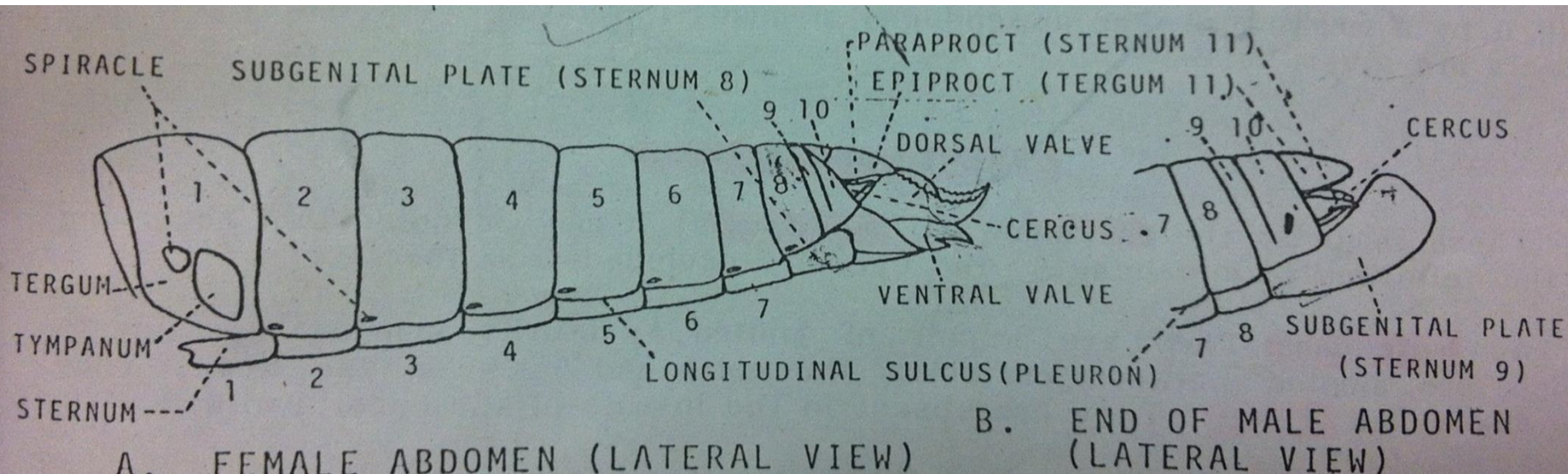
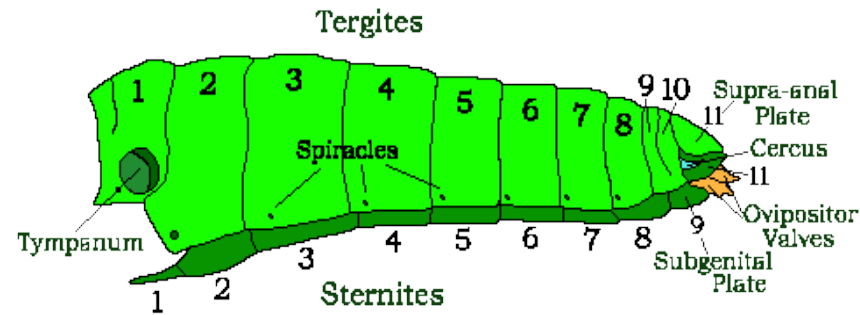
- Abdomen is the third and last division of the insect body.
- It is long, narrow and consists of eleven segments.
- Some posterior segment are modified for mating and oviposition.
- Each segment is divided into two parts:



- Tergum: the large dorsal part which also covers the sides
  - Sternum: smaller ventral part.
- Tergum and Sternum are separated by a longitudinal sulcus which represents the greatly reduced pleuron.
- The first abdominal segment is the largest one. It looks like a part of the thorax than of the abdomen and is intimately fused with the thorax
- On each side of first segment just above the hind coxa is a white membrane called tympanum or outer membrane of the ear and nearly a circular spiracle in front of the tympanum.
- Segments two to eight are similar, each having a tiny spiracle at the lower anterior angle of its tergum of each side.

# Insect Abdomen Ak Grasshopper (*Poekilocerus pictus*)

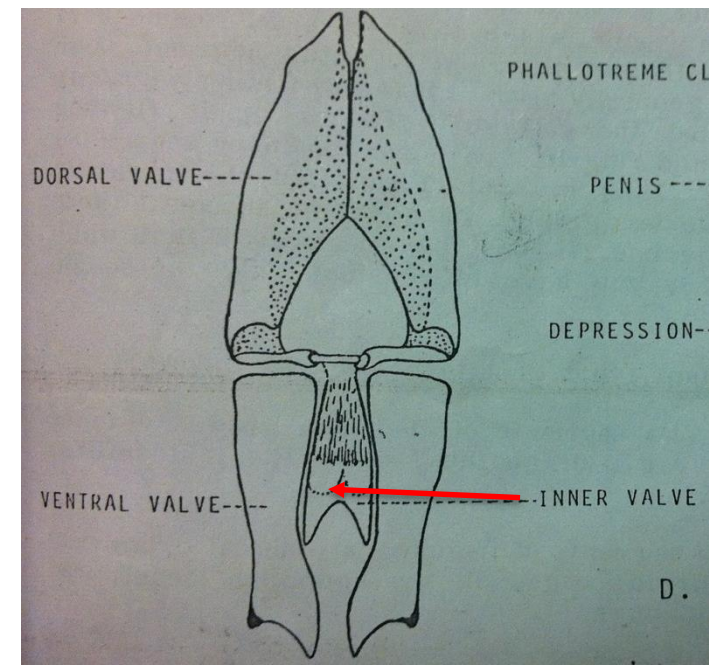
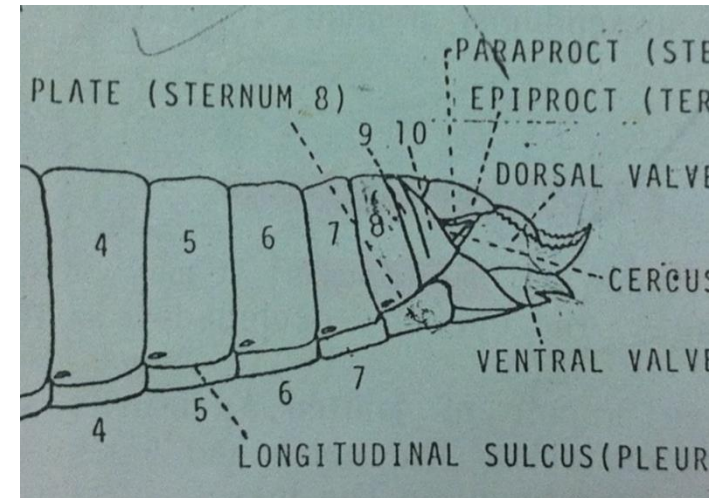
- The 9<sup>th</sup> and 10<sup>th</sup> terga, especially, the former in the male are narrow and on the lower side partially fused.
- The 11<sup>th</sup> tergum is represented by a triangular plate above the anal opening which is called epiproct or supra-anal plate.
- The 11<sup>th</sup> sternum is modified as lateral plates (paraprocts or podical plates) slightly concealed under epiproct.
- On paraprocts, conical process (cerci) comes out from membrane on posterior end of 10<sup>th</sup> tergum.
- Subgenital plates are the least visible sternum (8<sup>th</sup> in the female and 9<sup>th</sup> in the male).



# External genitalia Ak Grasshopper (*Poekilocerus pictus*)

## Female Genitalia

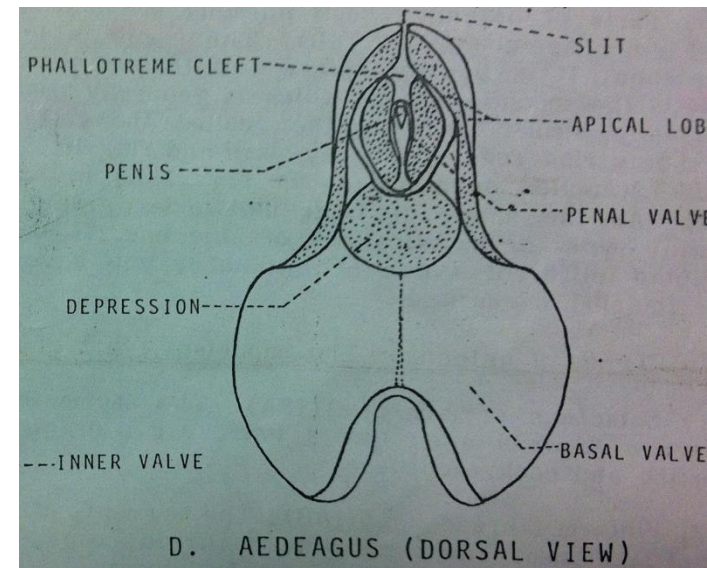
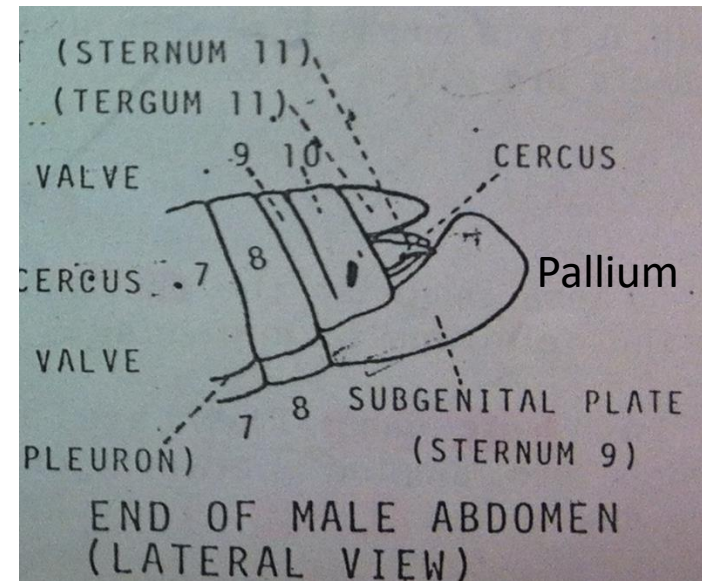
1. The subgenital plate is larger than its corresponding tergum.
2. Its posterior margin bears a median process called egg-guide and two lateral lobes.
3. The egg-guide is triangular or conical and wedged between the bases of the ventral valves of the ovipositor.
4. The ovipositor consists of dorsal and ventral pair of valves with their tips directed in opposite directions.
5. These valves can be spread apart and brought together and used for digging in oviposition.
6. There is a small inner and concealed pair of valves or the forked organ. The inner valves and the egg-guide are used for placing the eggs in the egg-pods.



# External genitalia Ak Grasshopper (*Poekilocerus pictus*)

## Male Genetalia

1. The subgenital plate is a large boat-like structure which conceals the male genital organs in genital chamber.
2. The copulatory or genital organ are collectively known as aedeagal or phallic complex.
3. The posterior end of the subgenital plate which cover the tip of the phallic complex is called pallium.
4. Phallic complex consists of two parts, the aedeagus and the epiphallus.
5. The addeagus is nearly flask-shaped, strongly sclerotised and wrapped (except tip) in a thick membranous sac, the ectophallic membrane.
6. The aedeagus consists of a pair of large basal valves which are connected with two long, narrow and curved apical lobes.
7. Tips of apical lobes are separated by a narrow slit which leads into a large cavity, the phallotreme cleft.
8. This cleft contains penis between two penal valves.
9. There is a small depression at the junction of the basal valves and apical lobes.



# External genitalia Ak Grasshopper (*Poekilocerus pictus*)

## Male Genitalia

10. The epiphallus is a collar-like or bridge-shaped sclerotised structure which is present on the dorsal side of the aedeagus.
11. It is attached with ectophallic membrane.
12. It consists of two long **lateral sclerites** which are connected sub-basally by a **bridge**. They have two small triangular hook-like **posterior projections** which slightly project outwards.
13. The epiphallus contains two lateral appendices which are also connected at their bases.

