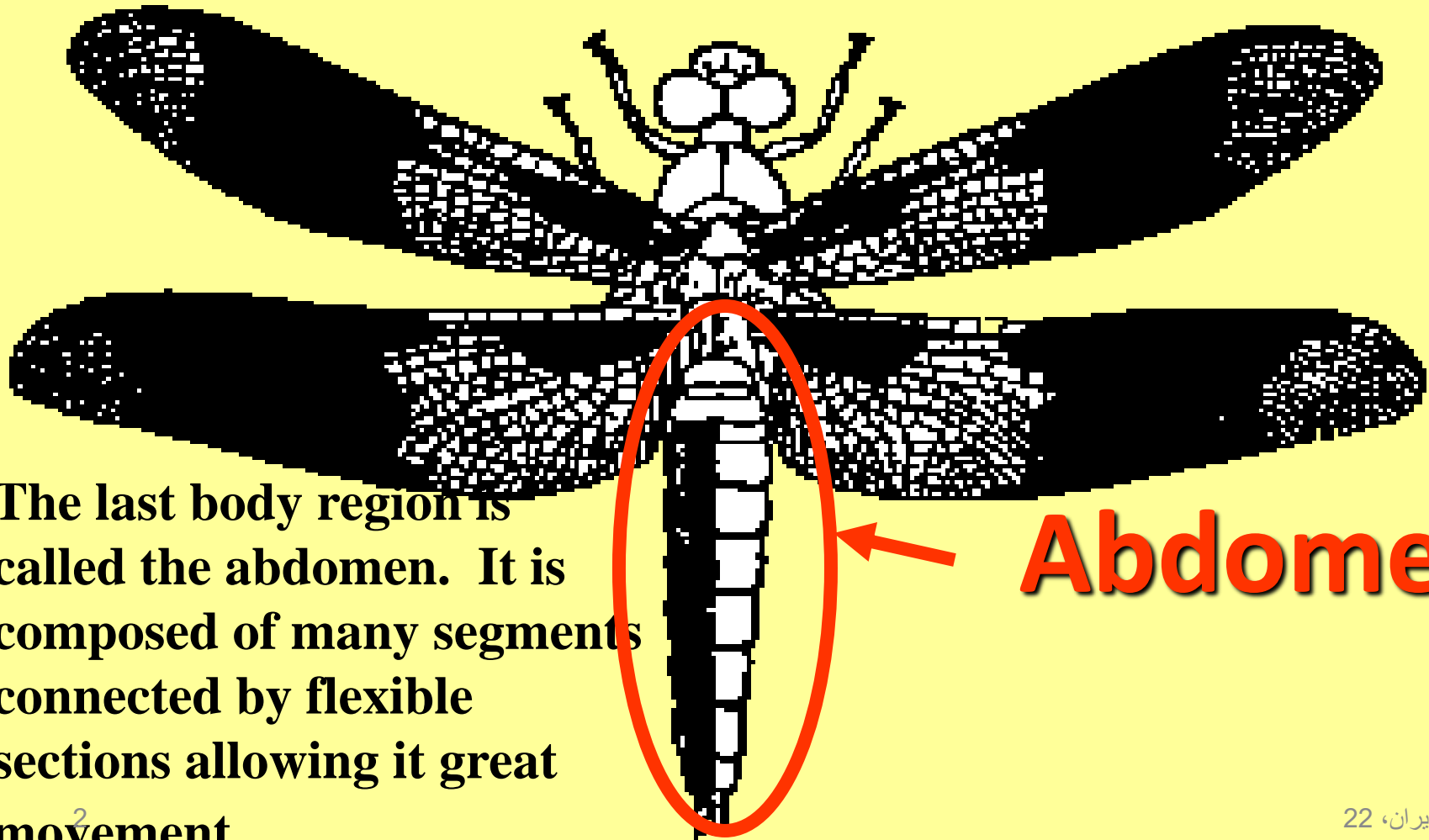


# Leb. No. 8

## Abdomen and appendages

# Abdomen:-



**Abdomen**

The last body region is called the abdomen. It is composed of many segments connected by flexible sections allowing it great movement.

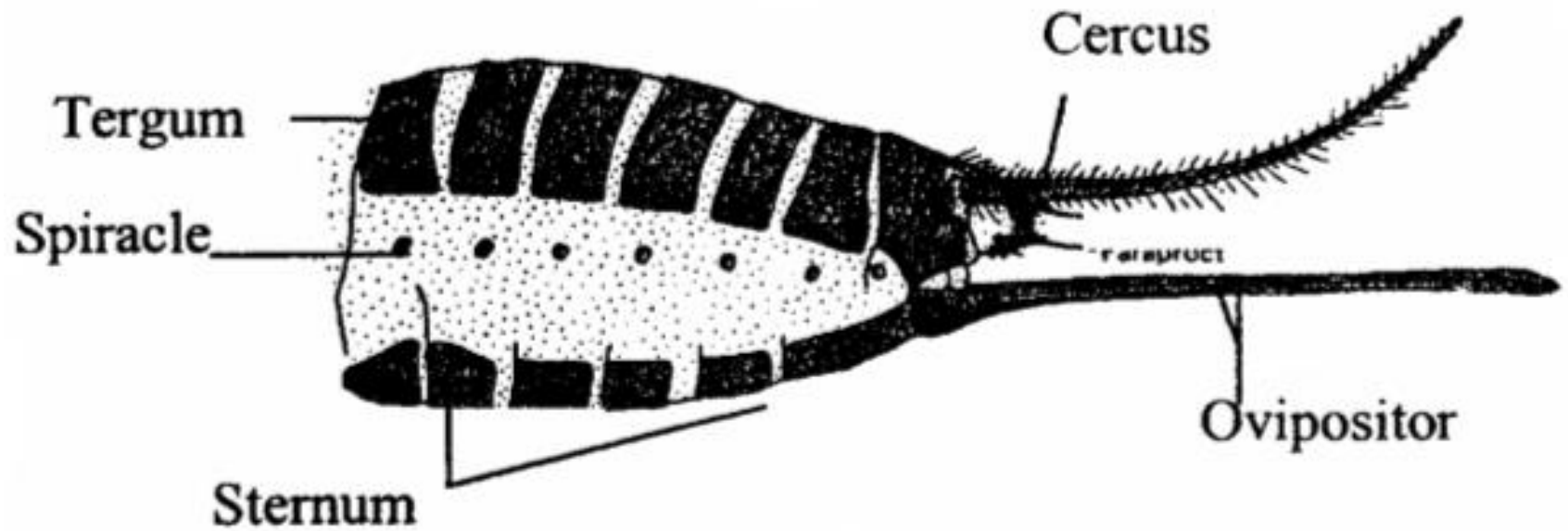
# Abdomen

The abdomen contains the reproductive organs and the majority of the [organ systems](#).

The dorsal and ventral abdominal segments are termed terga (singular tergum) and sterna (singular sternum), respectively.

Spiracles usually can be found in the conjunctive tissue between the terga and sterna of abdominal segments 1-8.

**Reproductive** structures are located on the **9th** segment in **males** (including the aedeagus, or penis, and often a pair of claspers) and on the **8th and 9th** abdominal segments in **females** (female external genitalia copulatory openings and [ovipositor](#)).



# Abdomen

# Abdominal appendages

There are two types of appendages

1- Nonsexual appendages

2- Sexual appendages

# 1. {Ovipositor}

The ovipositor is the egg-laying device found only in female insects. In some insects, the ovipositor is highly modified and conspicuous. In others, the apparatus may be needle or blade-like

# Modifications of Ovipositor

**Parasitic wasps** (Order: Hymenoptera) use their ovipositors to insert eggs or small larvae into or onto a host.

The stingers of bees and many wasps have modified ovipositors that have lost the egg-laying ability.



Order Hymenoptera: Braconid wasp, female,  
*Spathius pallidus*





**Blade-like ovipositor on  
(order Orthoptera) katydid**



**Needle-like ovipositor on parasitic ichneumonid wasp  
(order Hymenoptera)**



**Order Hymenoptera: Torymid wasp,  
female, *Monodontomerus dentipes***



**Order Orthoptera: Field cricket,  
female, *Gryllus pennsylvanicus***

## 2. Anal cerci (cercus)

Cerci are pair of abdominal terminal appendages & located on the 11<sup>th</sup> abdominal segment , its modified into many shapes according to the type of insects :

A- **Long & divided** . As in Silver fish



**Anal cerci and tail filament**

## B- short & divided



Female & male of (cockroach)

**C- Long & not divided**

**Ex ; Fieldcricket & Molecricket**



**D – Short & not divided .**

**Ex; Locust**



# 3-Anal Styli(stylus)

The styli are another type of terminal appendages that we can see only in the **male** of cockroach & they are short & divided.

EX. *Periplaneta americana*



## 4- Forceps .

Ex : Earwiges (Order: Dermaptera) .



Female

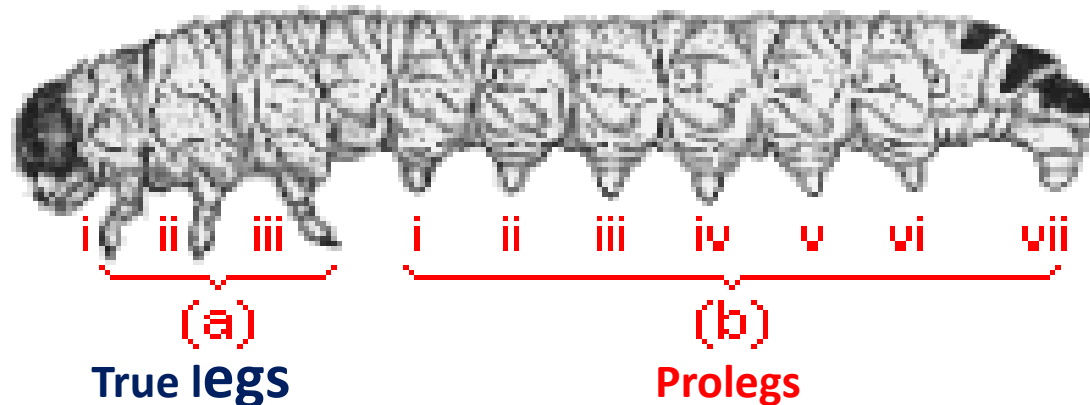


Male

# 5. Prolegs

They are un jointed, fleshy structures in different form, and additional to the jointed legs of the thorax. called false-legs or prolegs .

Larvae with prolegs are commonly called caterpillars. ( order :Lepidoptera )



## 6- Abdominal appendages In collembolla

A- Collophore .

B- Furcula





**( paired cornicles (Some aphids)**

Note: they 're not cerci