

9/26/2017

Morfologi Eksternal

SERANGGA

ENTOMOLOGI




Prepared
by
Suput@
2017

Agriculture Dept. Gadjah Mada University



MORFOLOGI

- ❖ Morfologi adalah bagian dari ilmu biologi yang membicarakan bentuk organisme hidup.
 - ❖ Morfologi serangga sangat penting untuk dipahami:
 - bagaimana serangga hidup,
 - bagaimana serangga dapat dibedakan antara satu dengan yang lain, dan
 - bagaimana serangga dapat dibedakan dengan binatang yang lain.
- 

Manakah yang termasuk serangga ?



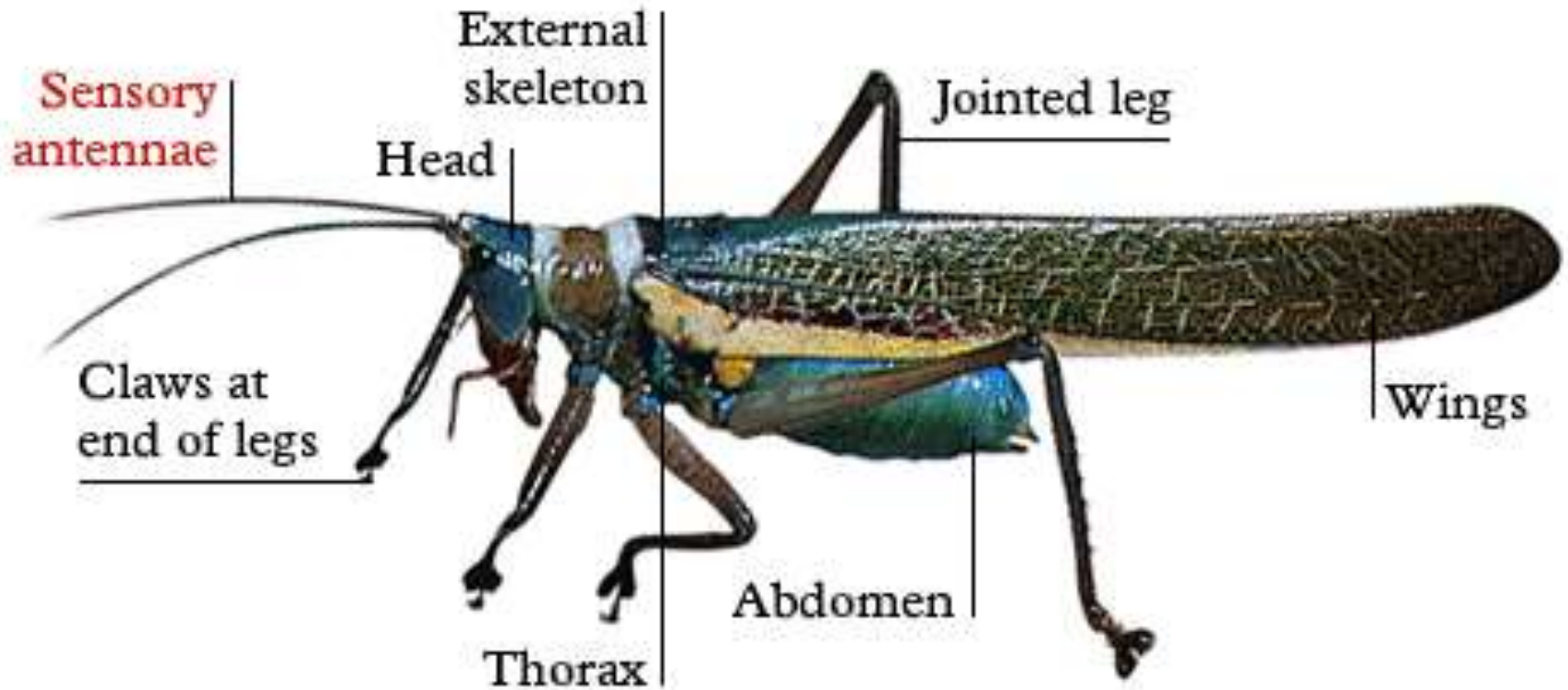


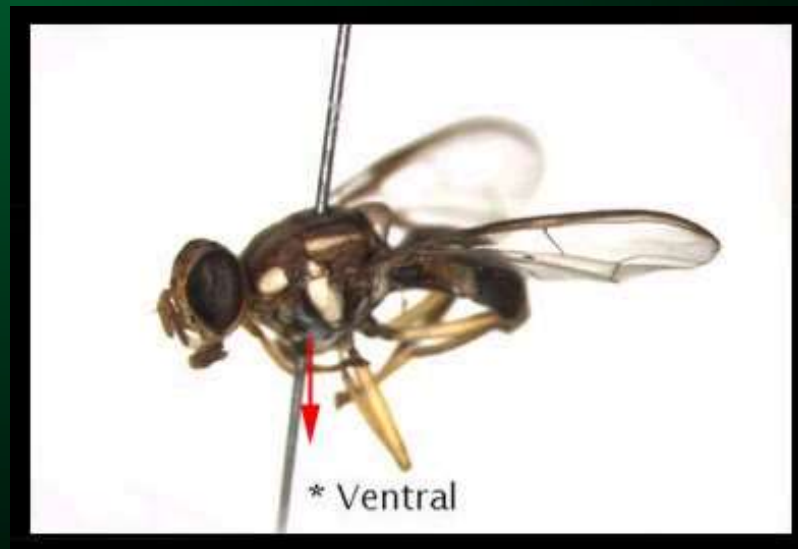
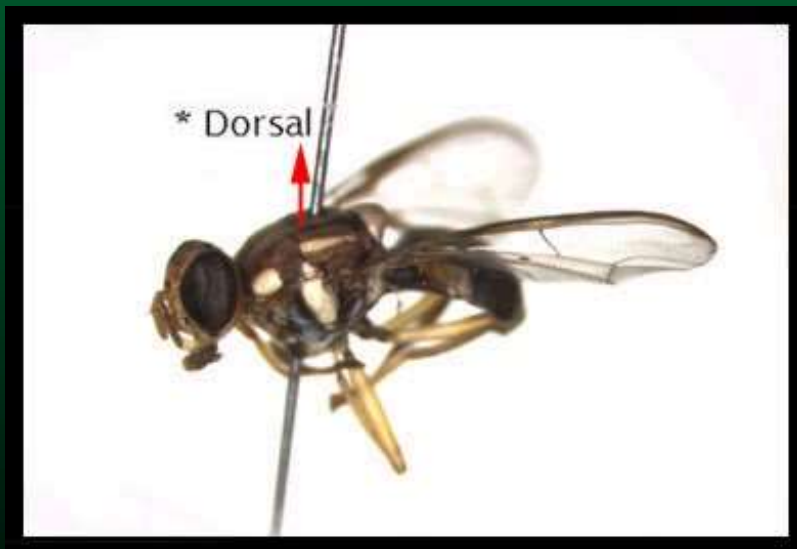
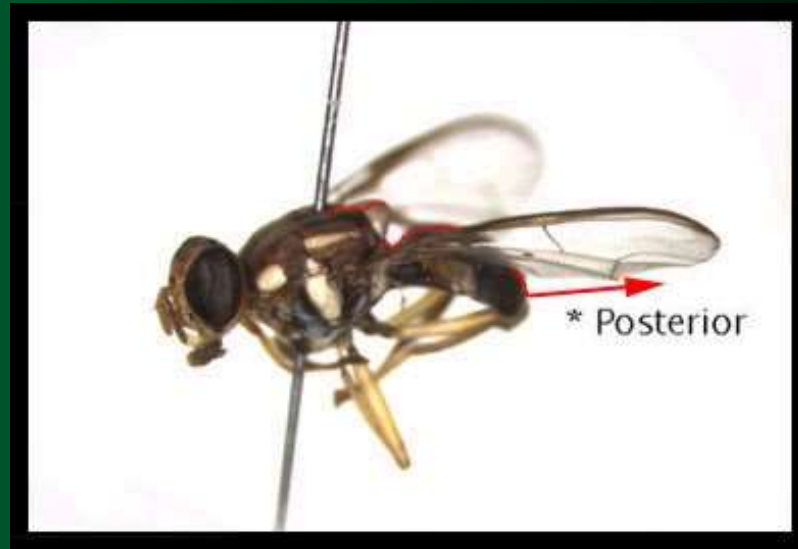
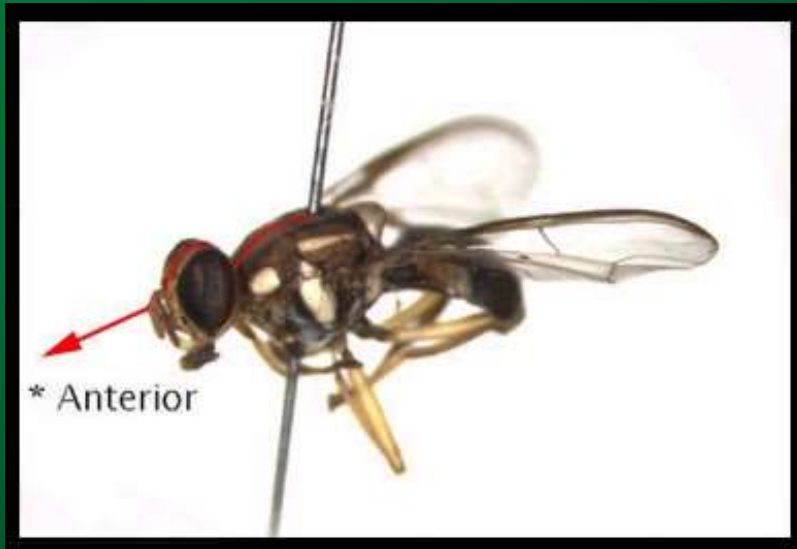
BENTUK DAN BAGIAN TUBUH SERANGGA

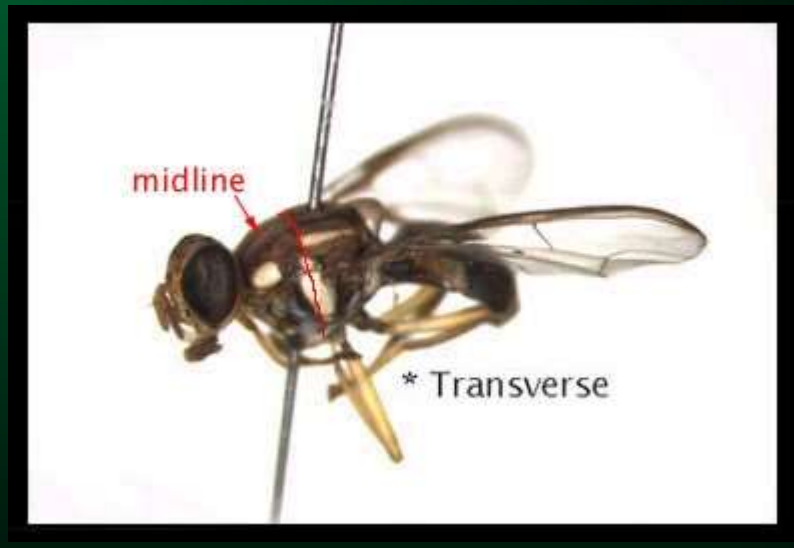
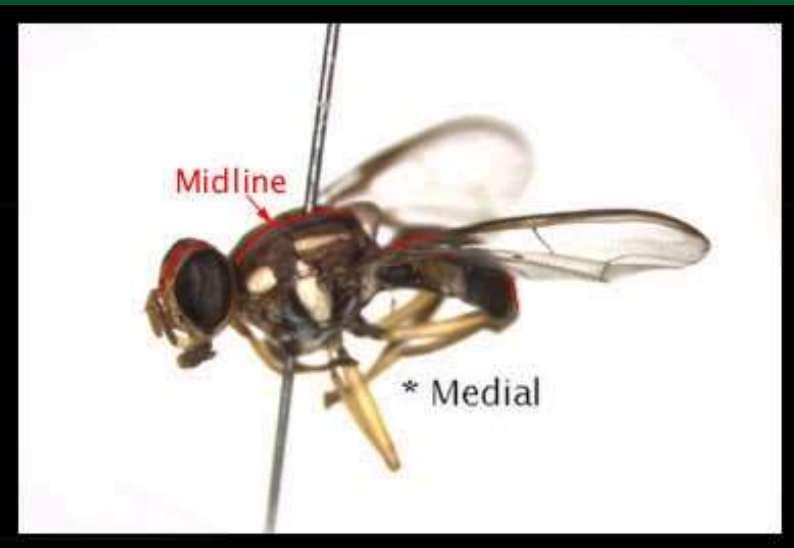
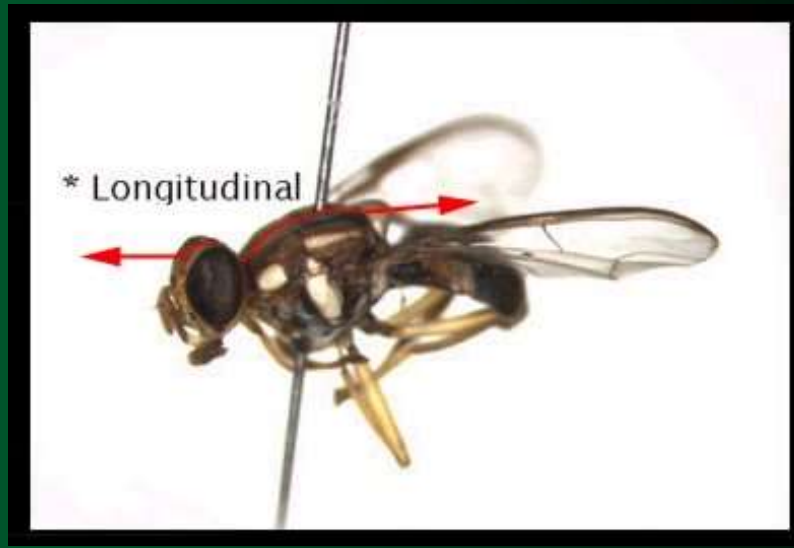
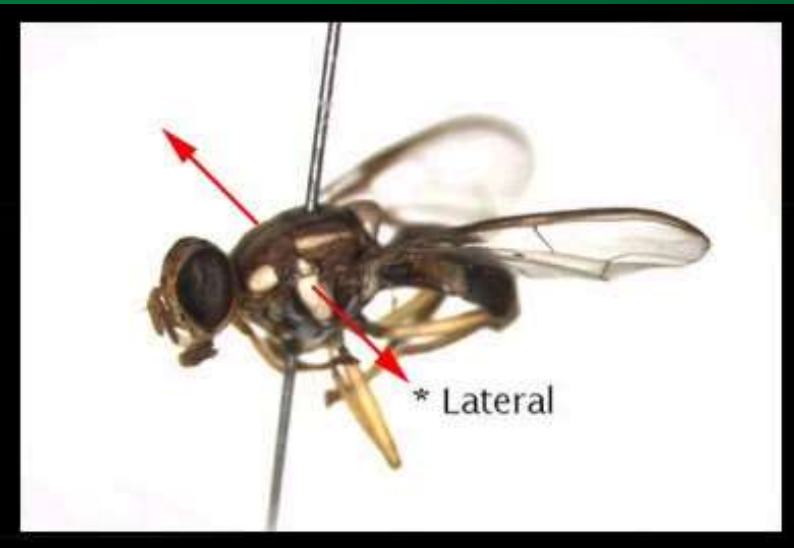
- ❖ Umumnya serangga mempunyai bentuk tubuh yang memanjang dan silinder serta simetris bilateral.
- ❖ Tubuh serangga beruas-ruas.
- ❖ Tubuh serangga dibagi menjadi 3 bagian yaitu:
 1. Kepala (*Caput*)
 2. Dada (*Thorax*)
 3. Perut (*Abdomen*)

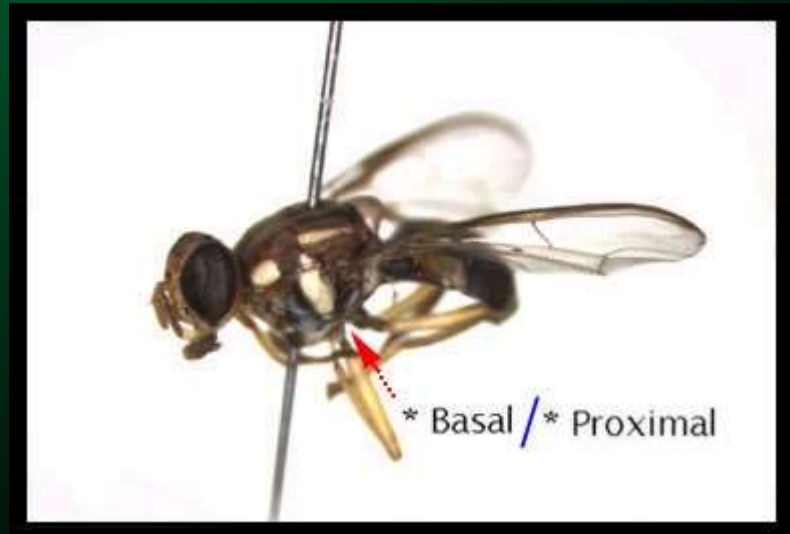
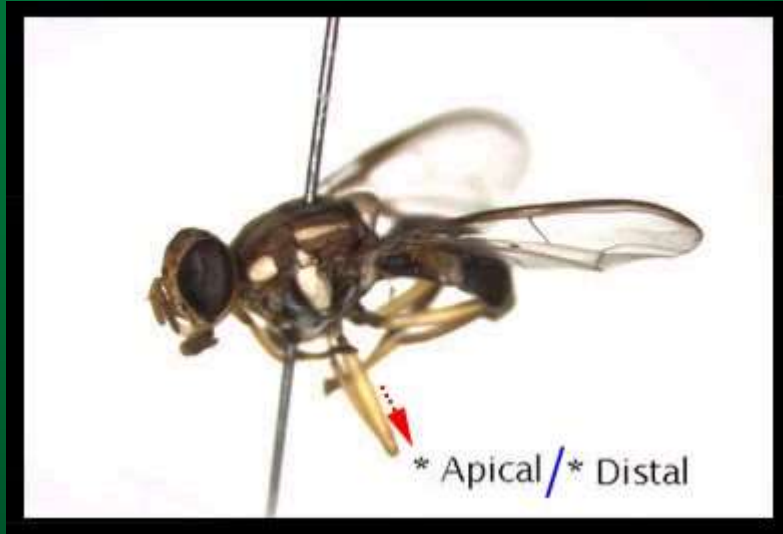


MORFOLOGI SERANGGA









BAGIAN TUBUH SERANGGA

Kepala
(*Caput*)

Dada
(*Thorax*)

Perut
(*Abdomen*)

1 ruas
Organ sensor
Mulut

3 ruas
 n_1 n_2 n_3
3 psg kaki
1 / 2 psg sayap

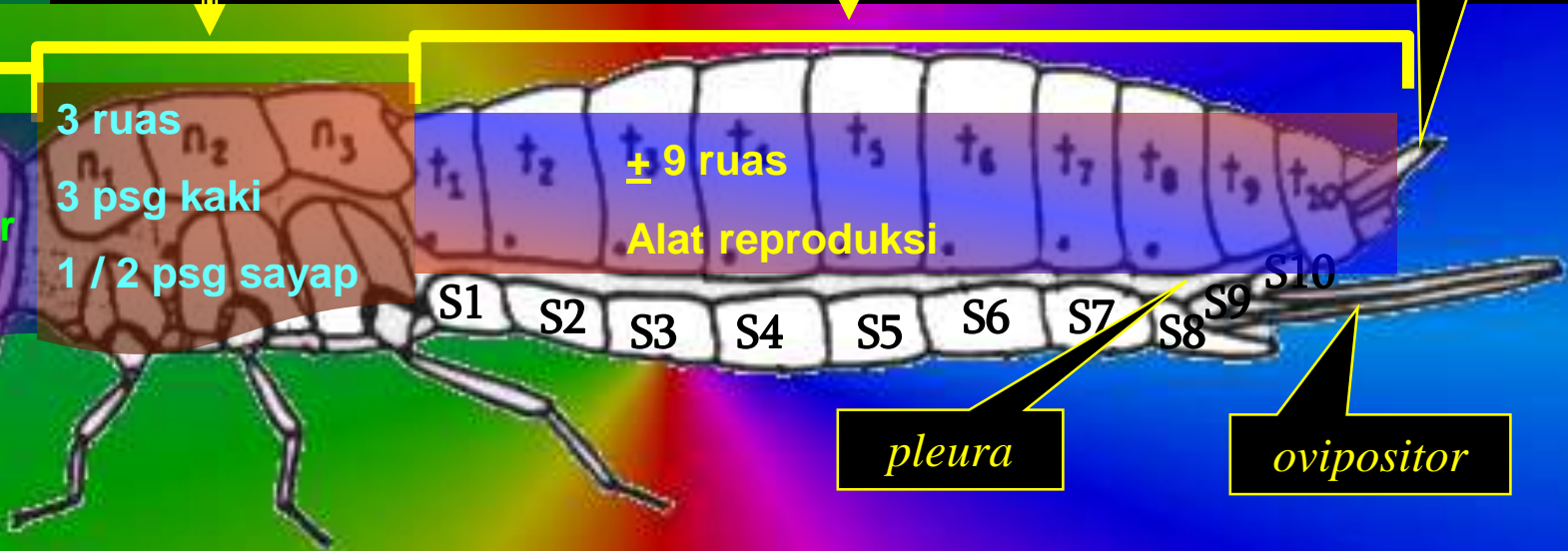
t_1 t_2 t_3 t_6 t_7 t_8 t_9 t_{10}
 ± 9 ruas
Alat reproduksi.

S1 S2 S3 S4 S5 S6 S7 S8 S9 S10

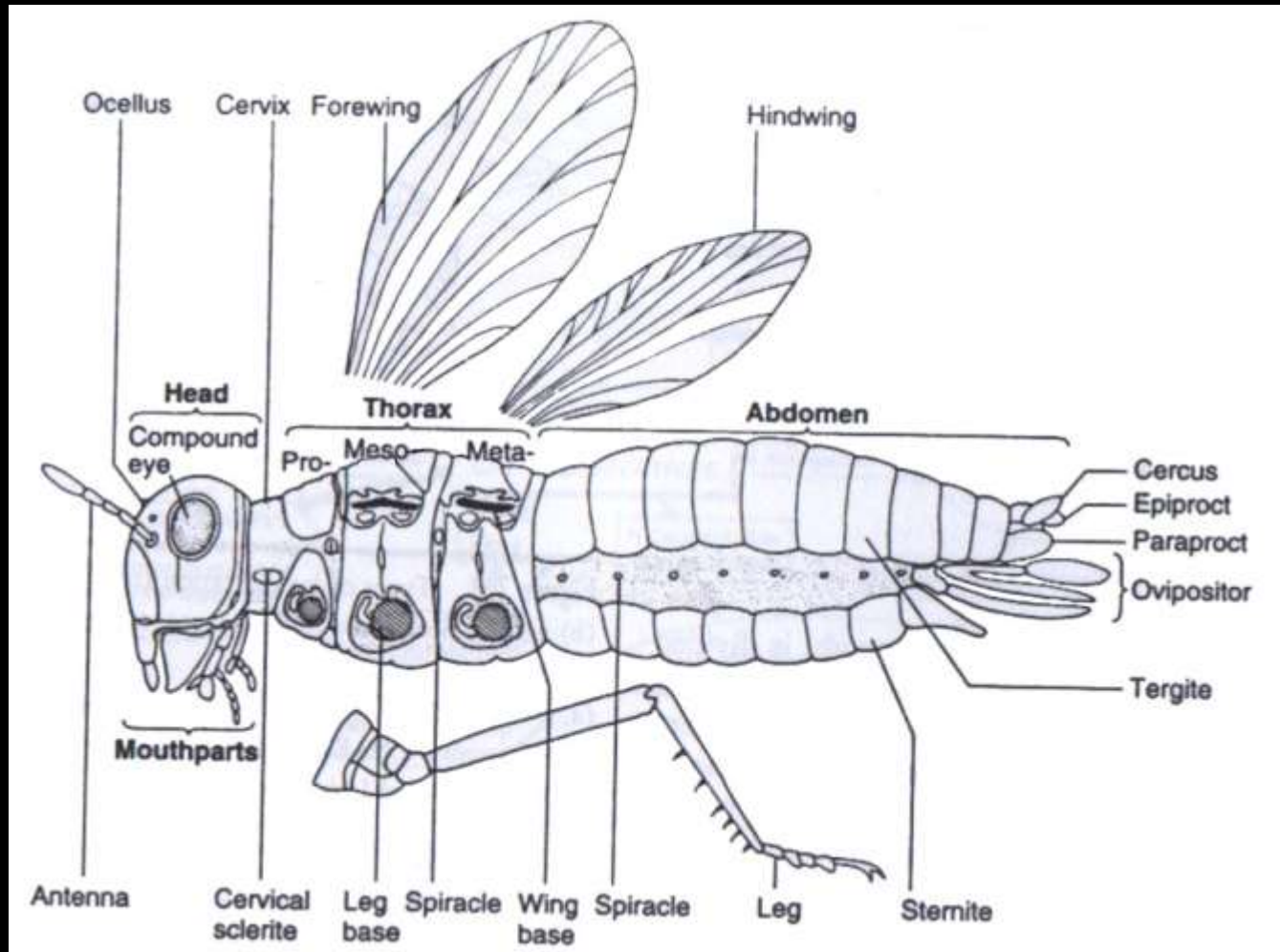
cerci

pleura

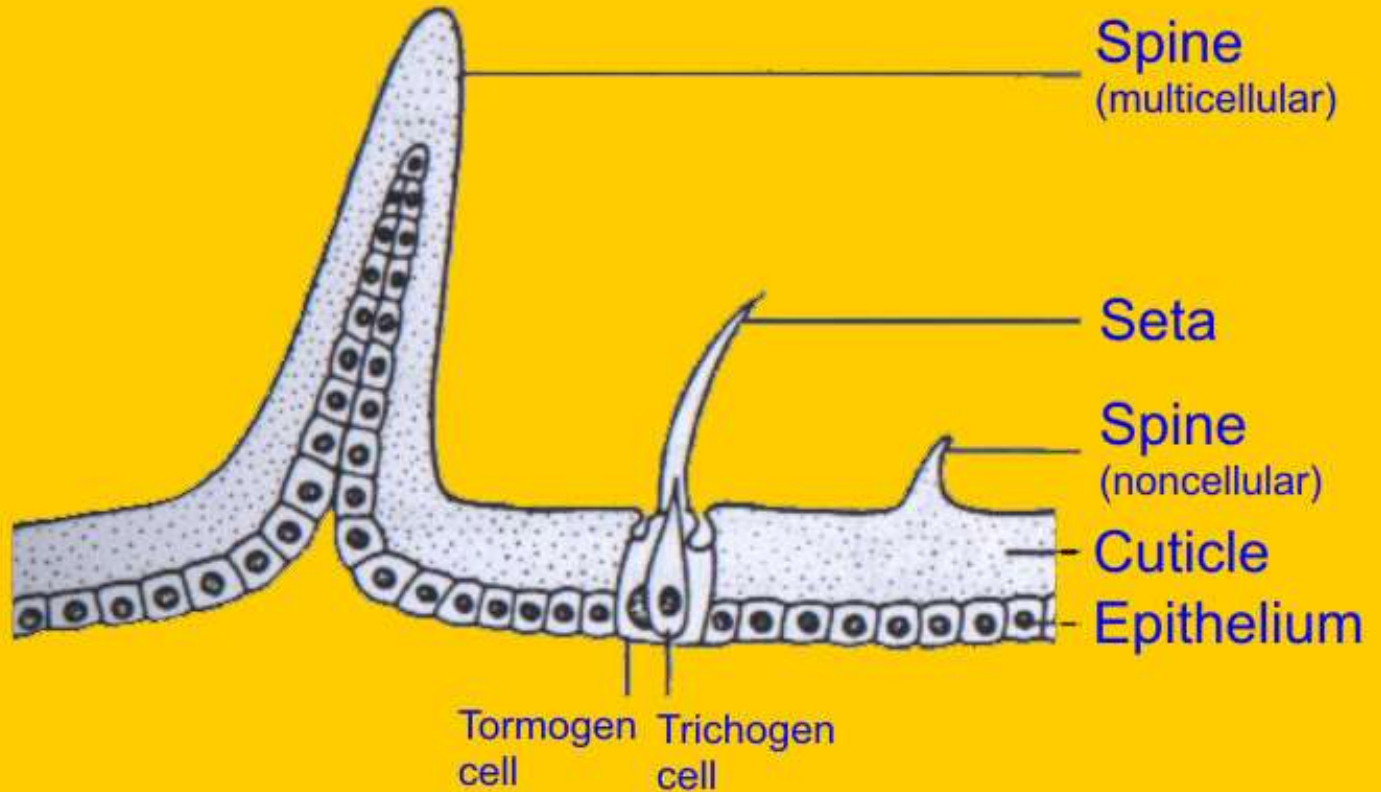
ovipositor



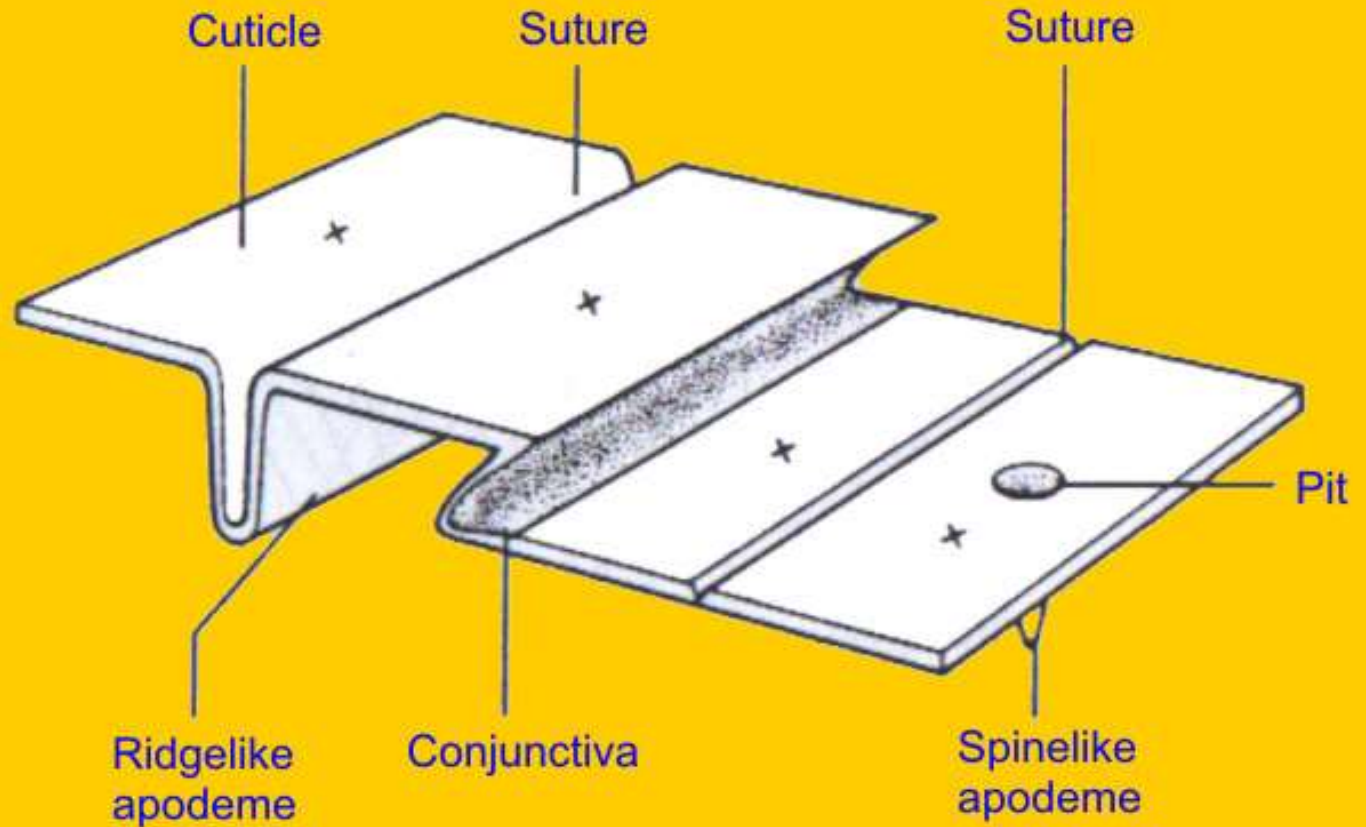
BAGIAN TUBUH SERANGGA



KULIT SERANGGA



SKLERIT



Caput / Kepala

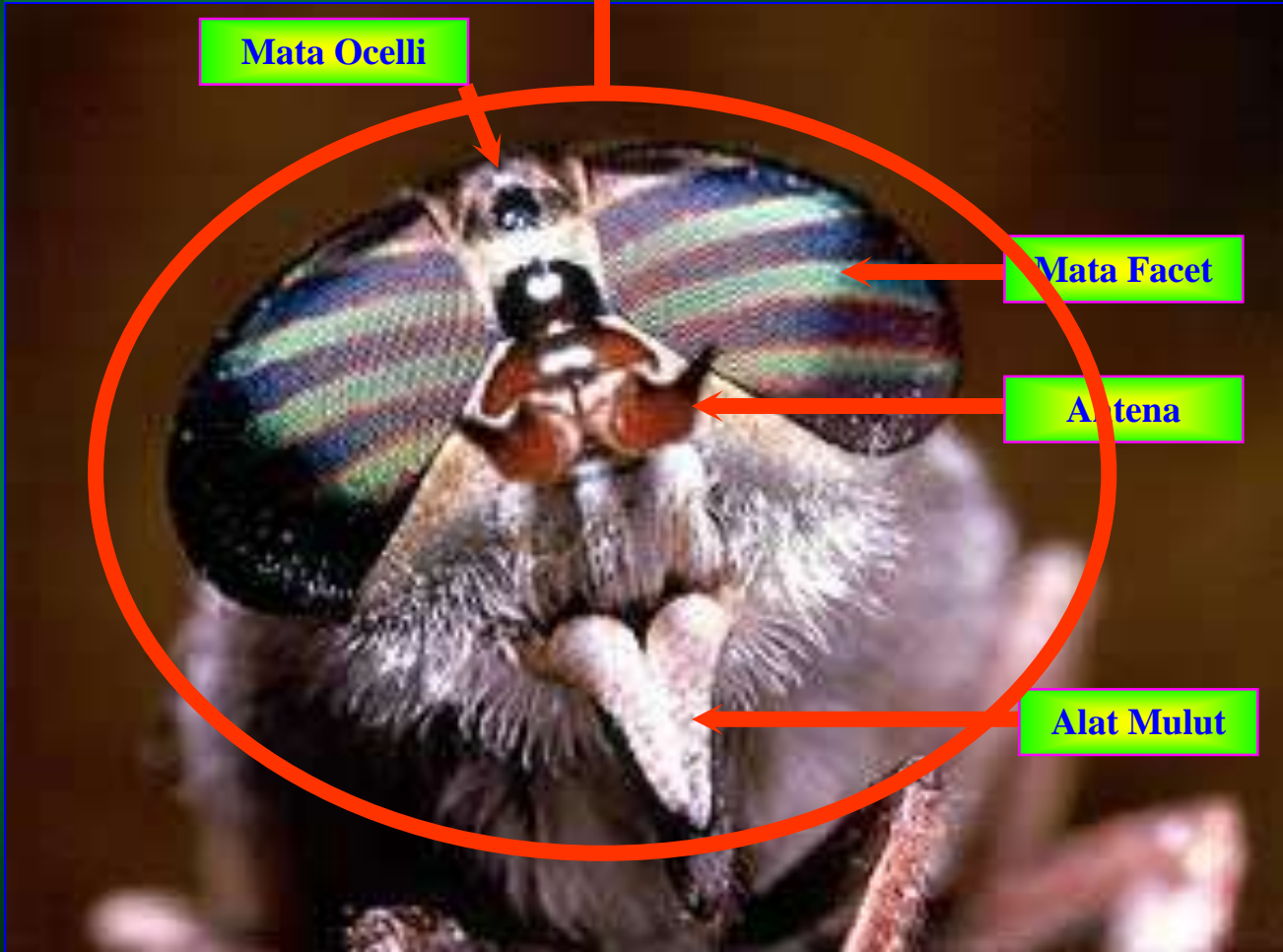
Bentuk Kepala

Mata Ocelli

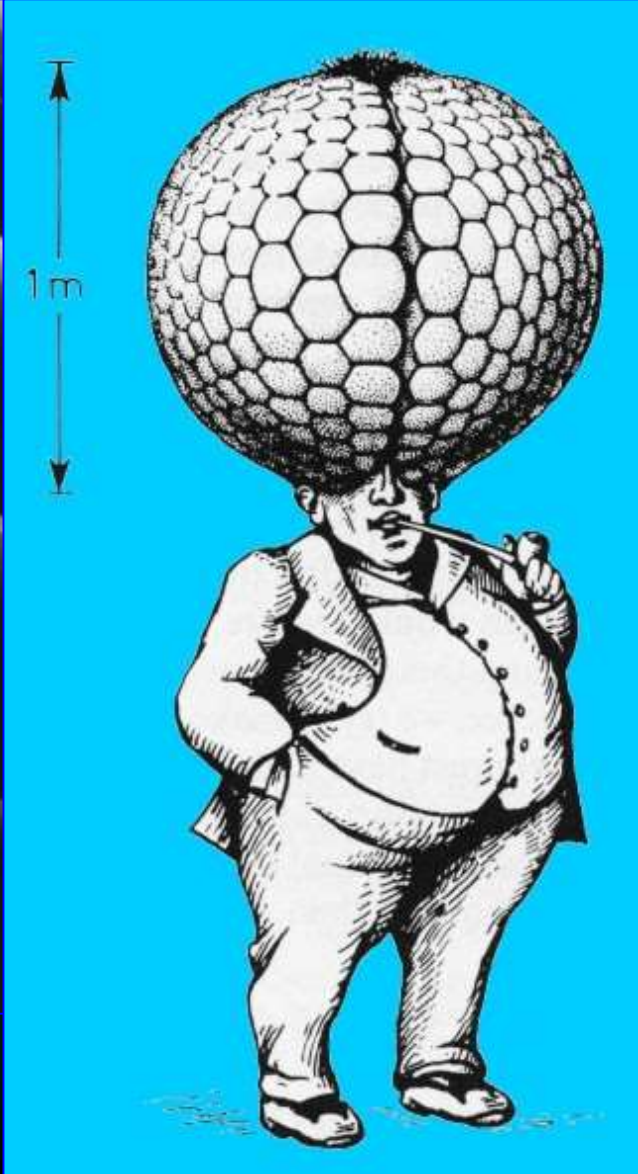
Mata Facet

Antena

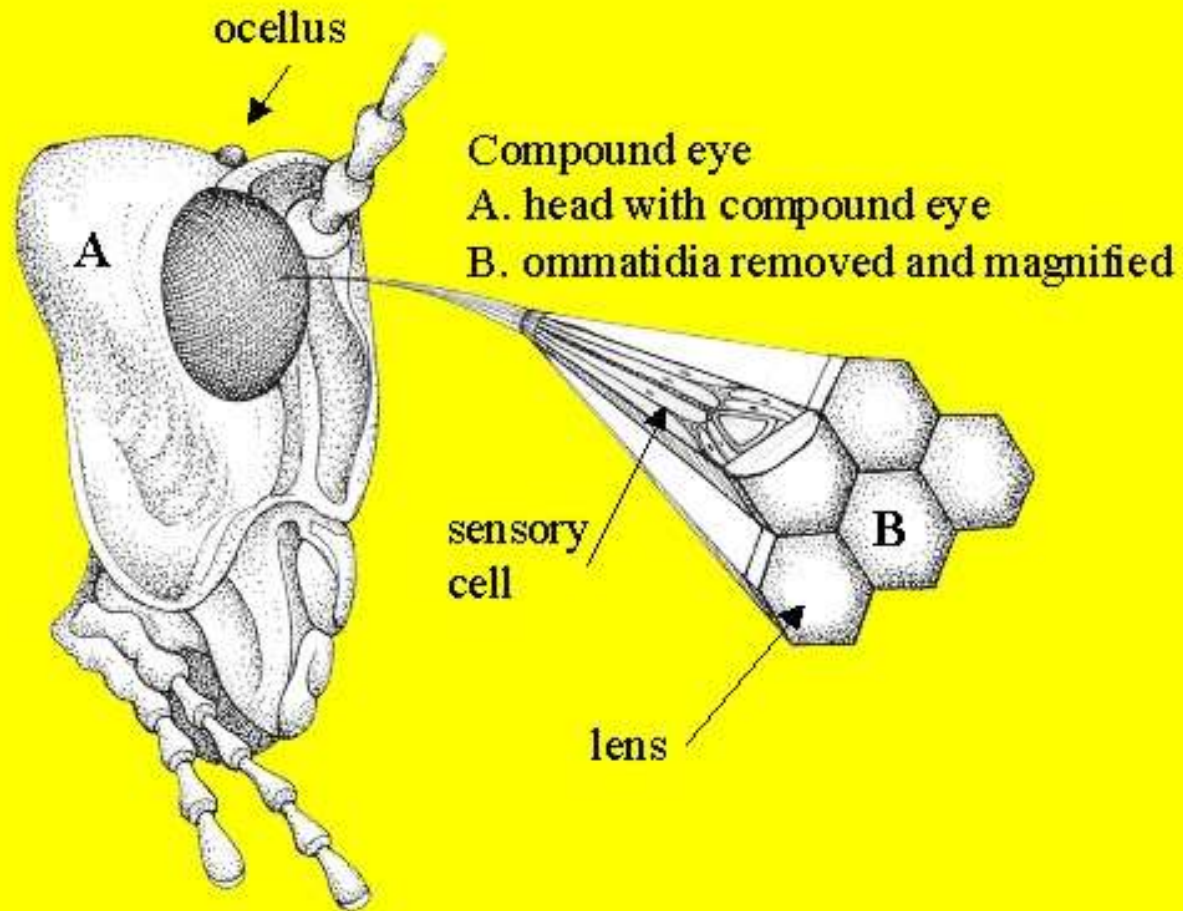
Alat Mulut



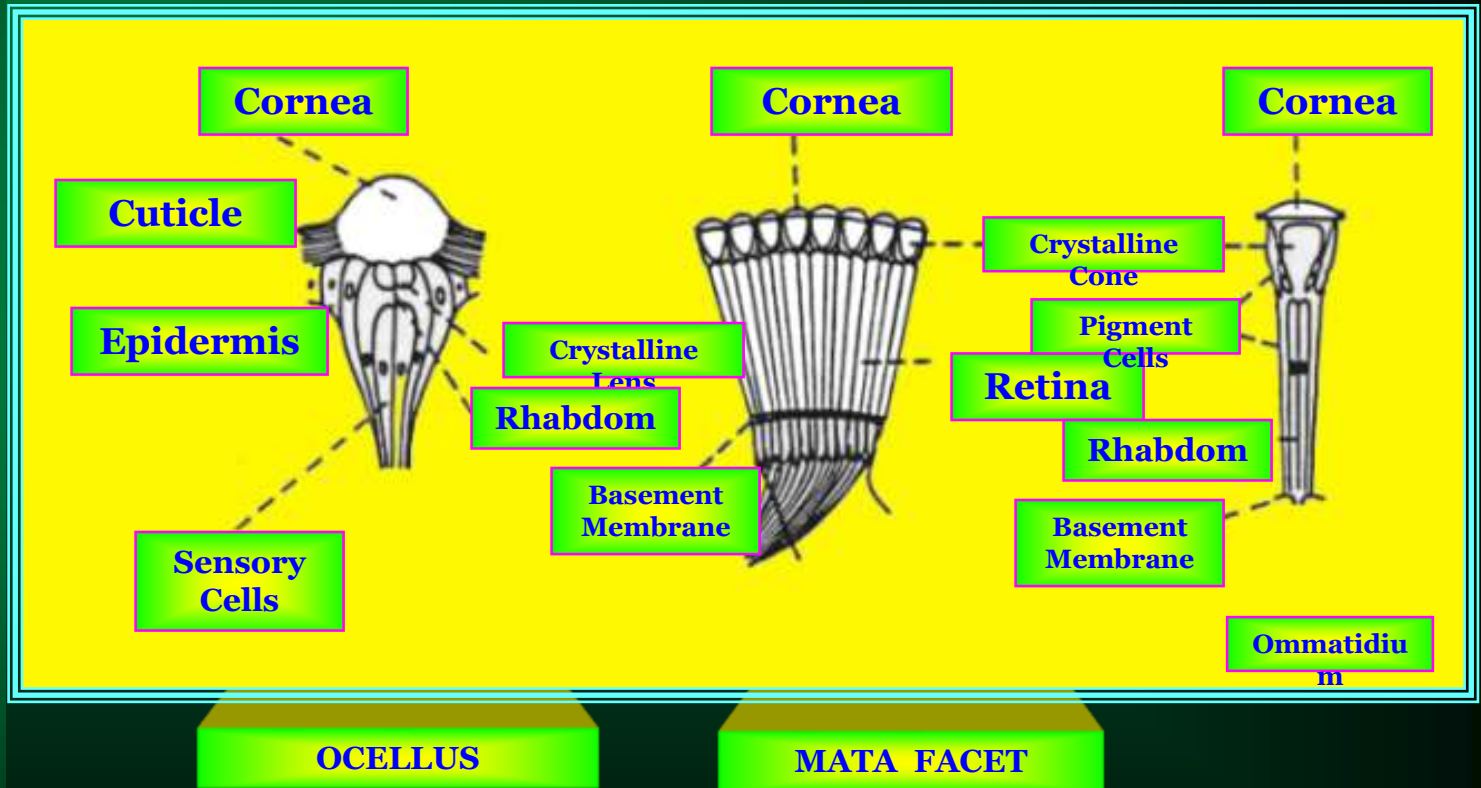
Mata



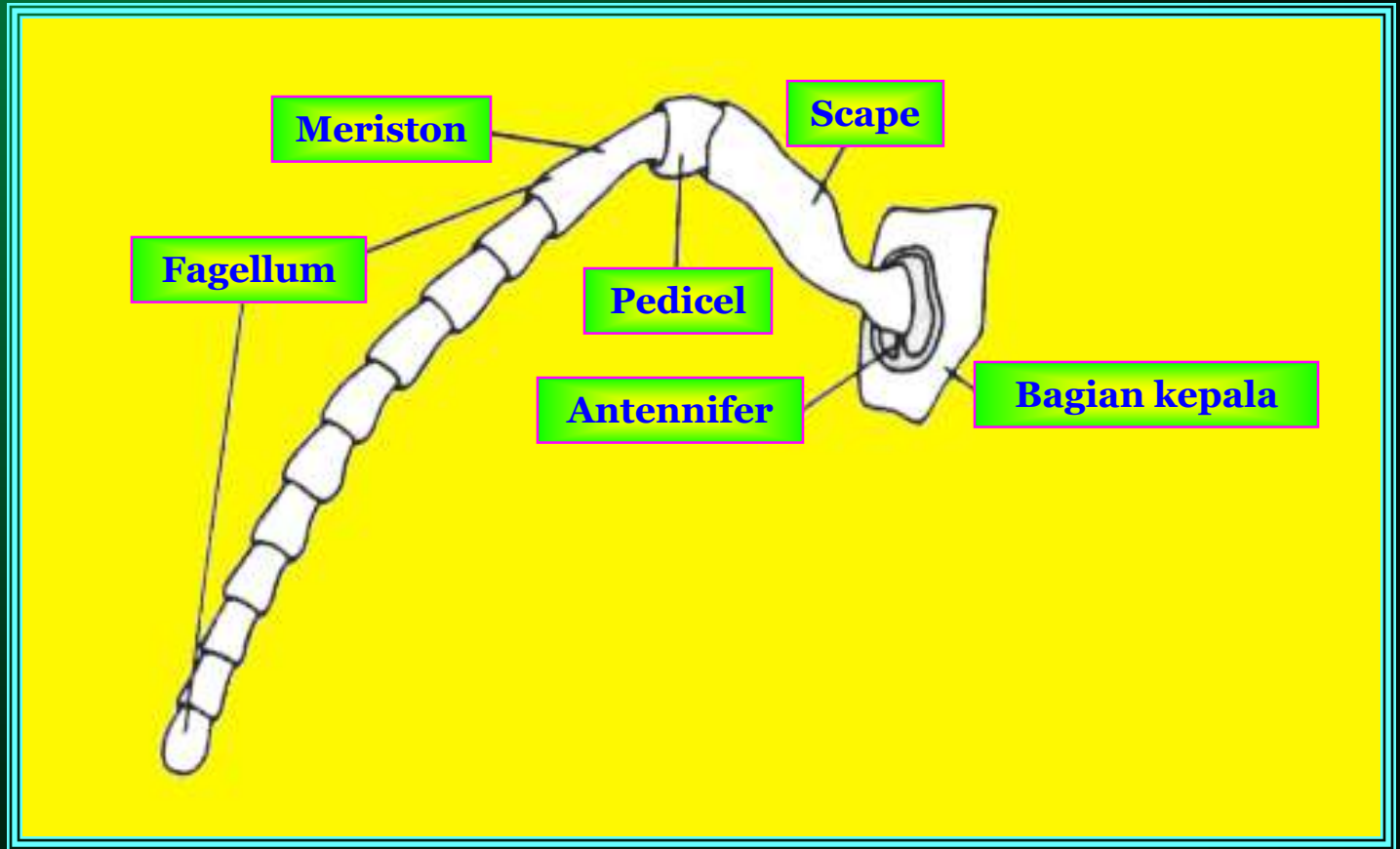
Mata



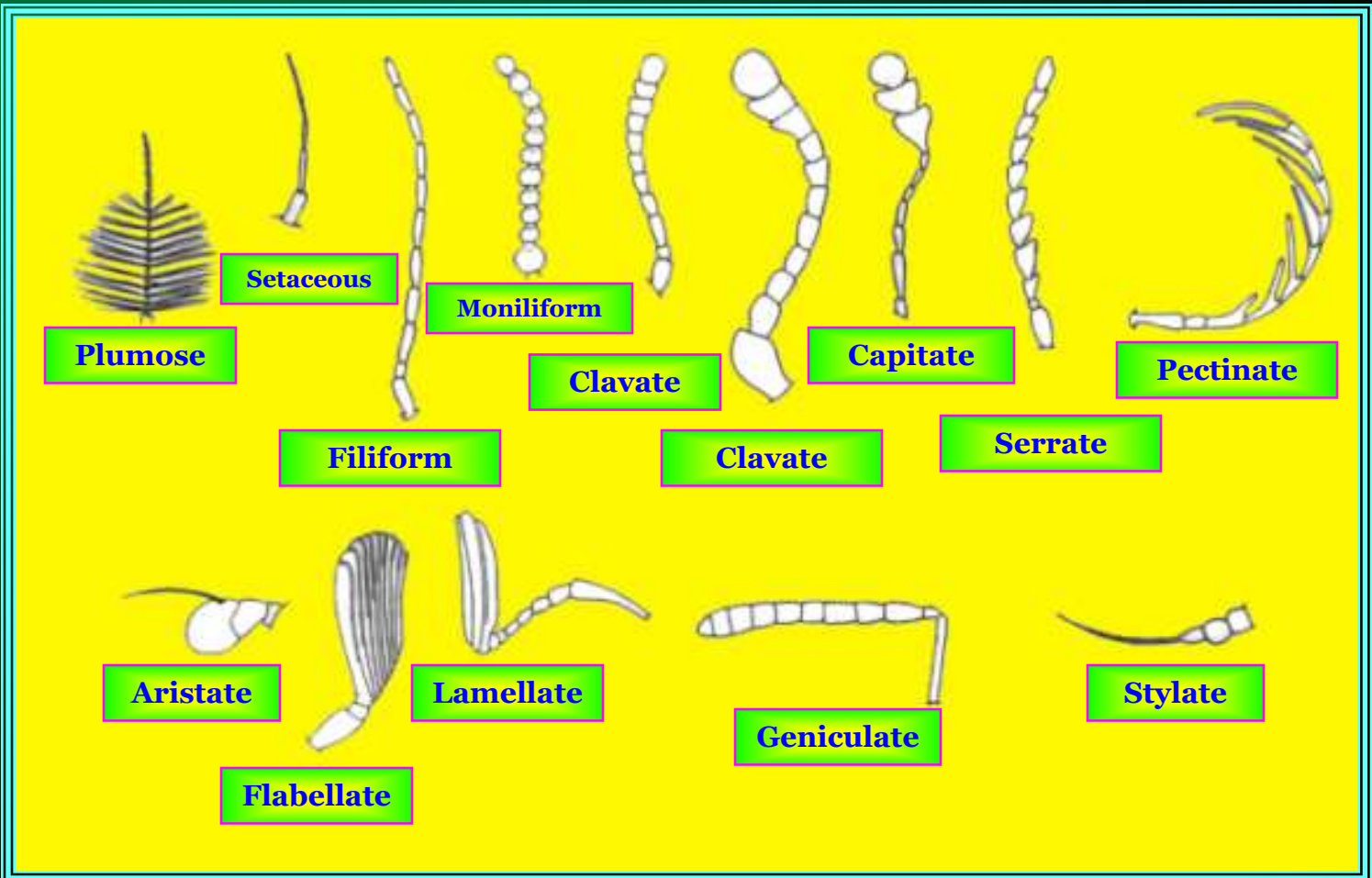
Mata



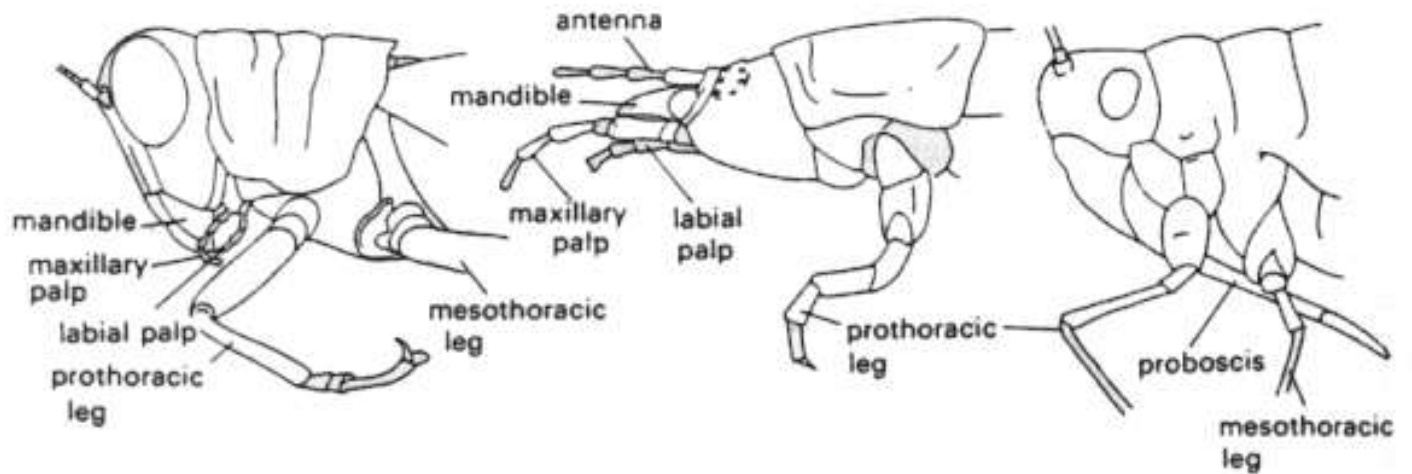
Antena



Type Antena



Bentuk Kepala



HYPOGNATHOUS

PROGNATHOUS

OPISTHOGNATHOUS

Bentuk Kepala



Hama

- *Valanga nigricornis*
- *Sexava karnyi*
- *Hypothenemus hampei*
- *Chrysochroa fulminans*
- *Rhytidodera simulans*

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- *Conocephalus longipennis*
- *Gryllacris signifera*
- *Otomantis* sp.

HYPOGNATHOUS

Bentuk Kepala



Hama

- *Mastotermes darwiniensis*
- *Neotermes* sp.
- *Kalotermes* sp.

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- *Ophionea nigrofasciata*
- *Proreus similans*
- *Chrysopa flaveola*

PROGNATHOUS

Bentuk Kepala



Hama

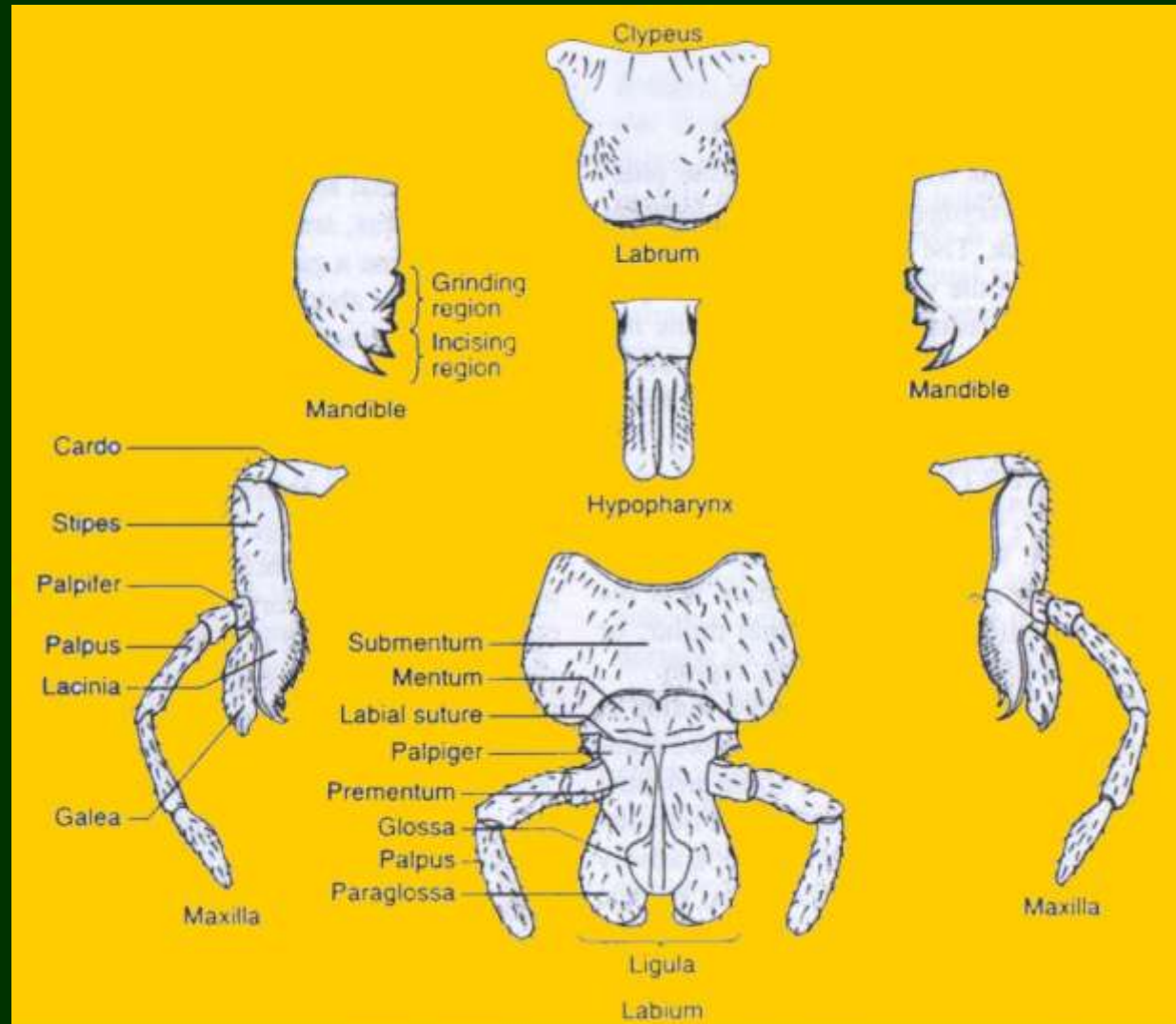
- *Aphis gossypii*
- *Leptocorisa oratorius*
- *Nilaparvata lugens*
- *Diaphorina citri*

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- *Rhinocoris fuscipes*
- *Microvelia douglasi atrolineata*
- *Andrallus spinidens*

OPISTHORHYNCHOUS

Alat Mulut Serangga



TIPE ALAT MULUT SERANGGA

Penggigit-pengunyah

Penusuk-pengisap

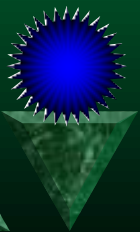
Penggigit-pengisap

Pengisap

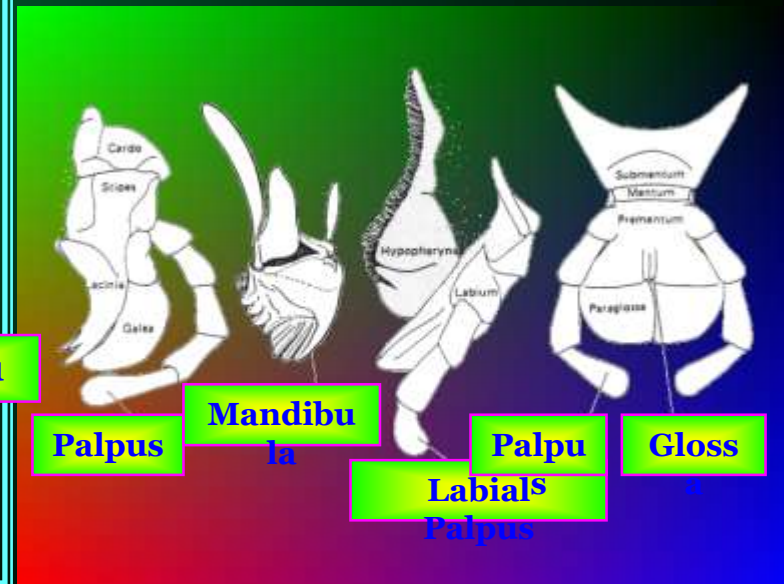
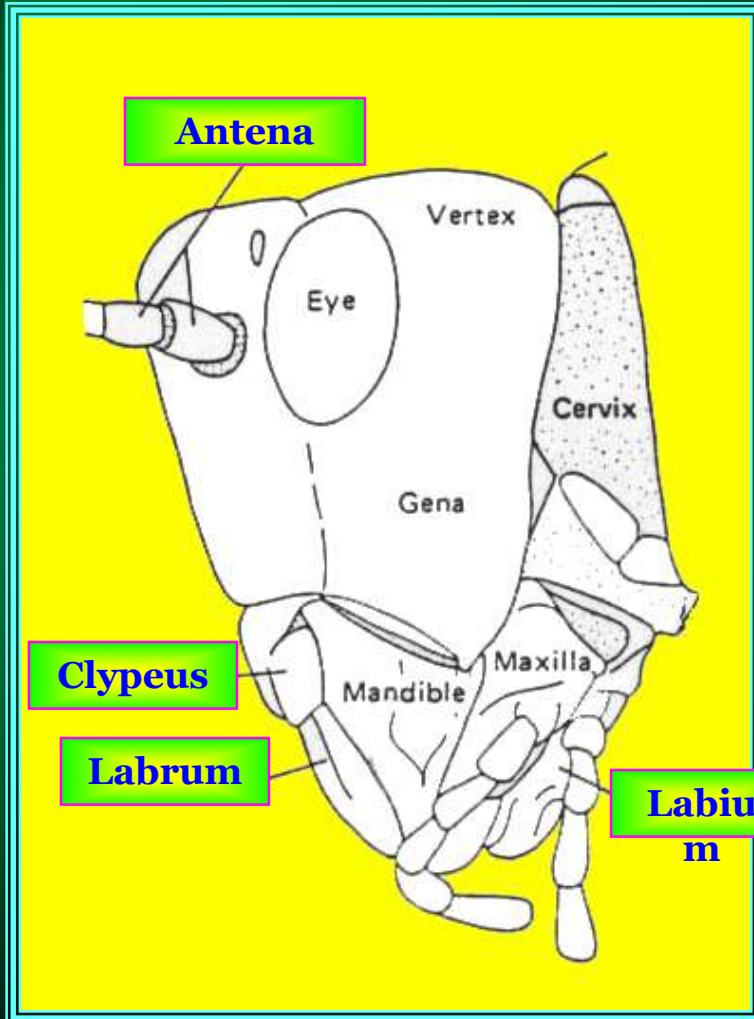
Pencecap-pengisap

Pengait-pengisap

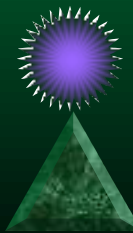
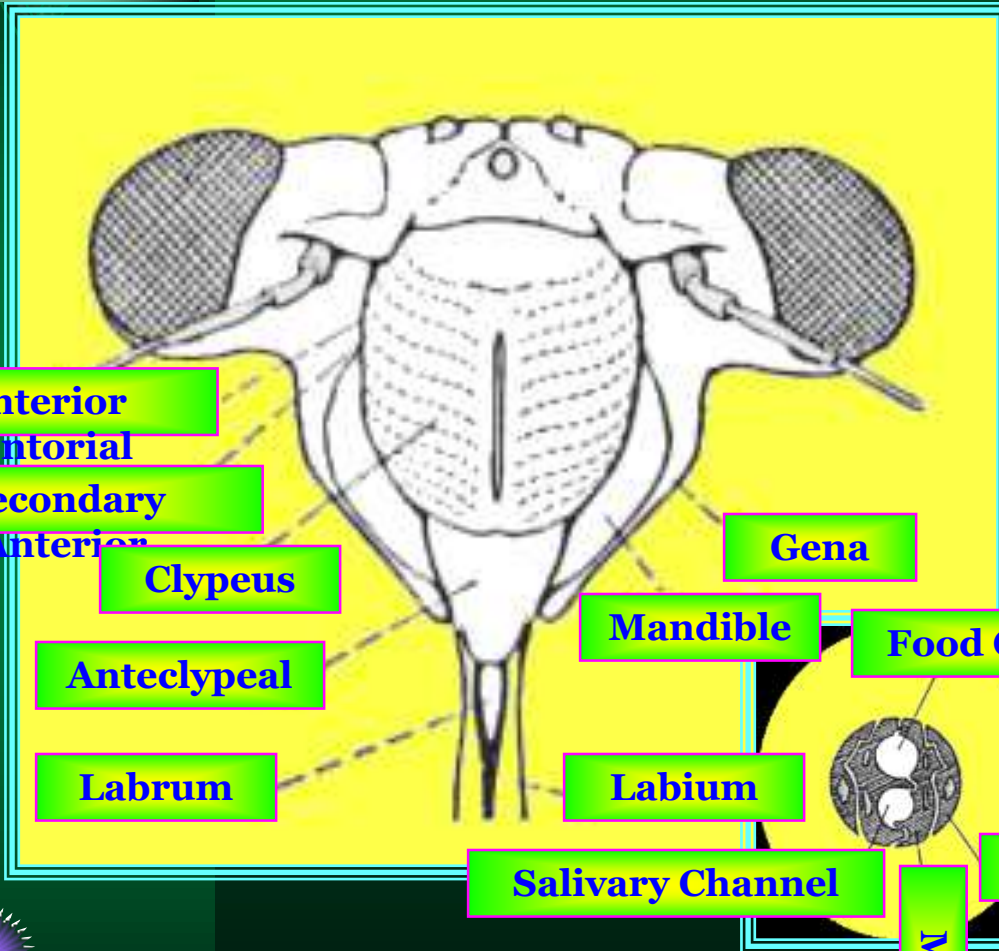
Pemarut-pengisap



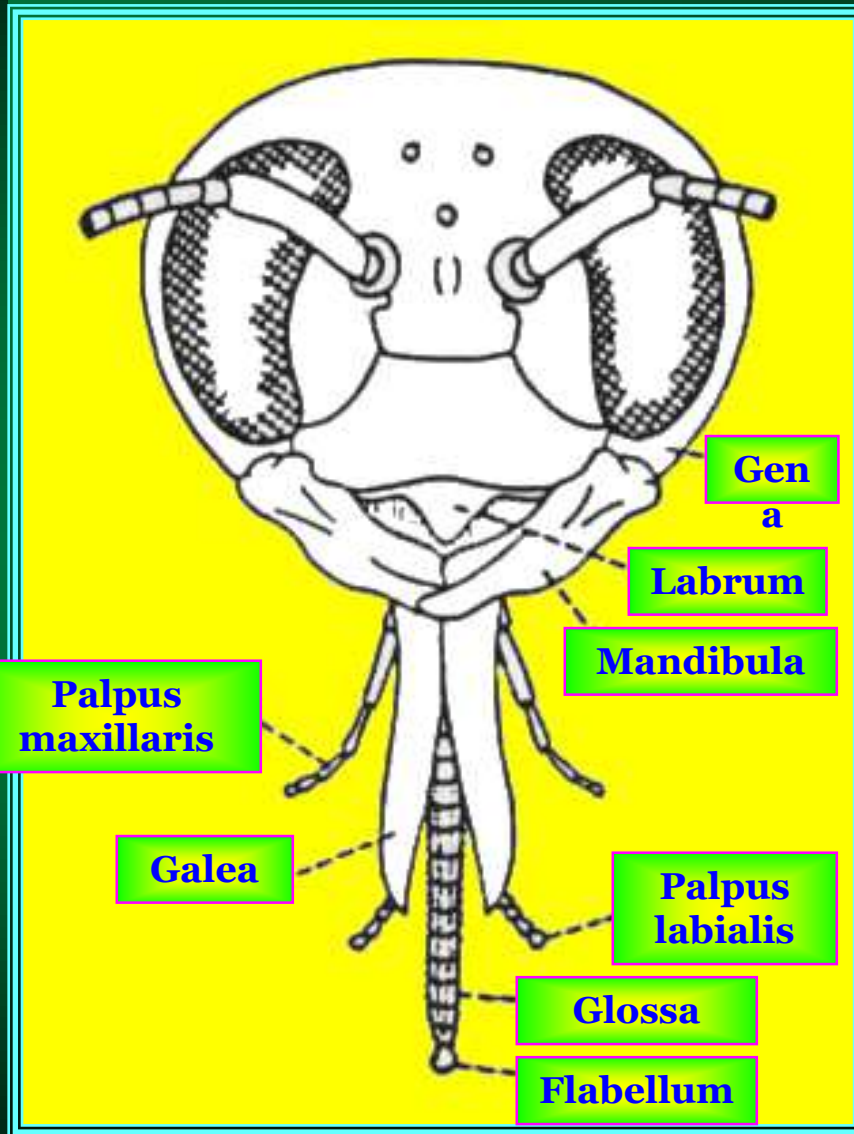
Tipe Alat Mulut (Penggigit-pengunyah)



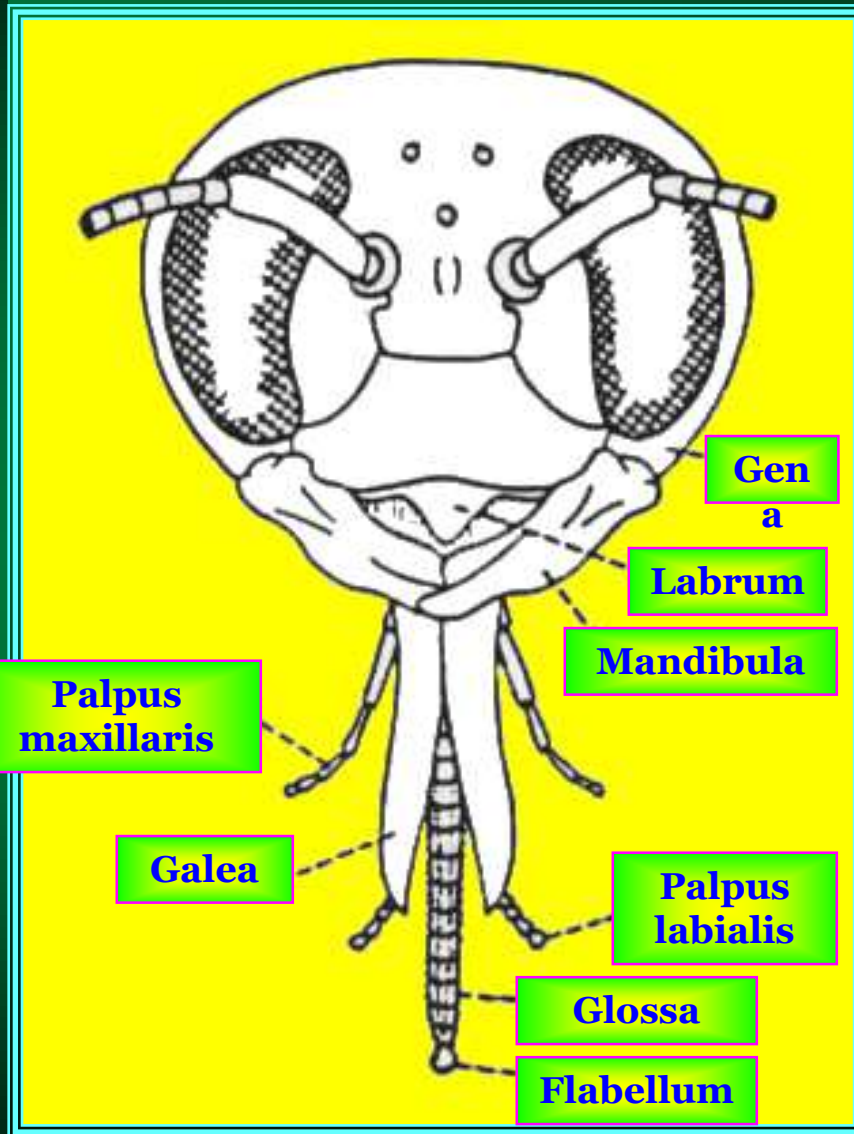
Type Alat Mulut (Penusuk-pengisap)



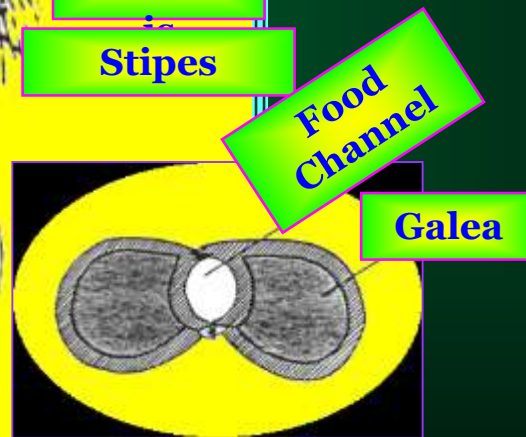
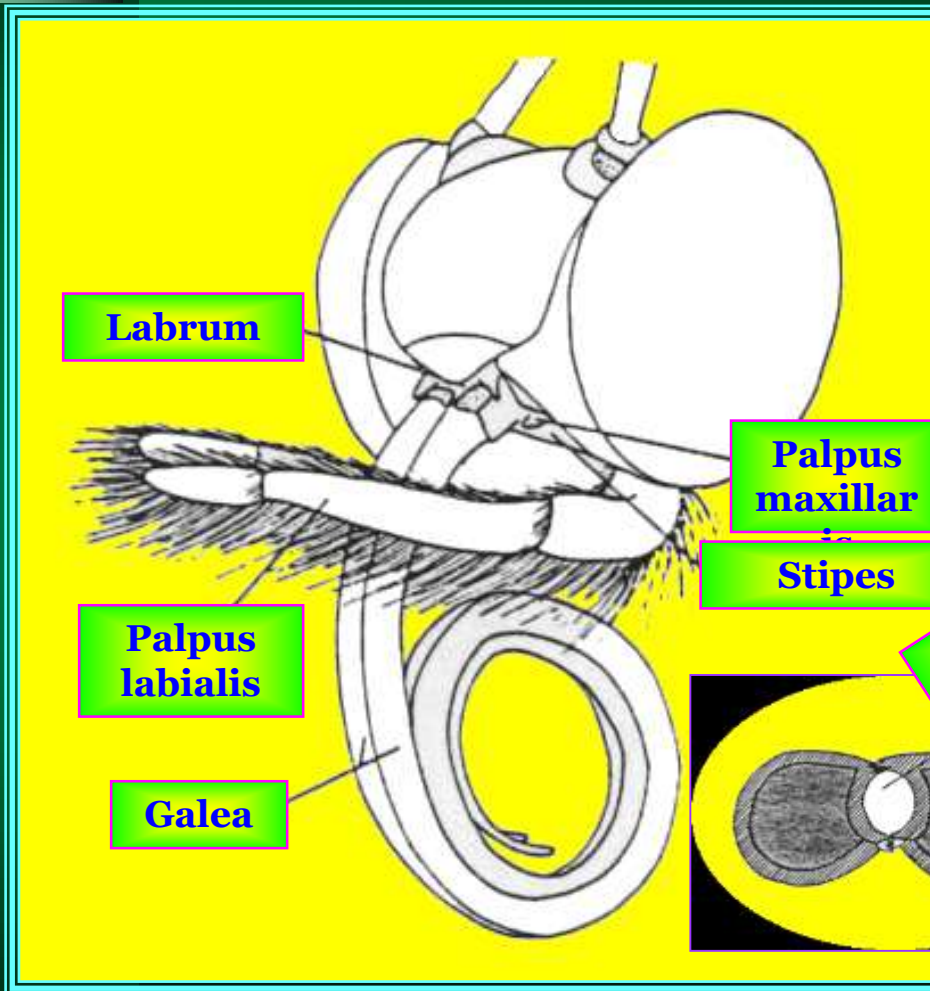
Type Alat Mulut (Penggigit-pengisap)



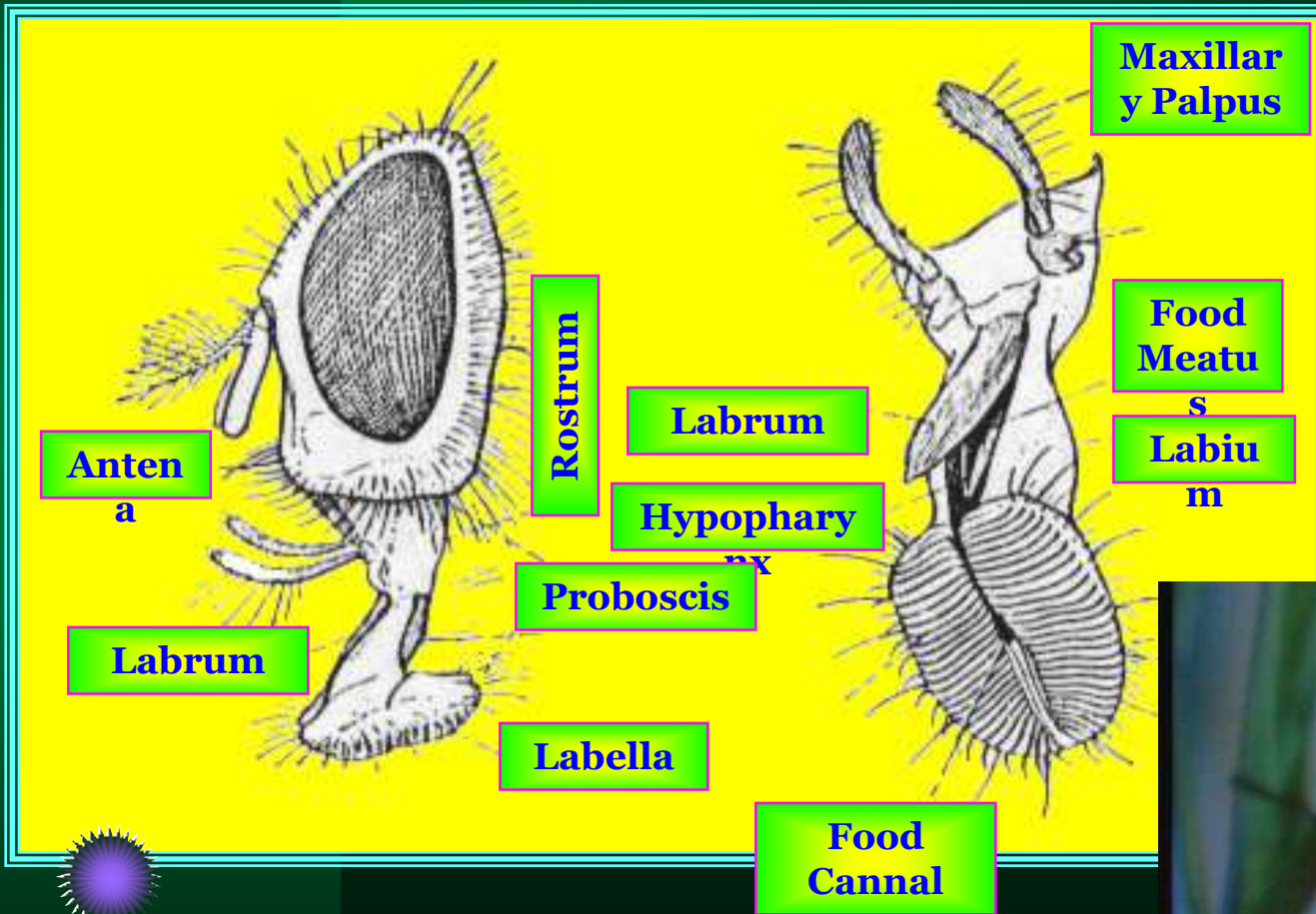
Type Alat Mulut (Penggigit-pengisap)



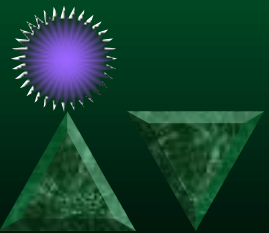
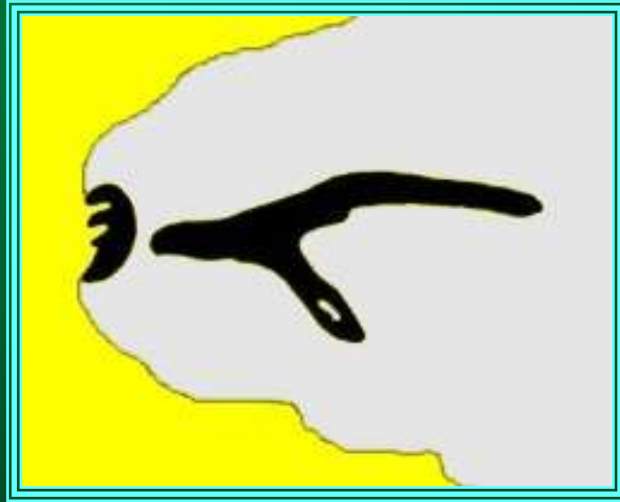
Tipe Alat Mulut (Pengisap)



Tipe Alat Mulut (Pencecap-pengisap)



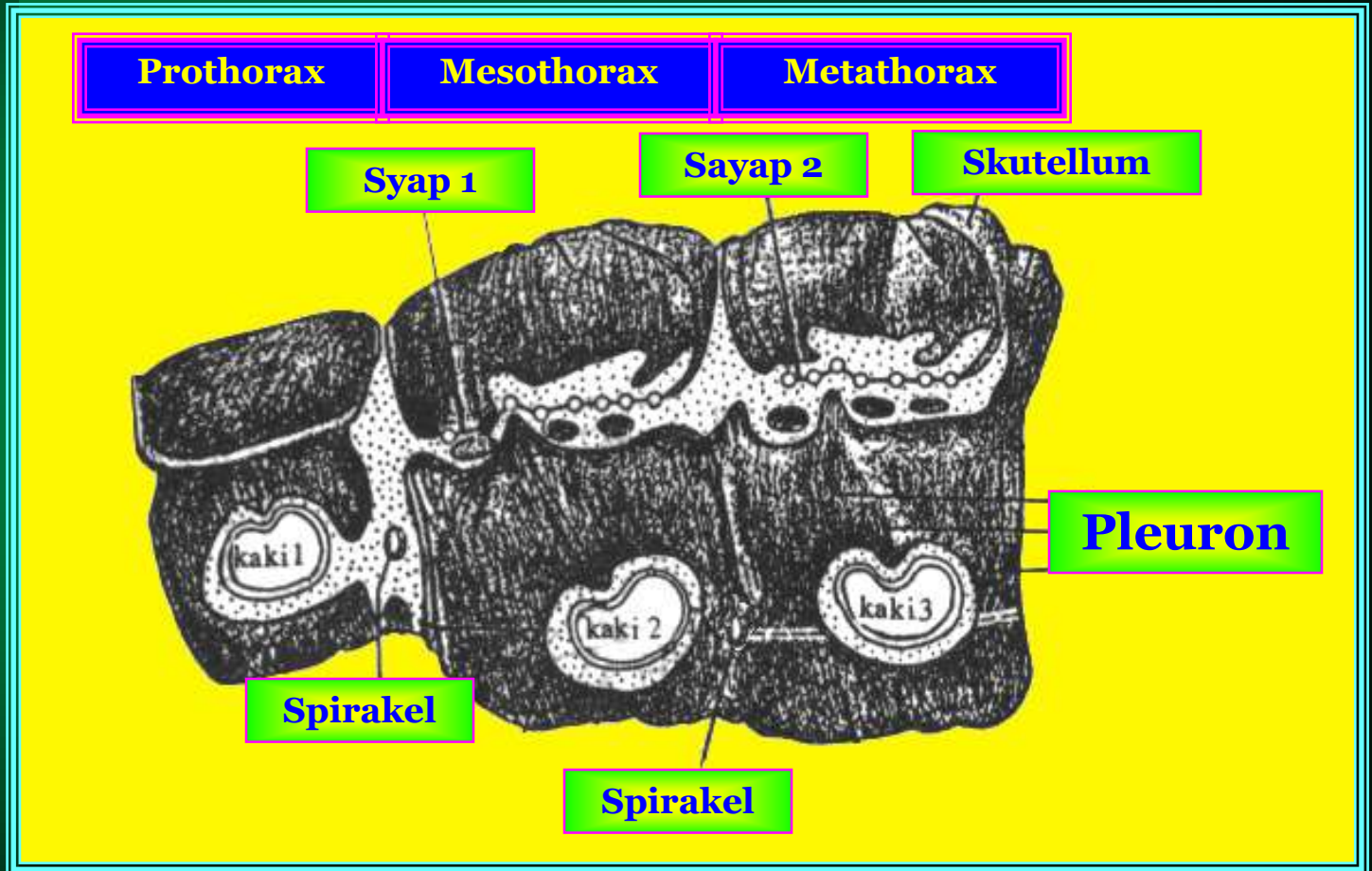
Tipe Alat Mulut (Pengait-pengisap)



Tipe Alat Mulut (Pemarut-pengisap)

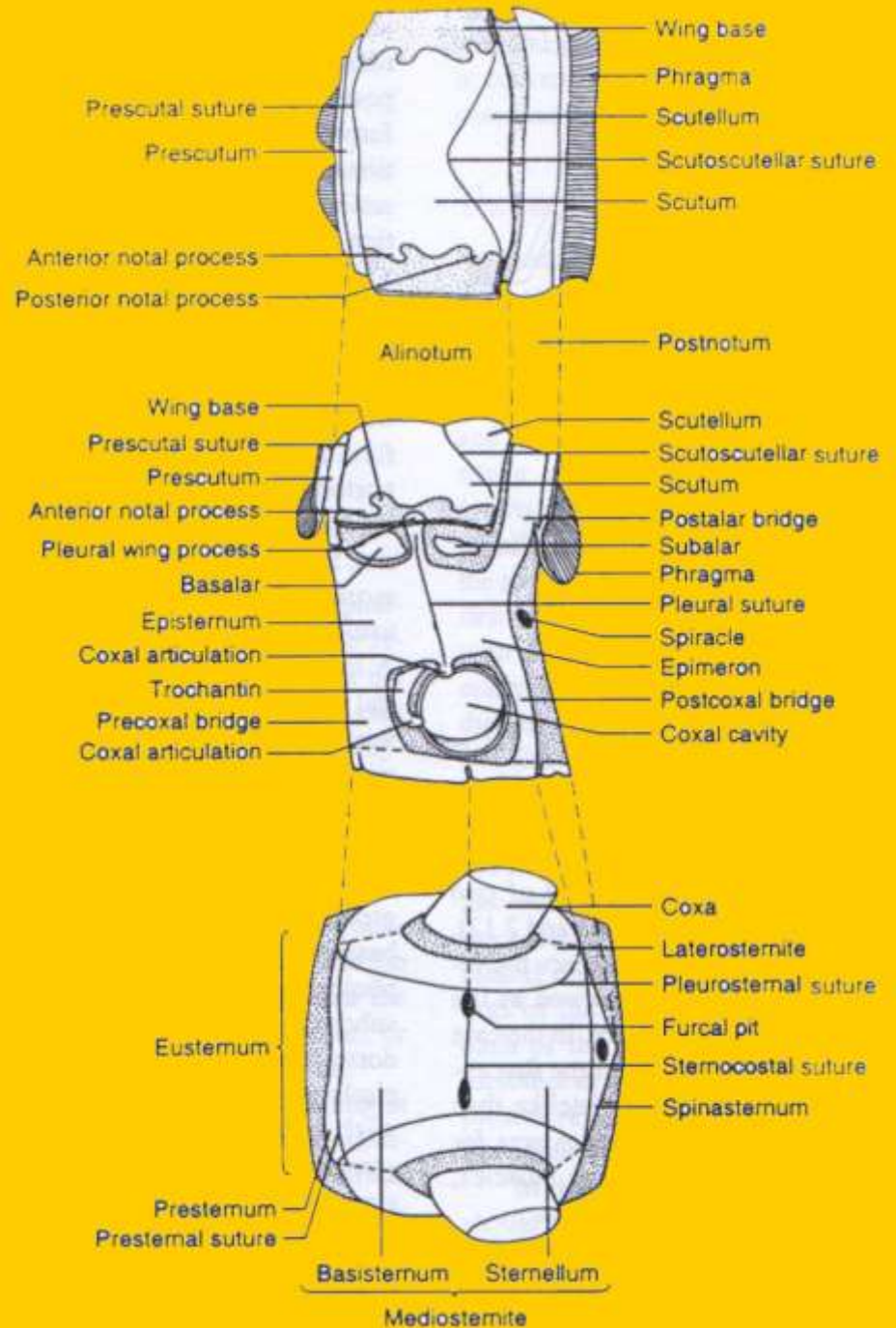


DADA (Thorax)

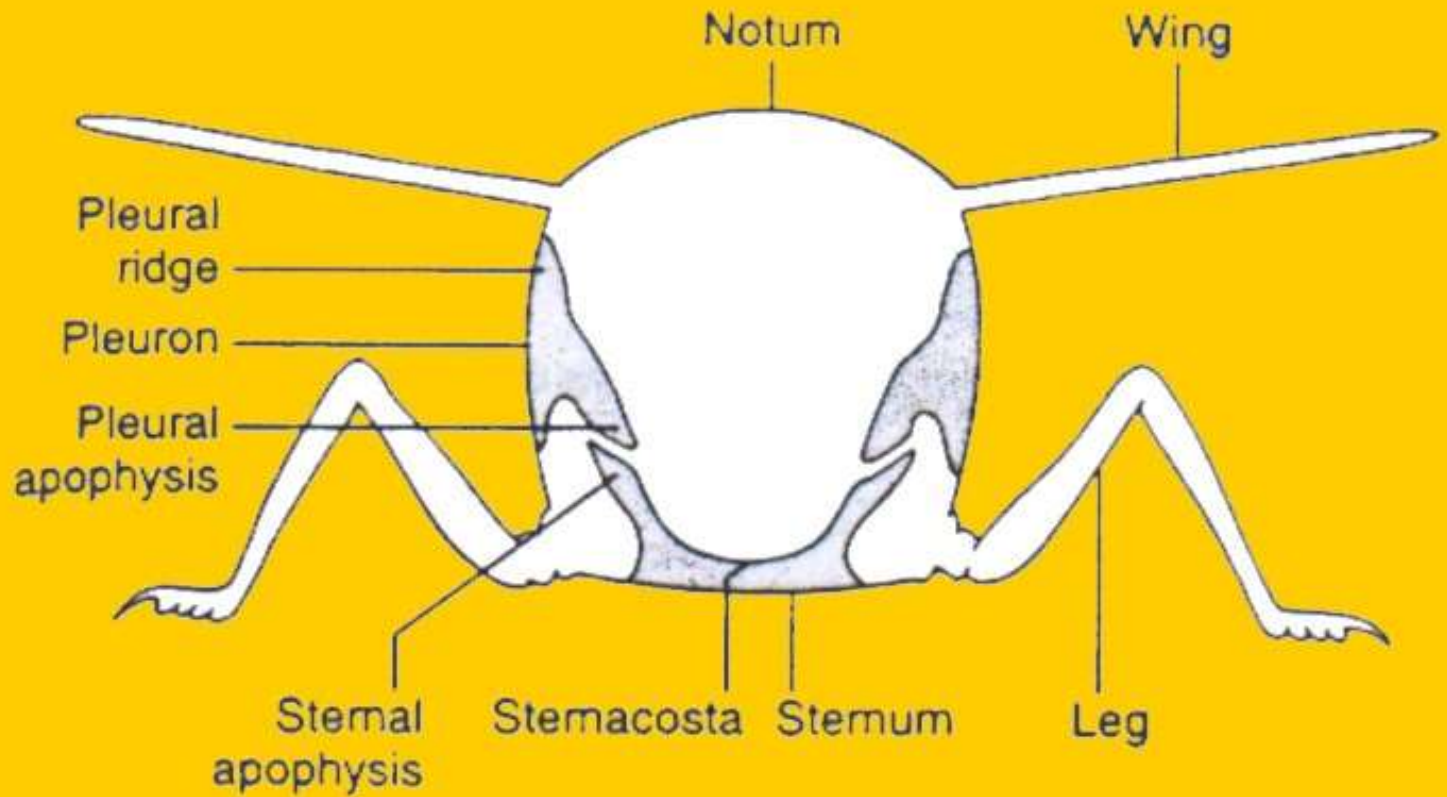




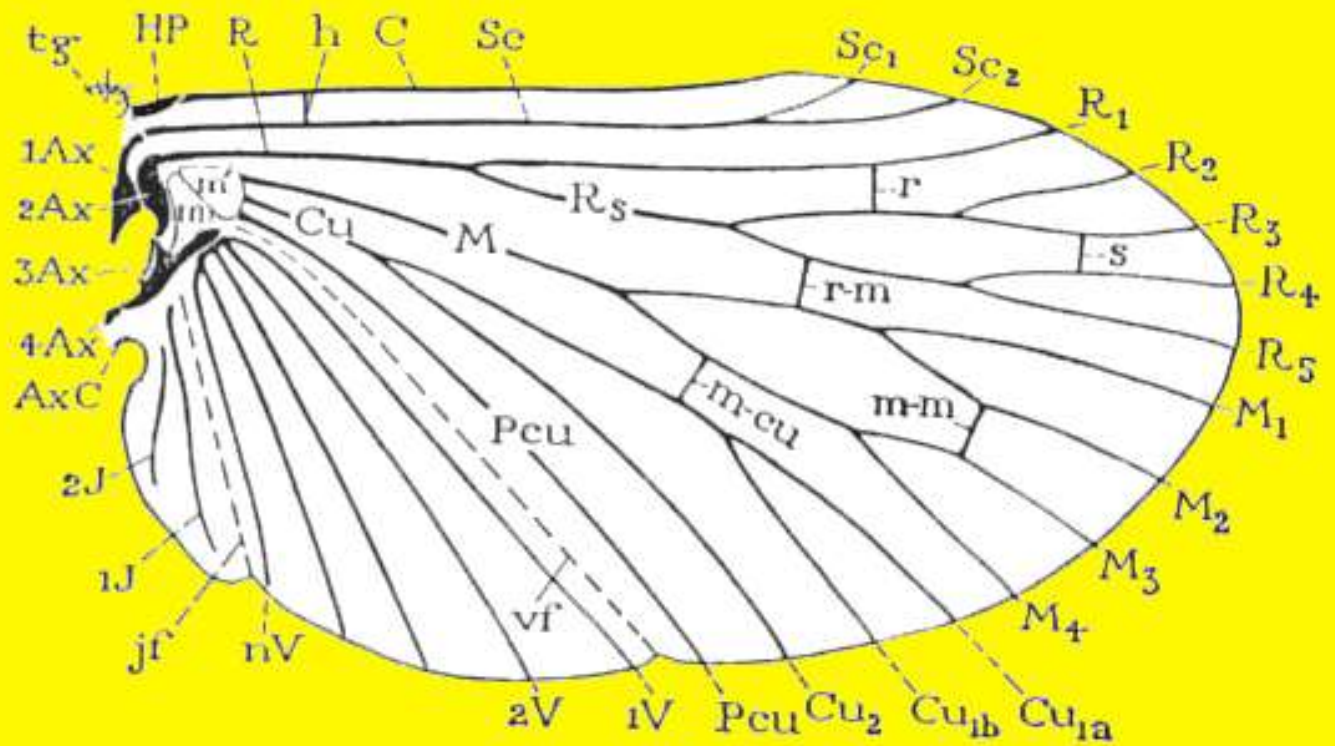
DADA (Thorax)



DADA (Thorax) Locomotion



Sayap Serangga

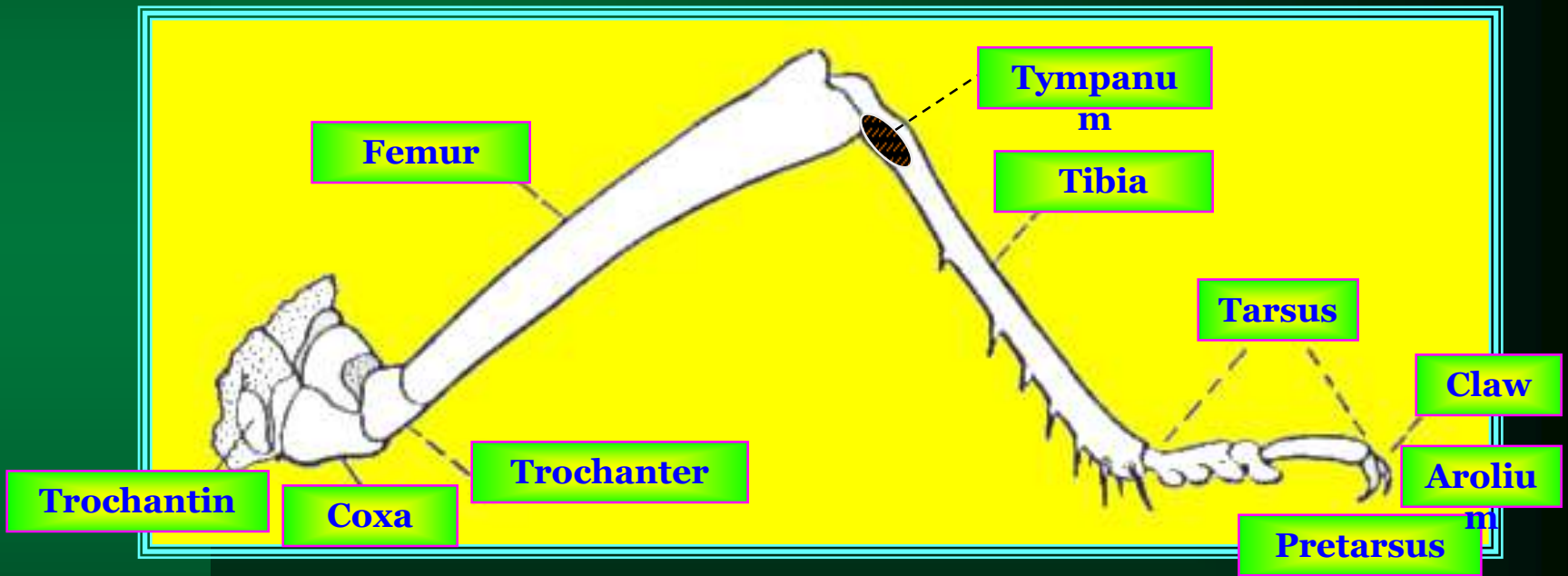




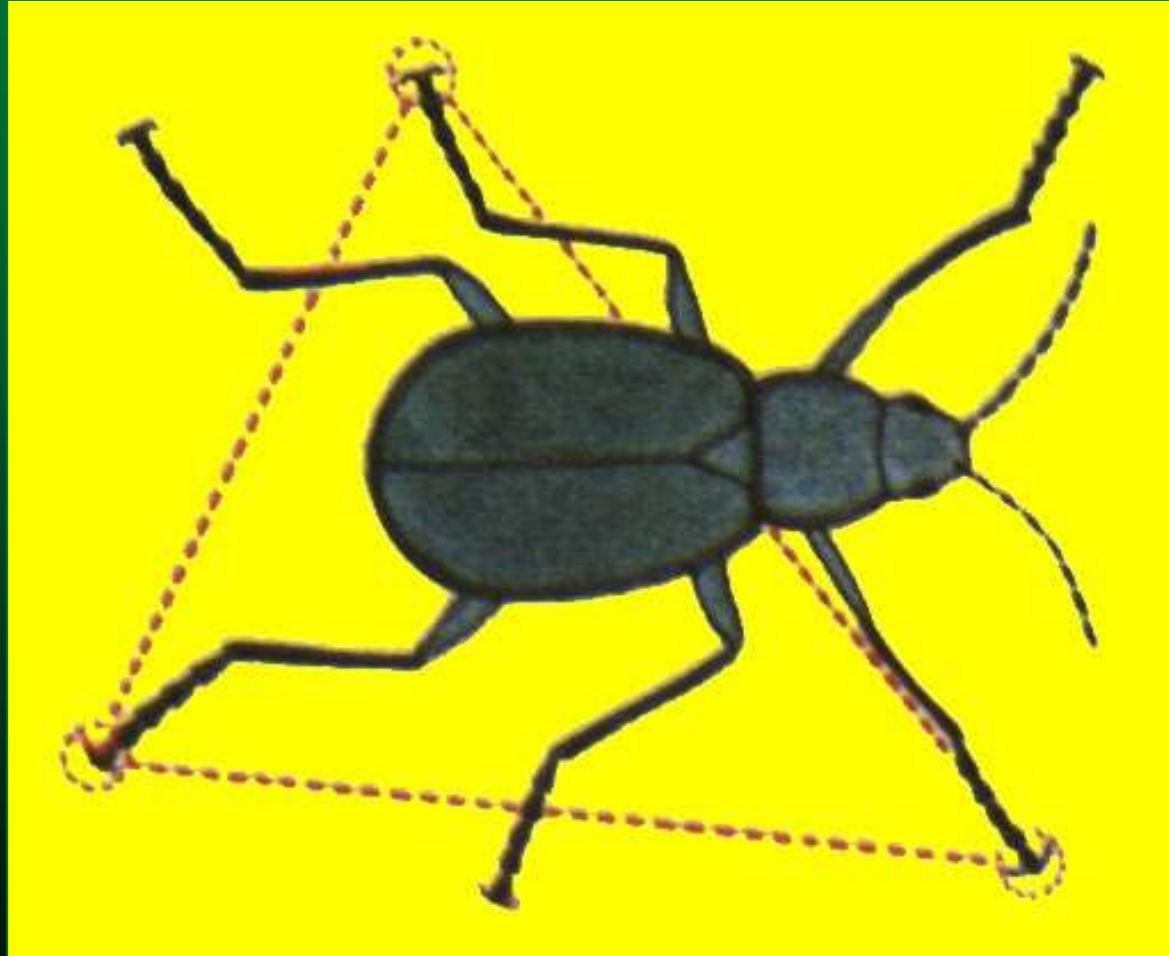
Terbang



Kaki Serangga



Berjalan



Tipe Kaki



Saltatorial



Gressorial



Raptorial



Natatorial



Fossorial

Saltatorial



Raptorial



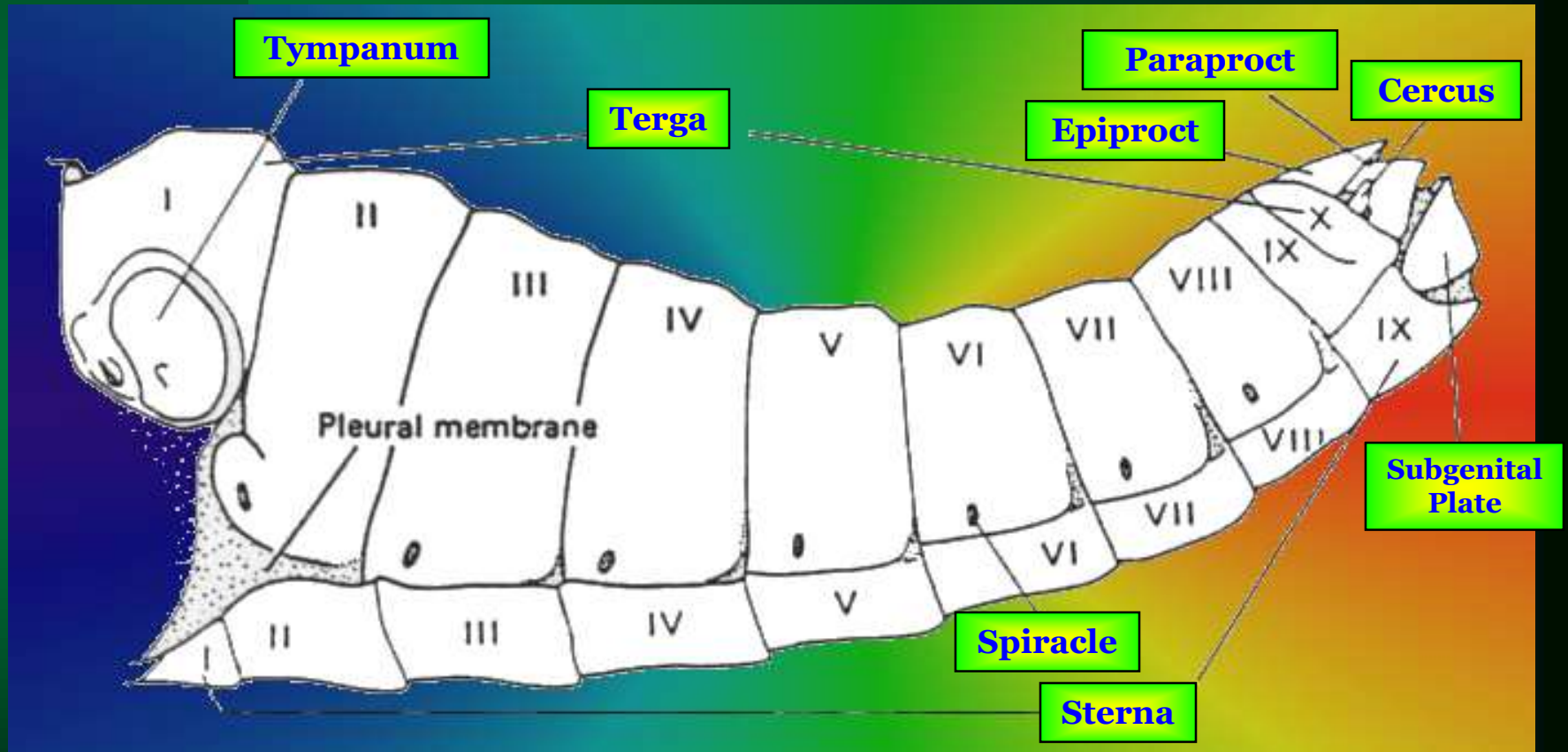
Natatorial



Fossorial



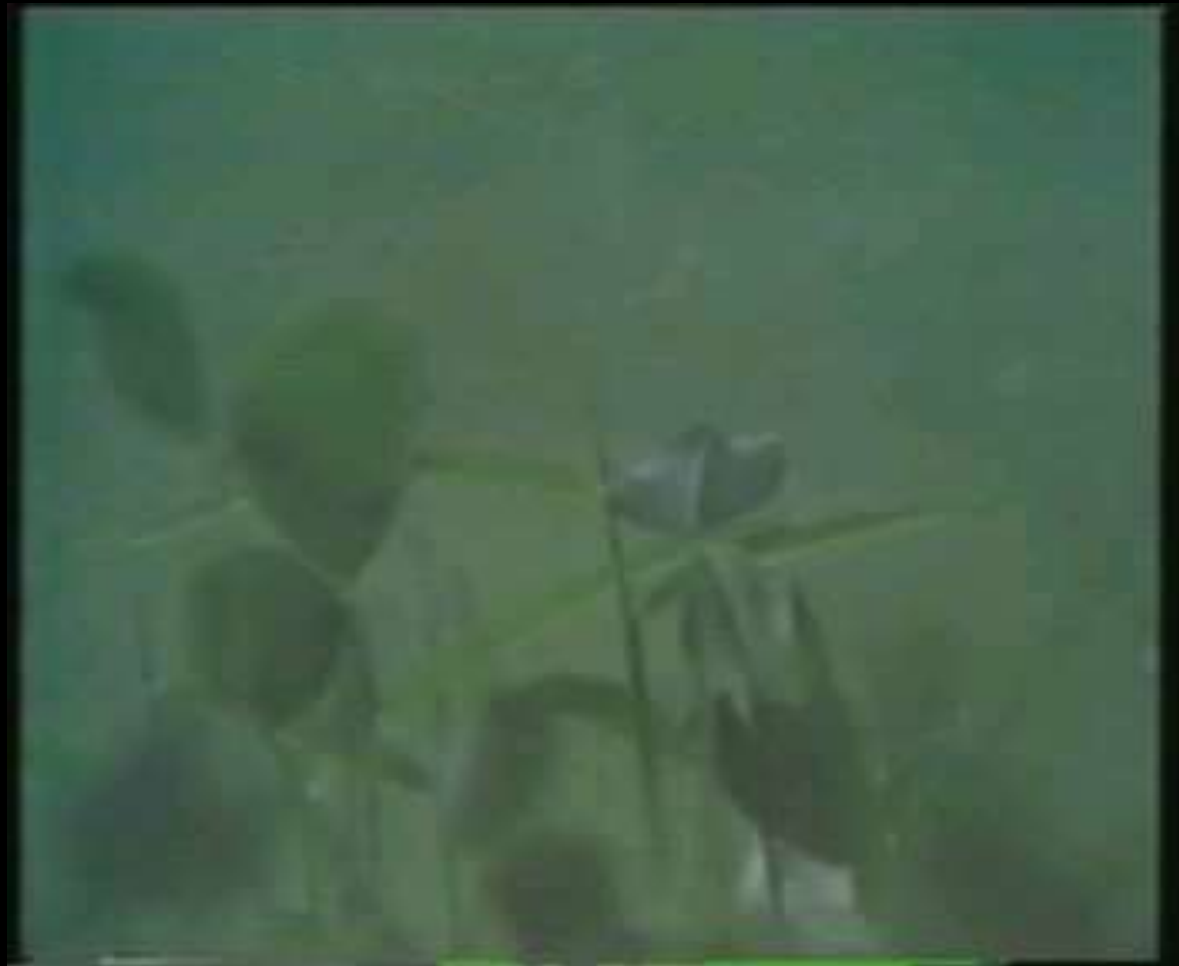
PERUT (Abdomen)



Contoh Fungsi Abdomen pada COLEOPTERA



Contoh Fungsi Abdomen pada COLEOPTERA



Contoh Fungsi cerci pada ODONATA



Contoh Fungsi Ovipositor pada ORTHOPTERA



ORDO SERANGGA

Protura

Collembola

Diplura

Thysanura

Odonata

Orthoptera

Thysanoptera

Hemiptera

Homoptera

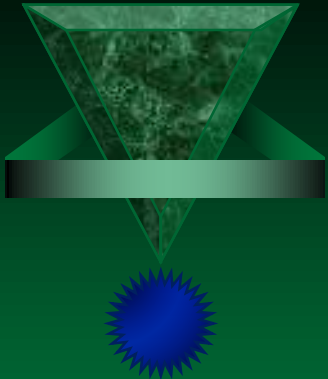
Coleoptera

Diptera

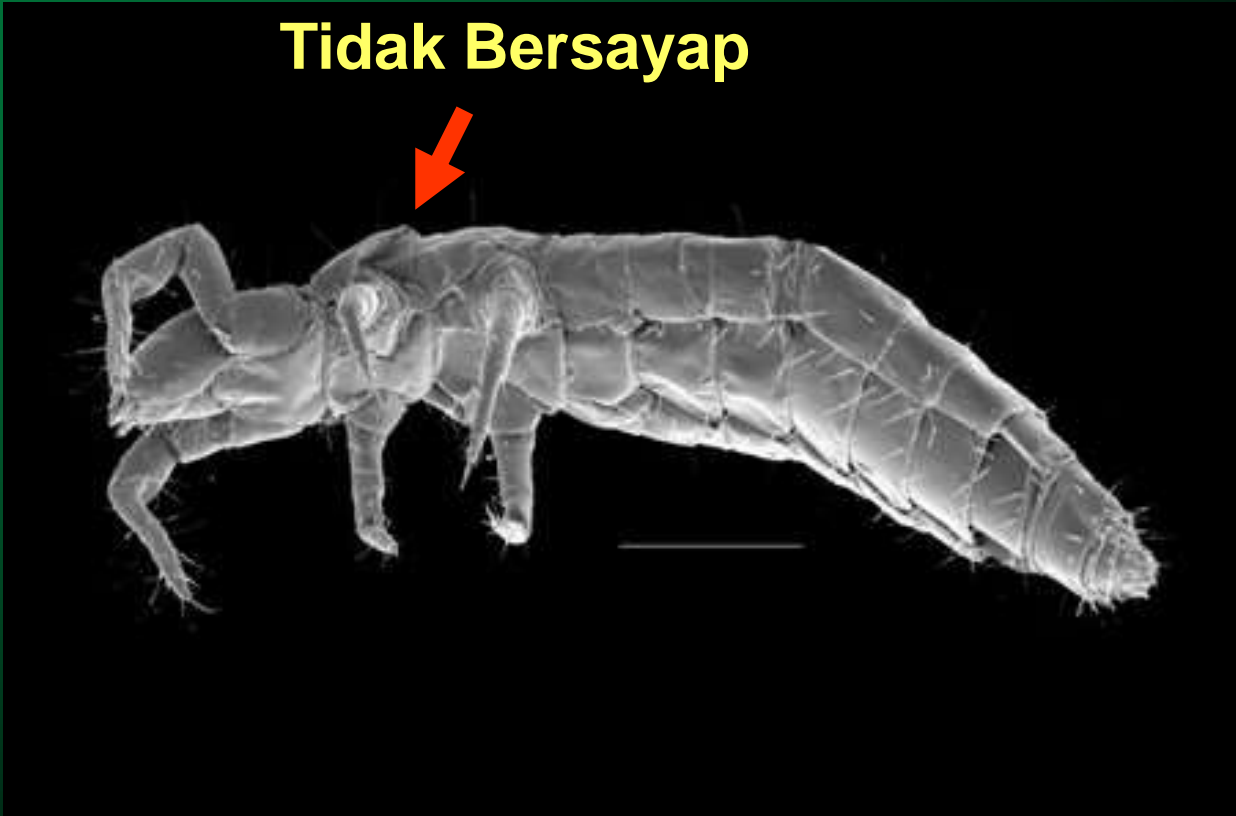
Lepidoptera

Hymenoptera





Protura



Tidak Bersayap

Penggigit-pengunyah

Sebagai Pengurai (Decomposer)



Collembola

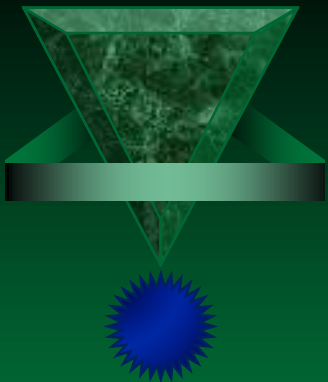
Tidak Bersayap



Ekor pegas

Penggigit-pengunyah

Sebagai Pengurai (Decomposer)



Diplura

Tidak Bersayap



Penggigit-pengunyah

Sebagai Pengurai (Decomposer)



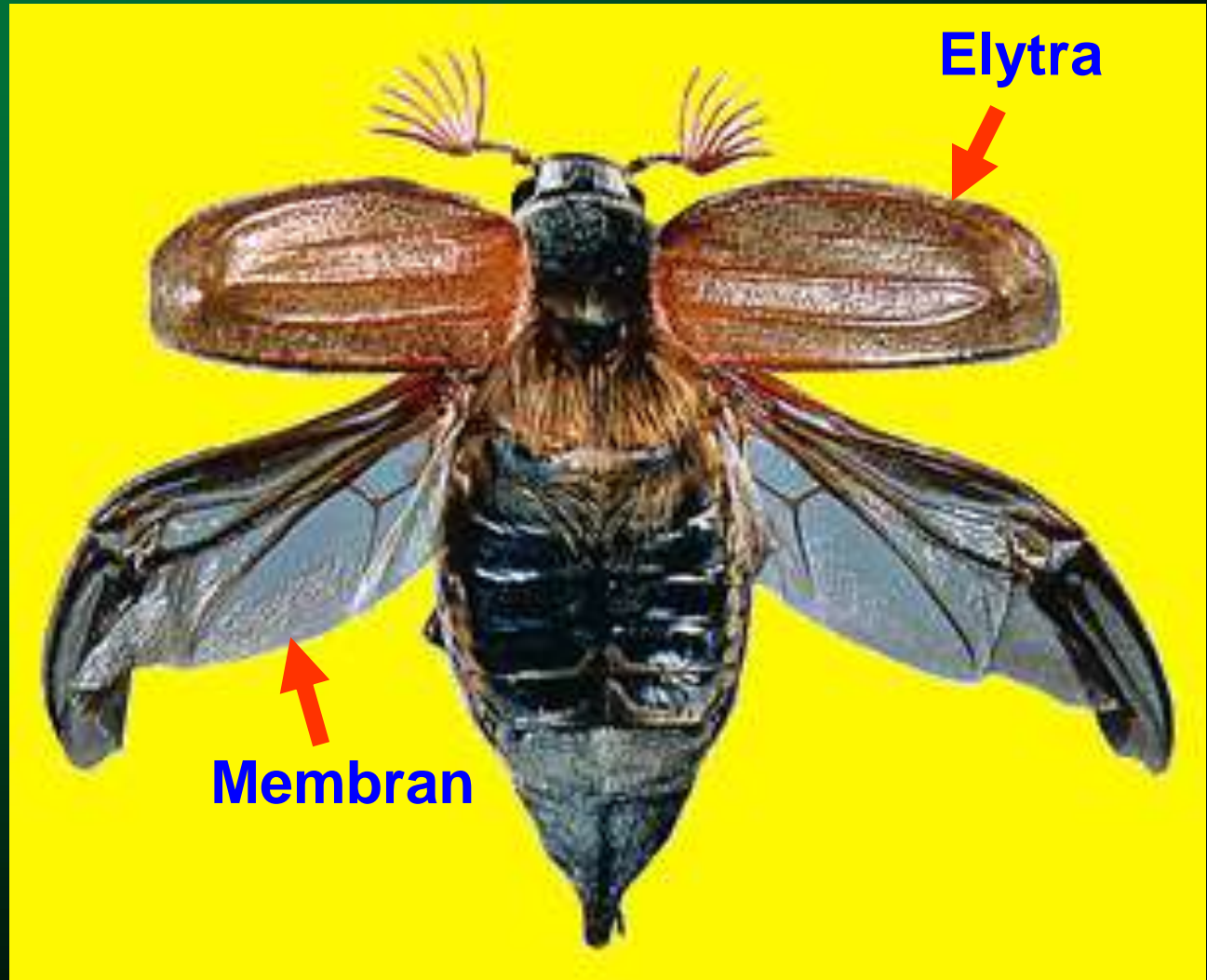
Thysanura



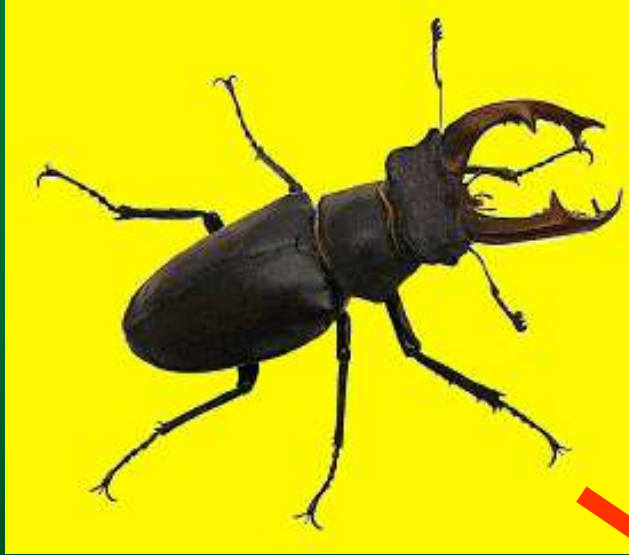
Penggigit-pengunyah

Sebagai Pengurai (Decomposer)

Coleoptera



Tipe Alat Mulut Coleoptera



Penggigit-pengisap



Pengisap



Penggigit-pengunyah



Peranan Ordo Coleoptera

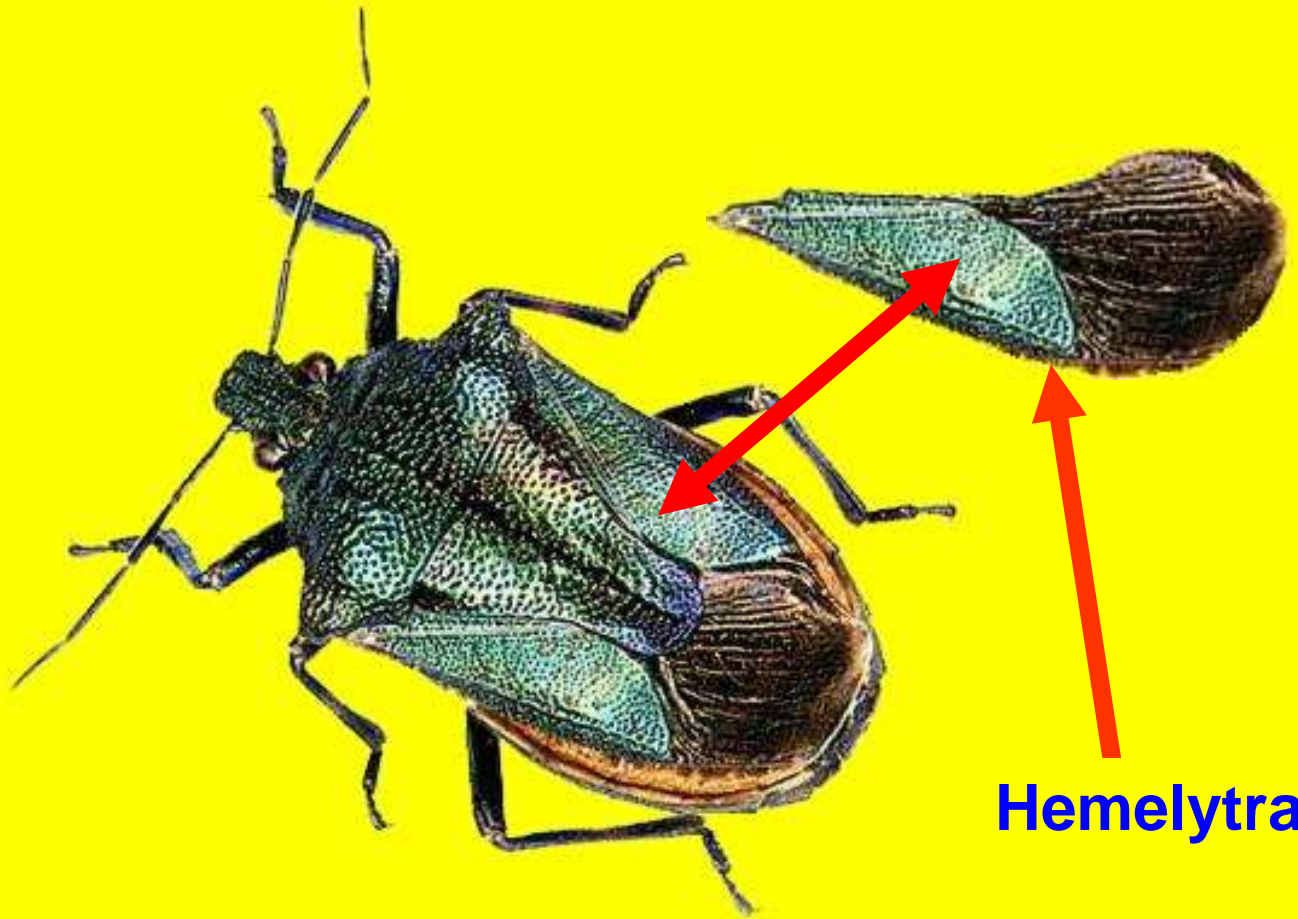


Hama



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Hemiptera



Hemelytra

Pencucuk-pengisap

Peranan Ordo Hemiptera

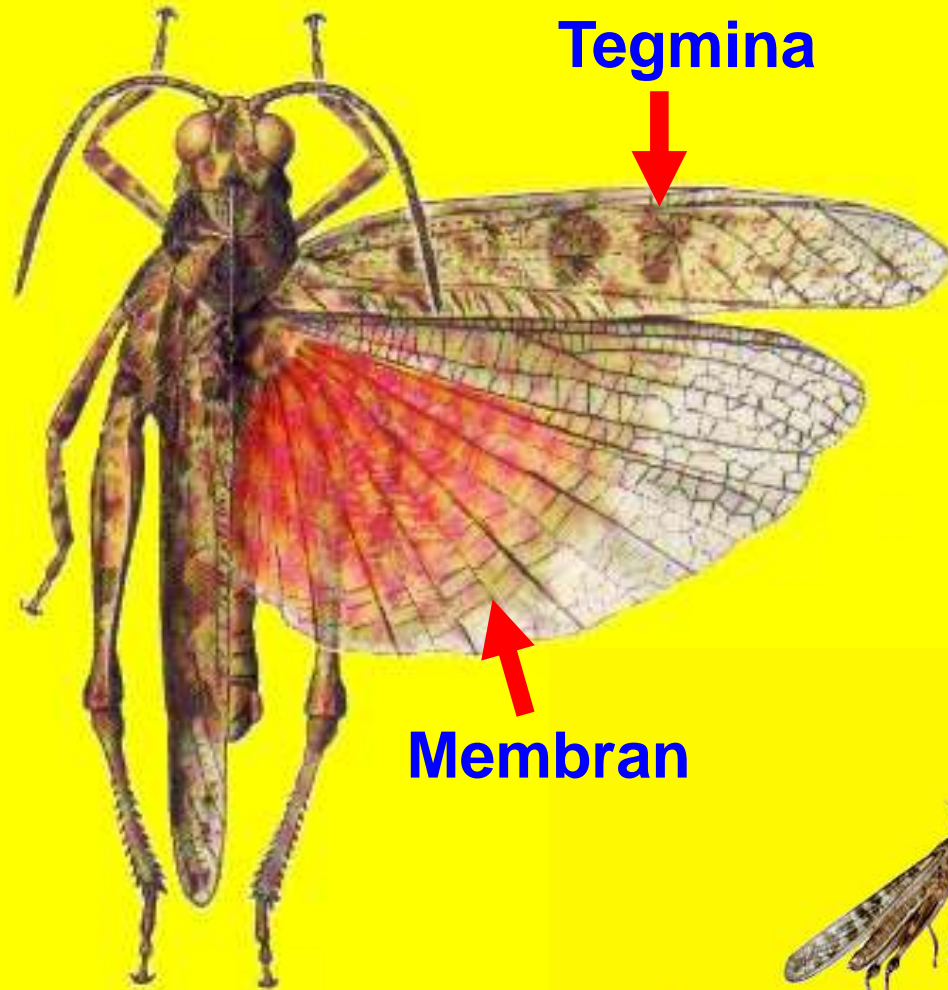


Hama

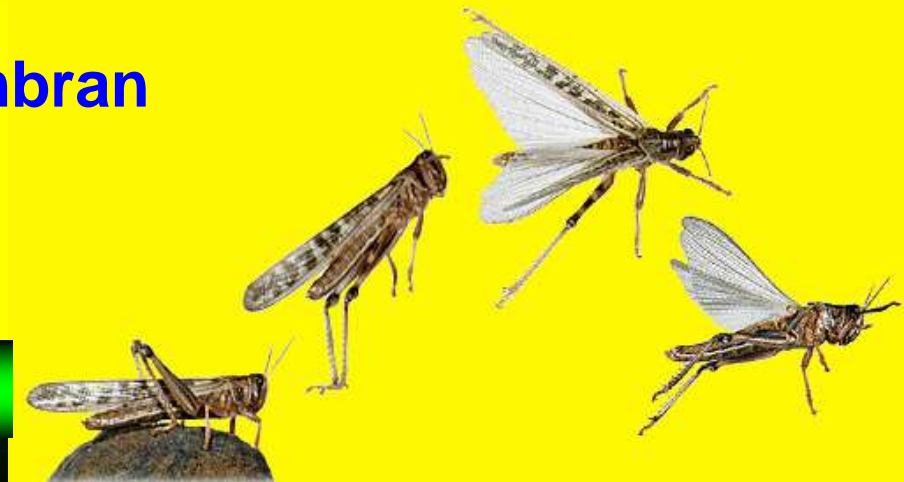


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Orthoptera



Membran



Penggigit-pengunyah

Peranan Ordo Orthoptera

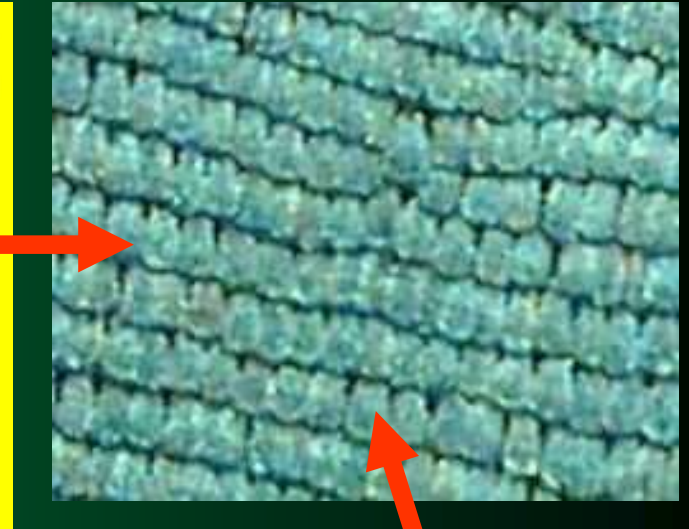
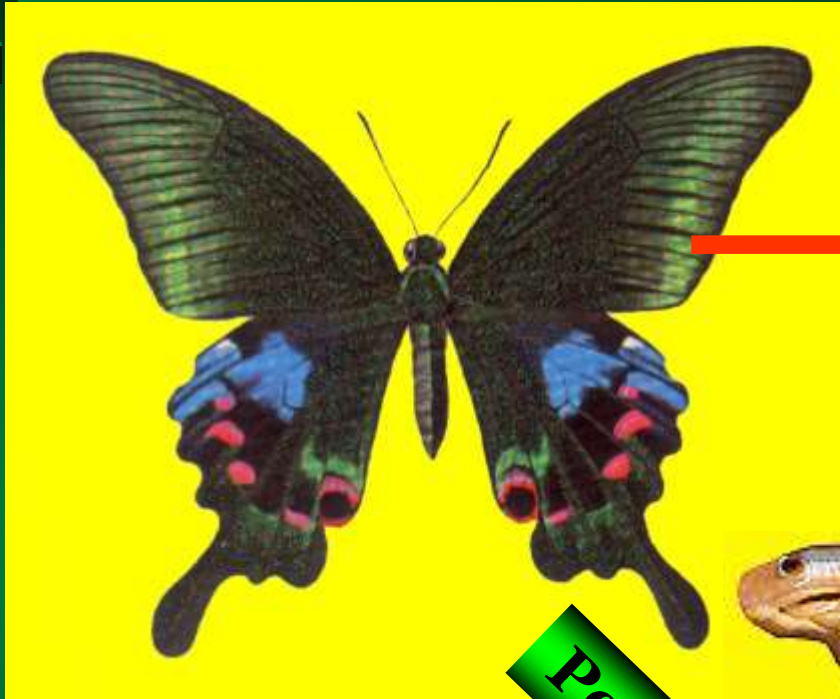


Hama



Musuh Alami

Lepidoptera



Kupu-kupu

Pengisap

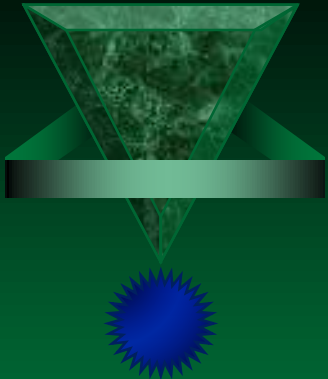


Ngengat



Penggigit-pengunyah

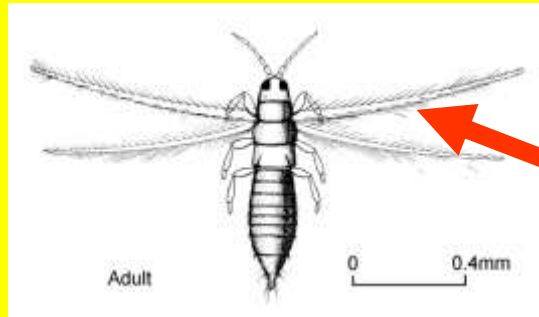
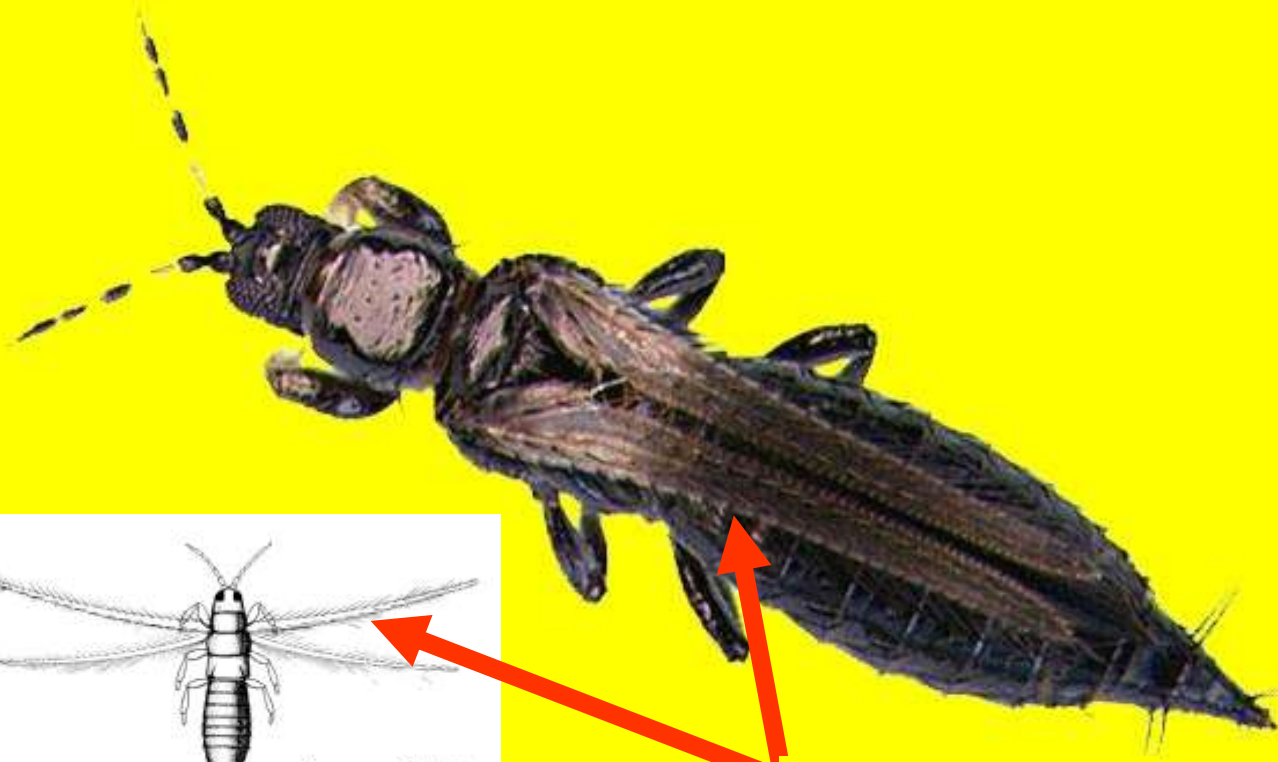
Peranan Ordo Lepidoptera



Hama



Thysanoptera



Adult

0 0.4mm

Berumbai

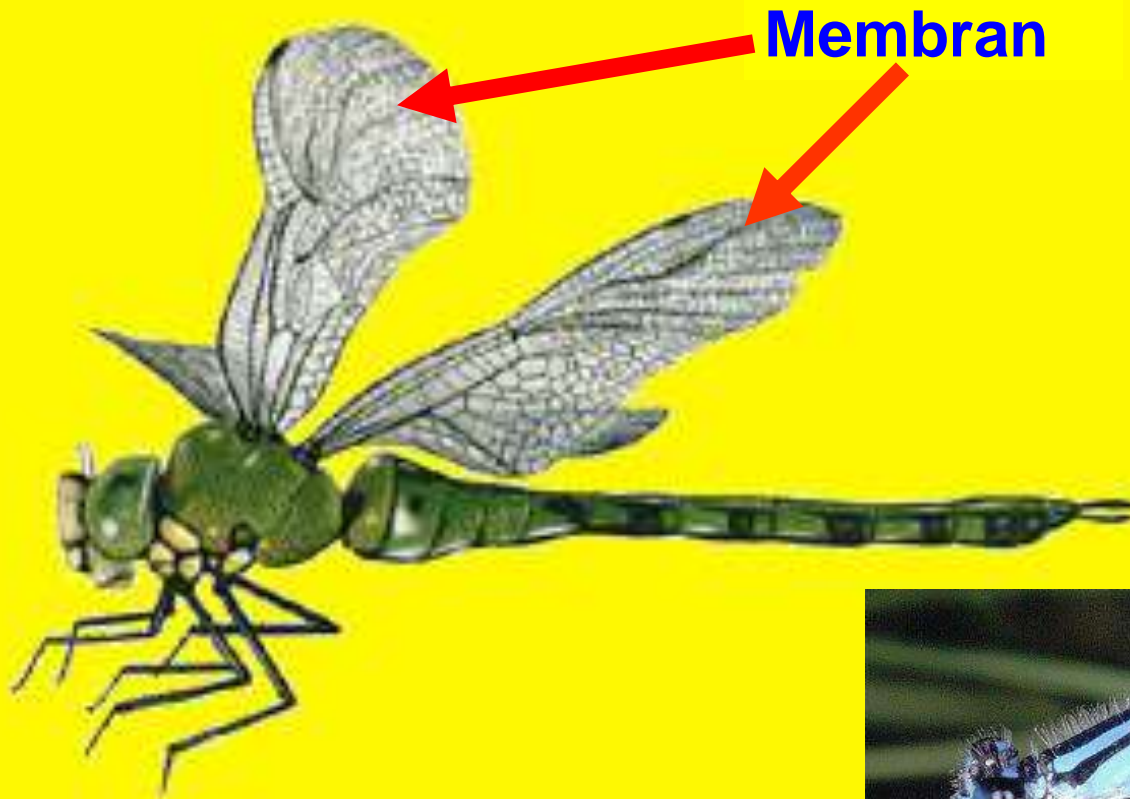
Pemarut-pengisap

Peranan Ordo Thysanoptera



Hama

Odonata

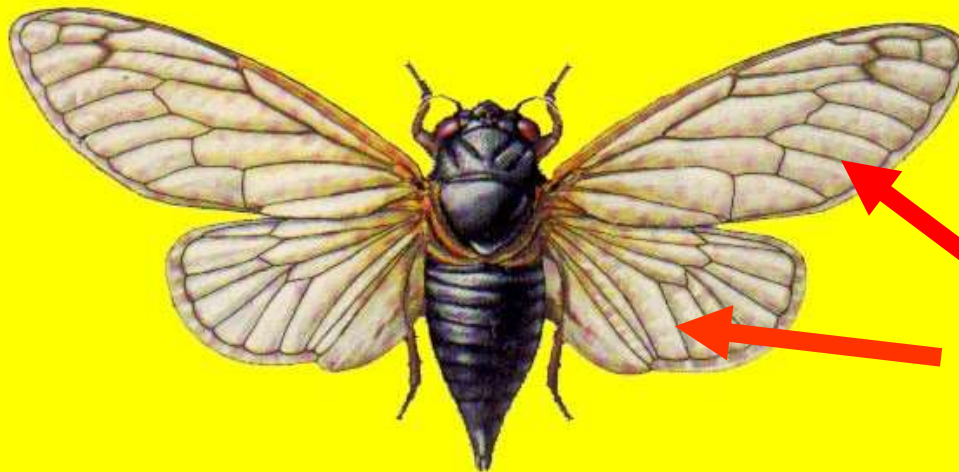


Penggigit-pengunyah



Musuh Alami

Hemiptera



Membran
Venasi besar

Pencucuk-pengisap

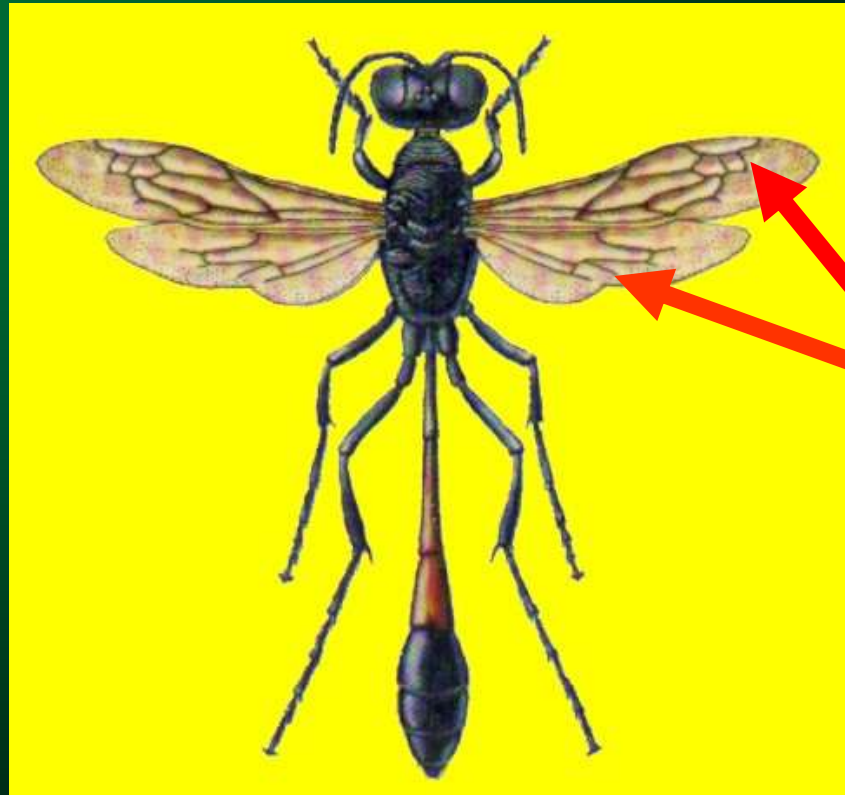
Peranan Ordo Hemiptera



Hama



Hymenoptera



Membran

Penggigit-pengunyah

Penggigit-pengisap

Peranan Ordo Hymenoptera

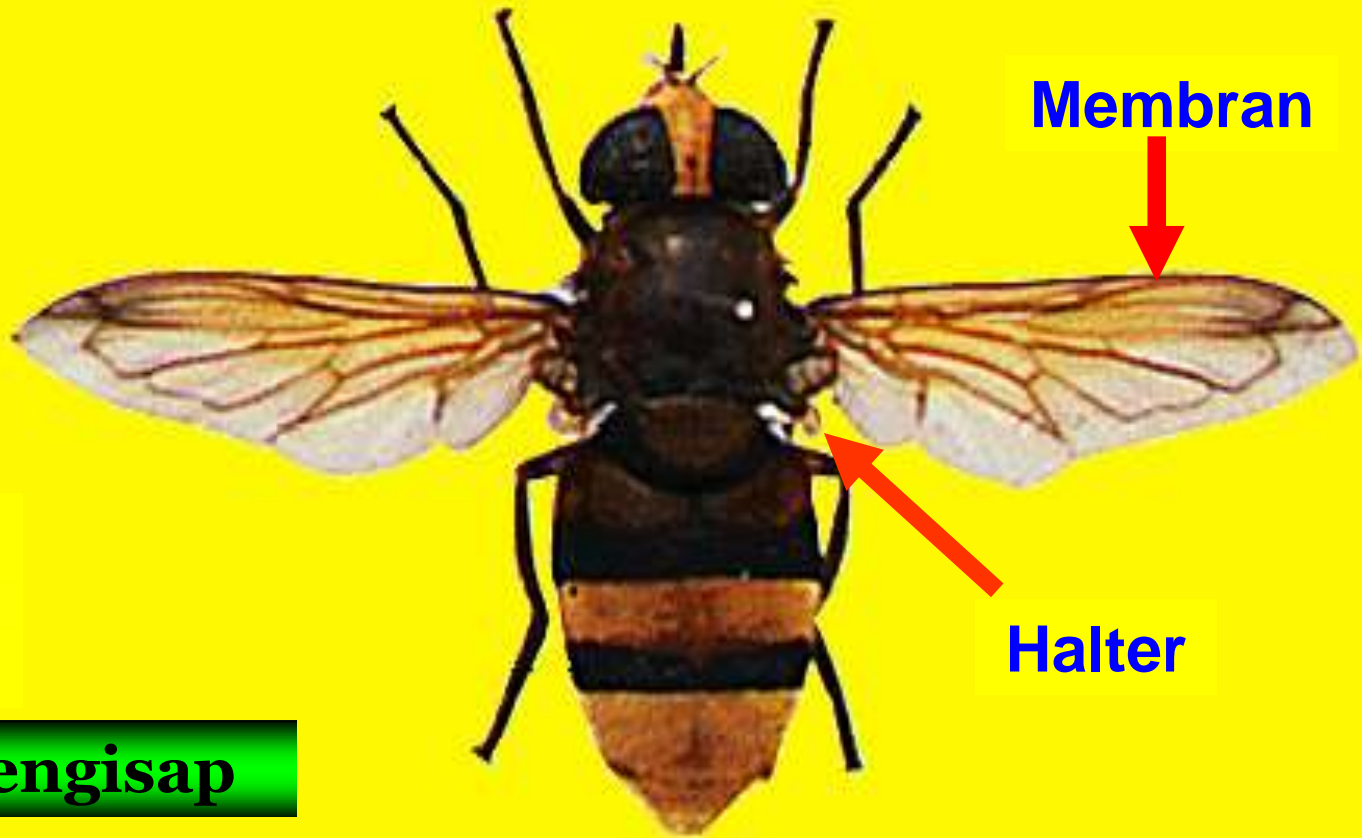


Musuh Alami



Hama

Diptera



Membran

Halter



Pengait-pengisap

Pencecap-pengisap

Peranan Ordo Diptera

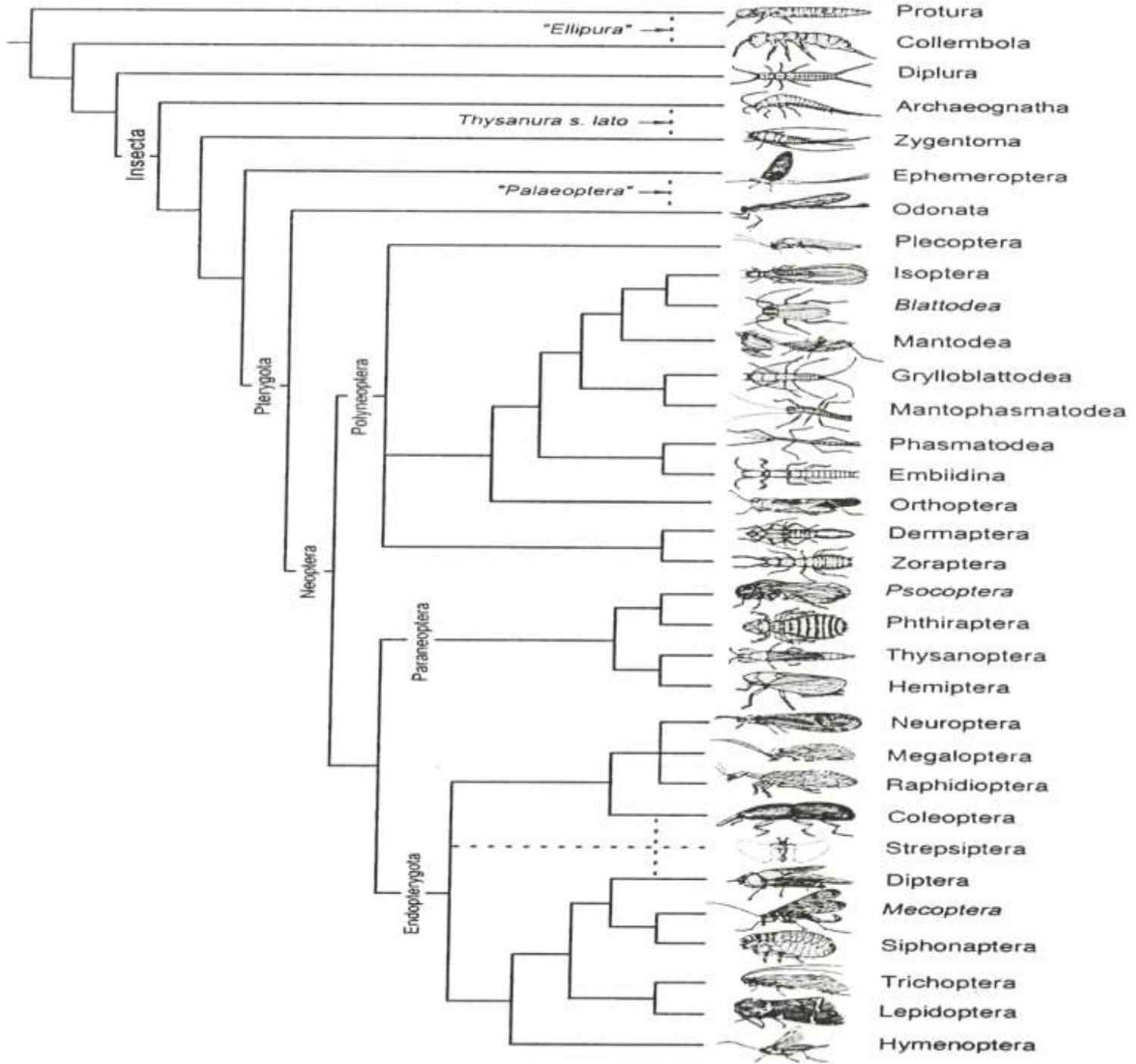


Musuh Alami



lalat buah

Hama





TERIMA KASIH



SUPUTA