

INSECTS HEAD



PRESENTED BY SAIMOUN

INTRODUCTION

BODY SEGMENTATION

Body segmentation means externally divisions of body into distinct regions and the process is called Tagmosis.

Insect body is divided into 3 major segments /regions called Tagmata :

- 1.HEAD
- 2.THORAX
- 3.ABDOMEN

THE HEAD

It is a anterior part of the insect body and it is formed by fusion of 6 minor segments.

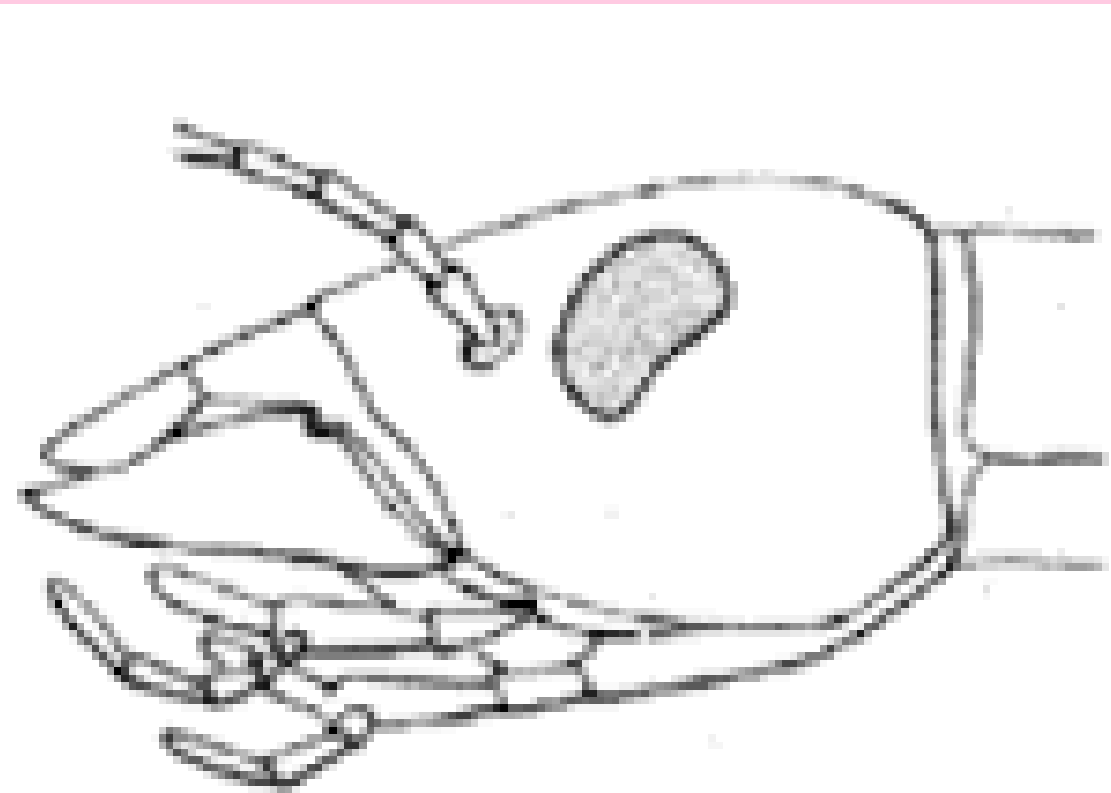
Head is attached to thorax through Cervix or Neck.

Head is sclerotized except at appendages which forms a capsule called Cranium .

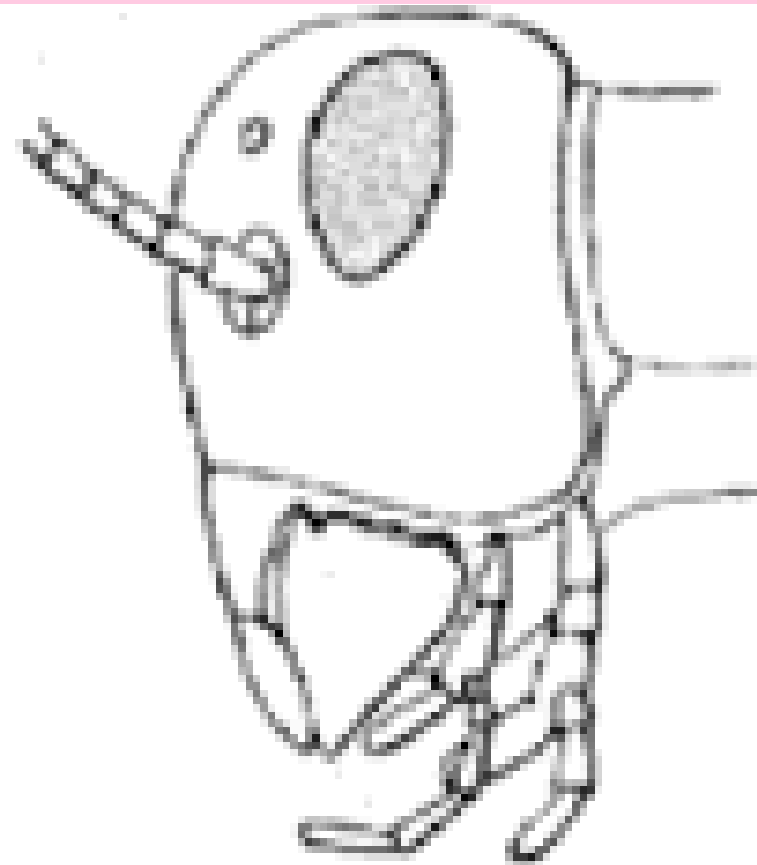
Cranium is formed by fusion of sclerites.

The main sense organs on the head are a pair of compound eyes , typically 3 ocelli (simple eyes) and a pair of antennae .

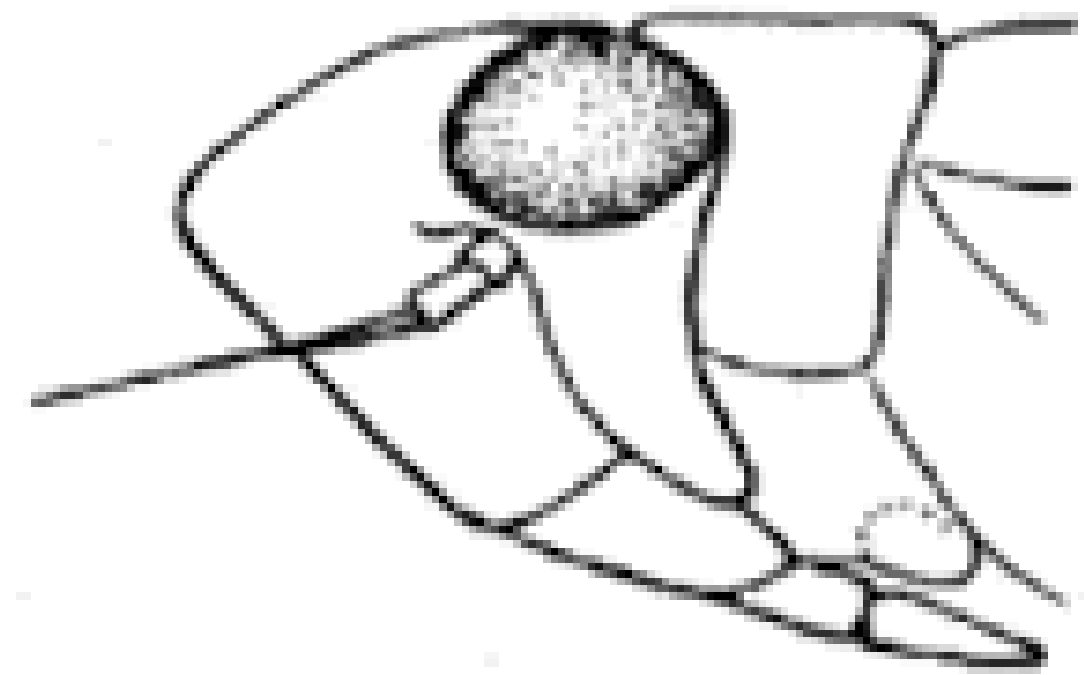
TYPES OF HEAD OF INSECT



prognathous



hypognathous



opisthognathous

Based on orientation of their mouth part insect have 3 major types :

1. PROGNATHOUS

In many insects cranium is turned upward on the neck thus the mouth parts are directed forward .eg, in mouth part of Thysanura ,Dermaptera ,Coleoptera(beetles)etc.

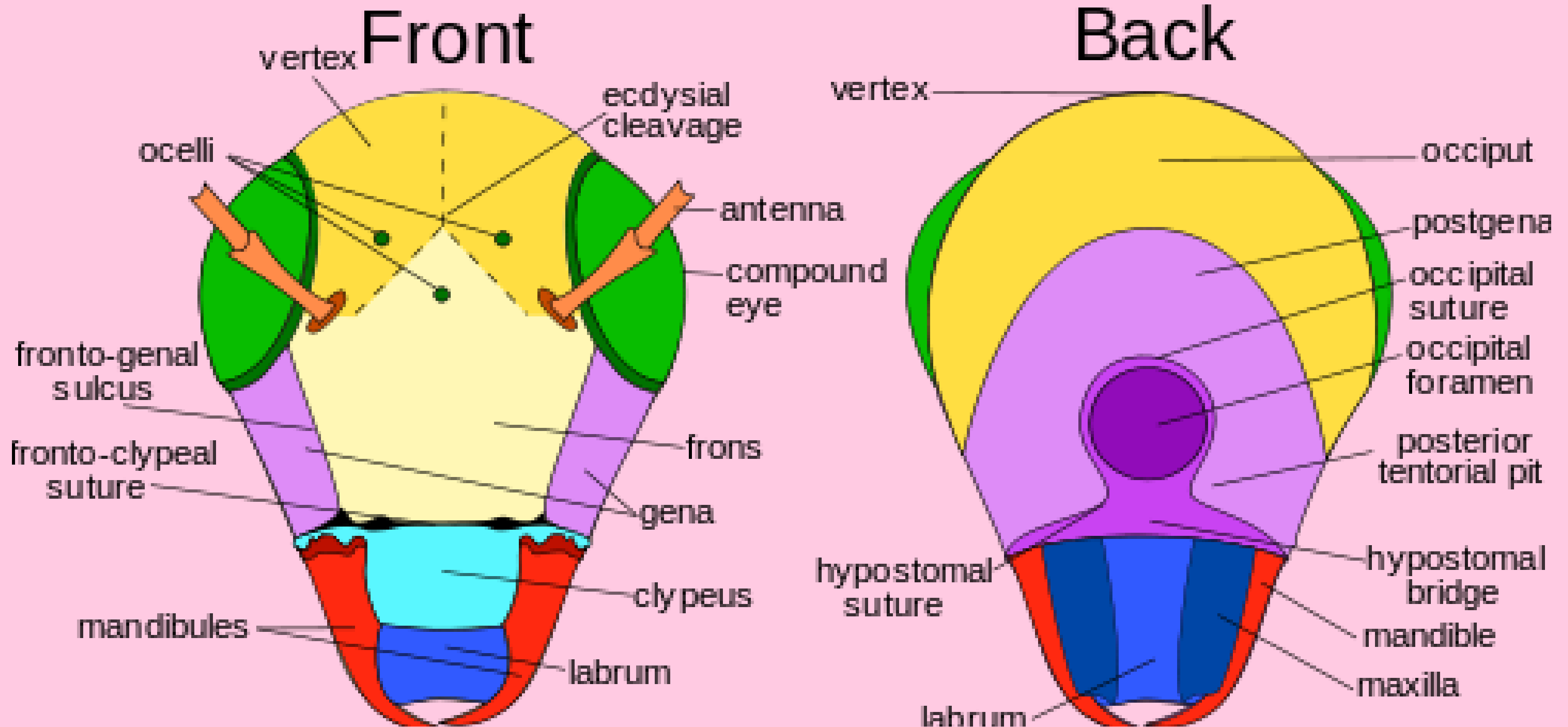
2. HYPOGNATHOUS

In several insects cranium is placed at the top of head thus the mouth parts are directed downward .eg.Orthoptera ,Diptera ,Hymenoptera etc.

3. OPISTHOGNATHOUS

It mainly occurs in Homoptera and Hemiptera where the head is deflexed backwards so that mouth partsslopes backwards between the front legs .

HEAD SCLERITES



The sclerites represent simply , the intersutural areas.

The head of the generalised insect is typically exhibiting the following sclerites :

1.The frons

It is the facial part of the insect consisting of median ocellus .

2. The Labrum

It is small sclerites that forms the upper lip of the mouth cavity .it is freely attached or suspended from the lower margin of the cypeus .

3.Clypeus

It is situated above the labrum and is divided into anterior ant-clypeus and posterior post - clypeus .

4. Vertex

It is the top portion of the head behind the frons or the area between the two compound eyes .

5. Occiput

It is an inverted "U" shaped structure representing the area between the epicranium and post occiput.

6. Post occiput

It is the extreme posterior part of the insect head that remains before the neck region .

7.Gena

It is the area extending from below the compound eyes to just above the mandible.

8.Occular sclerites

These are cuticular ring like structures present around each compound eye.

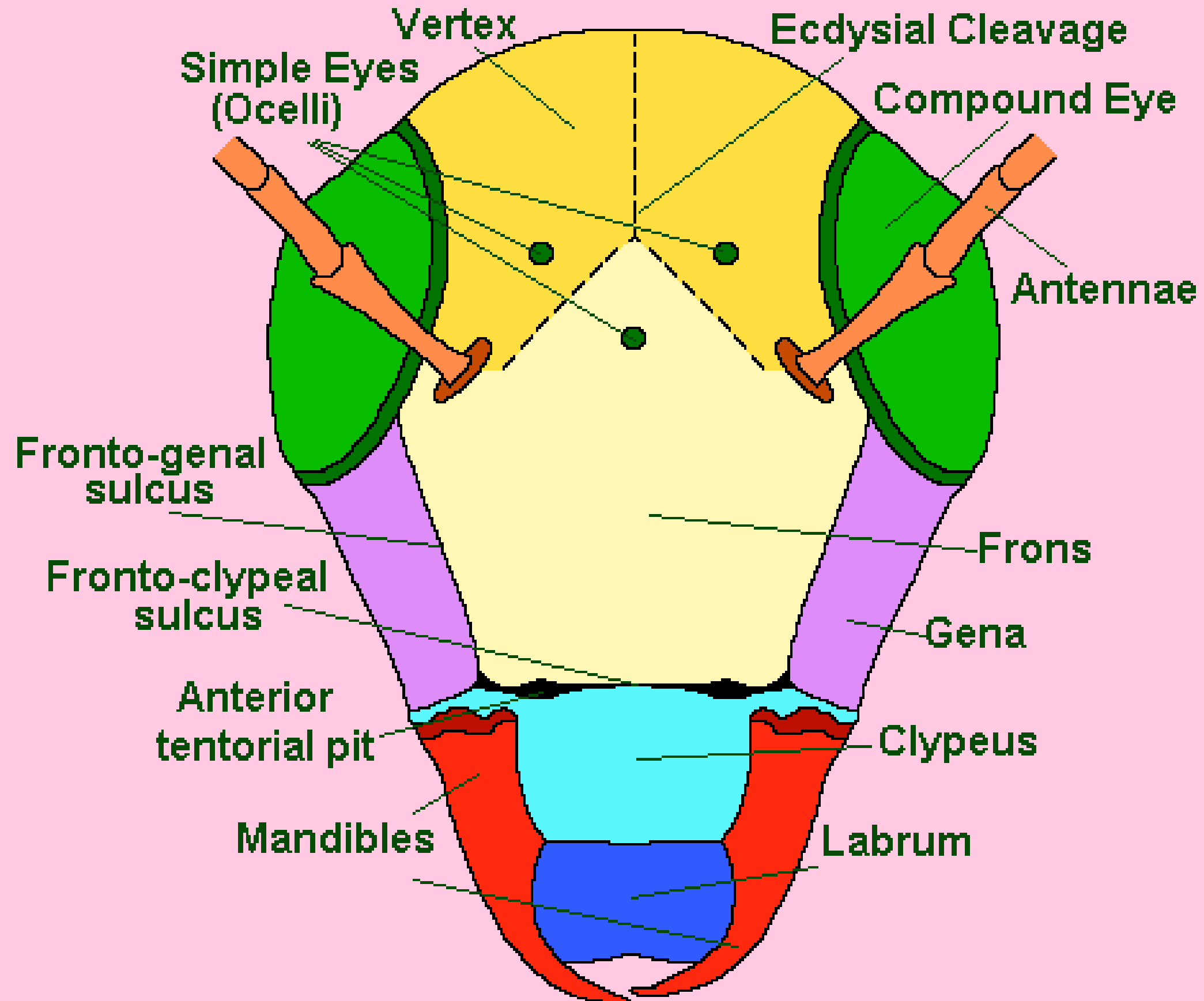
9.Antennal sclerites

These form the basis for the antennae and present around the scape which are well developed in Plecoptera (stone flies)

10. Epicranium

It is the upper part of the head extending from vertex to occipital suture.

SUTURES OF HEAD



The head capsule is formed by the union of number of sclerites or cuticular plates or areas which are joined together by means of cuticular lines or ridges known as sutures. these sutures provide mechanical support to the cranial wall.

The common sutures present in head are :

1. Clypeolabral suture

It is the suture present between clypeus and labrum. it remains in the lower margin of the clypeus from which the labrum hangs down.

2. Clypeofrontal suture or epistomal suture :

The suture present between clypeus and frons .

3. Epicranial suture

It is an inverted "Y" shaped suture distributed above the facial region extending upto the epicranial part of the head . it consists of two arms called frontal suture occupying the frons and stem called as coronal suture . this epicranial suture is also known as LINE OF ECDYSIAL or ECDYSIAL SUTURE because the exuvial membrane splits ialong this suture during the process of ecdysis.

4. Occipital suture

It is "U" shaped or "Horseshoe" shaped suture between epicranium and occiput.

5. Post occipital suture

It is the only real suture in insect head .posterior end of the head is marked by the post occipital suture to which the sclerites are attached .as this sutures separates the head from the neck ,hence named as real suture .

6. Genal suture

It is the suture present on the lateral side of the head i.e.gena .

7.Occular suture

It is circular suture present around each compound eye.

8.Antennal suture

It is a marginal depressed ring around the antennal socket.

THANKS YOU

GOOD LUCK

MY BEST WISHES ARE WITH YOU