

BIOLOGY

PROJECT

ON

MEDICINAL

PLANTS

Botanical Name :-> *Ficus sumphol*

Hindi :-> Pchal, Kabas

Medicinal Properties and Uses :->

- ⇒ The Santals use the fruit as a drug
- ⇒ The Juice is used to kill in the worms and is given internally with turmeric pepper and gli size of a pea
- ⇒ It is known to be a cure for asthma

Botanical Name :-

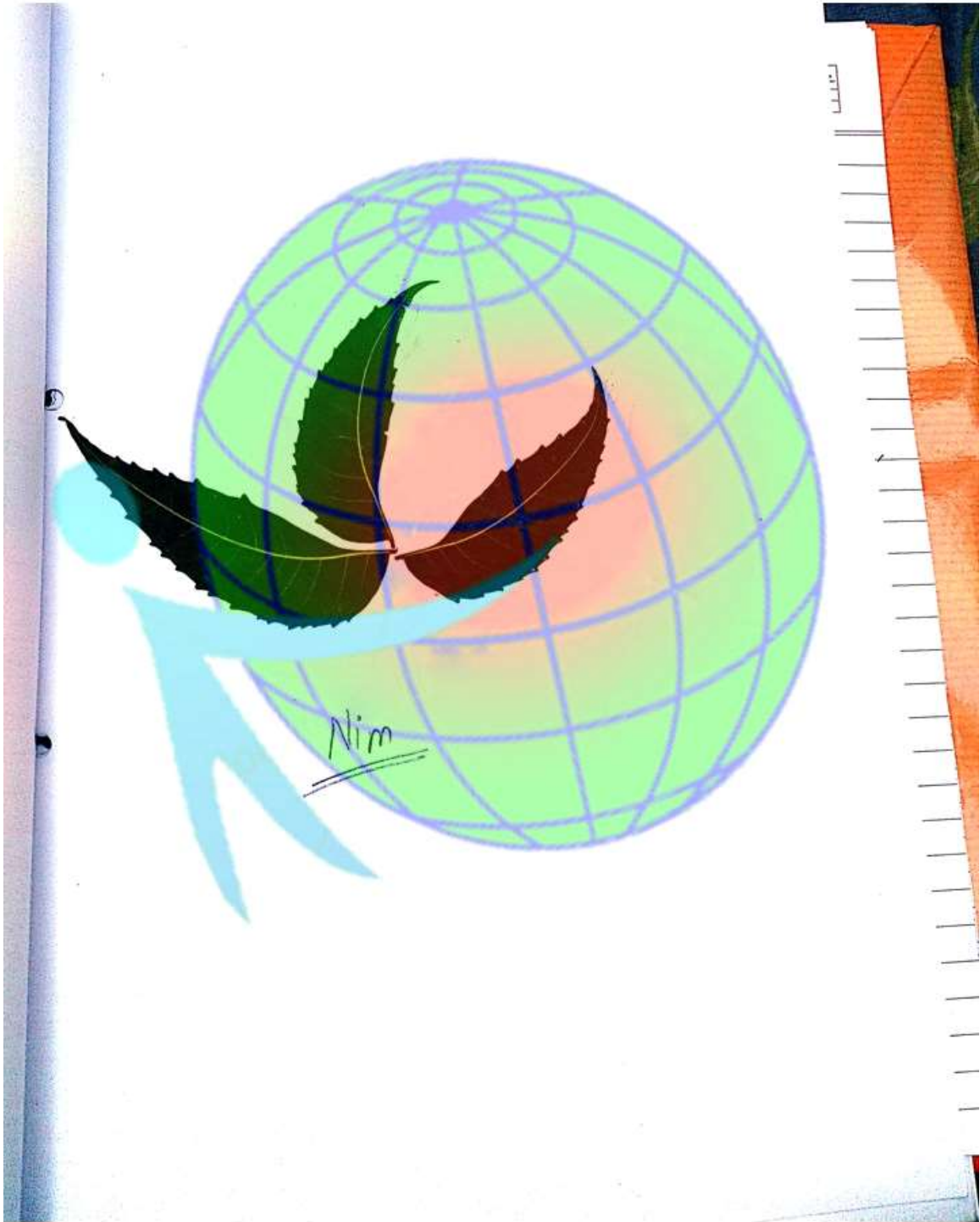
Eclipta Alka

Hindi :-

Bhangla, Benggasi

Medicinal Properties and Uses :-

- ⇒ The plant has bitter, hot sharp dry taste good for complexion, the hair, the eyes, the teeth cures inflammation, bronchitis, asthma, leucoderma, anemia, haem and skin disease, itching, night blindness
- ⇒ The fresh Juice of leaves is rubbed on the shaven scalp for purpose of promotion growth of hair



Botanical Name :-

Azadirachta Indica

Hindi :-

Nim , Pal nimb

Medicinal Properties and uses :-

→ The bark is bitter, refrigerant, antedromic, maturant pectoral astringent relieves kapha and pitta adosh, vomiting, burning sensation near the heart, fatigue, fever, thirst, bad taste in mouth, lough, ulcers and inflammation, good for leprosy, blood complaint urinary discharge recommended for loss of appetite

→ The bark gum, leaves and seeds are prescribed in other drugs for snake bite. The leaves cure scorpion stinging

→ The oil of seed is bitter, anthelmintic, alternative, good for skin diseases

→ The unripe fruit is hot purgative and is used in tooth ache and tumours.

Botanical Name:-

Chilodera, Ternata him

Hindi:- Apsarasid

Medicinal Properties and uses:-

- The root is bitter, refrigerant, opthalmic, laxative, intellect prompting, diuretic, anthelmintic, used as tonic
- The plant is useful in ophthalmopathy, tubercular gland, burning sensation, leprosy, leucoderma, helps hepatic inflammation, ulcers and pulmonary tuberculosis
- The leaves are useful in otalgia, hepatopathy and eruption.

Botanical Name:-

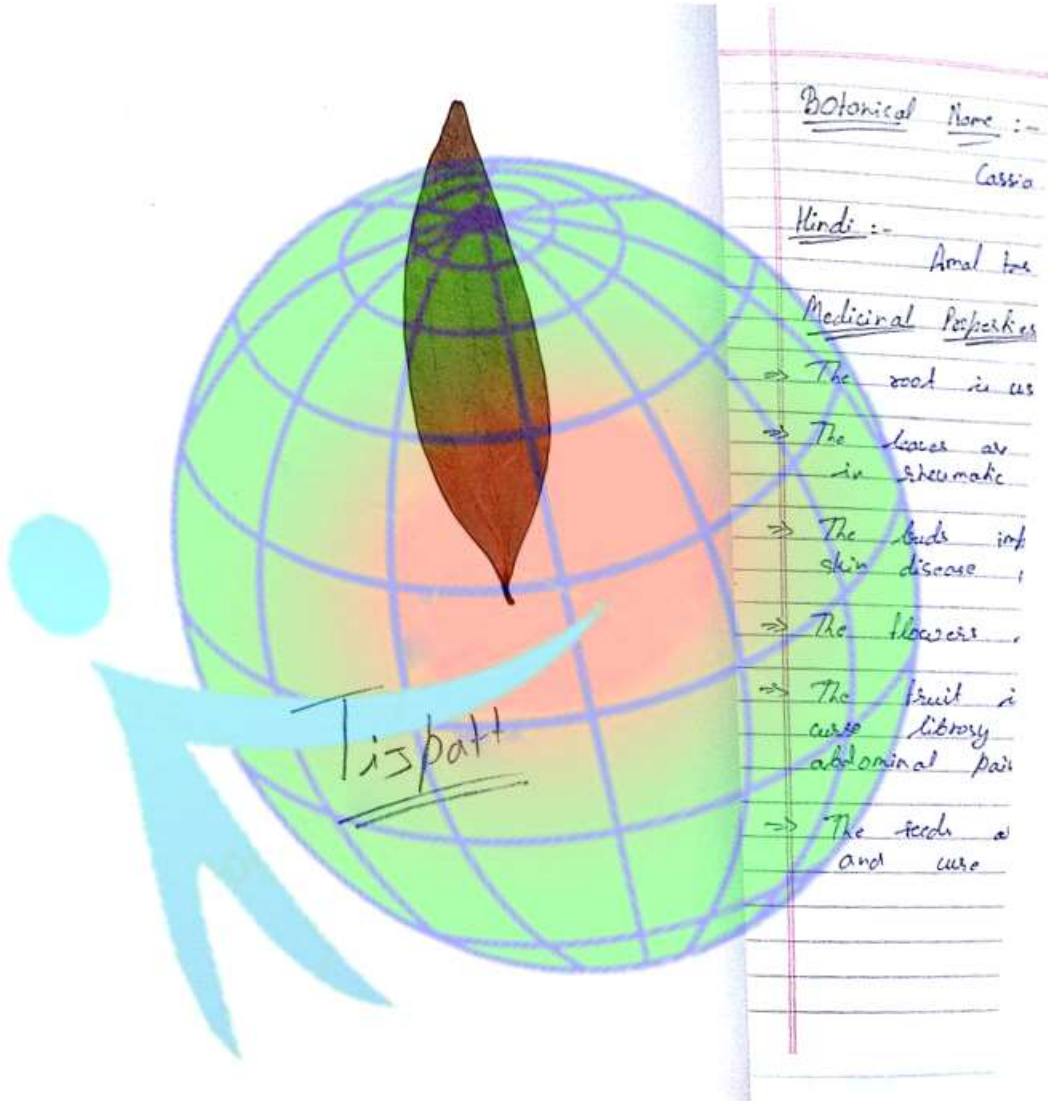
Cinnamomum lamala

Hindi :-

Tispat

Medicinal Properties and uses:-

- ⇒ The skin disease tispat should be applied locally
- ⇒ It gives strength to uterine muscles
- ⇒ In case of headache local application should be done
- ⇒ Oil of leaves has healing properties
- ⇒ Powder of leaf is used in Amenorrhoea, loss of appetite, abdominal colic and colitis.



Botanical Name :-

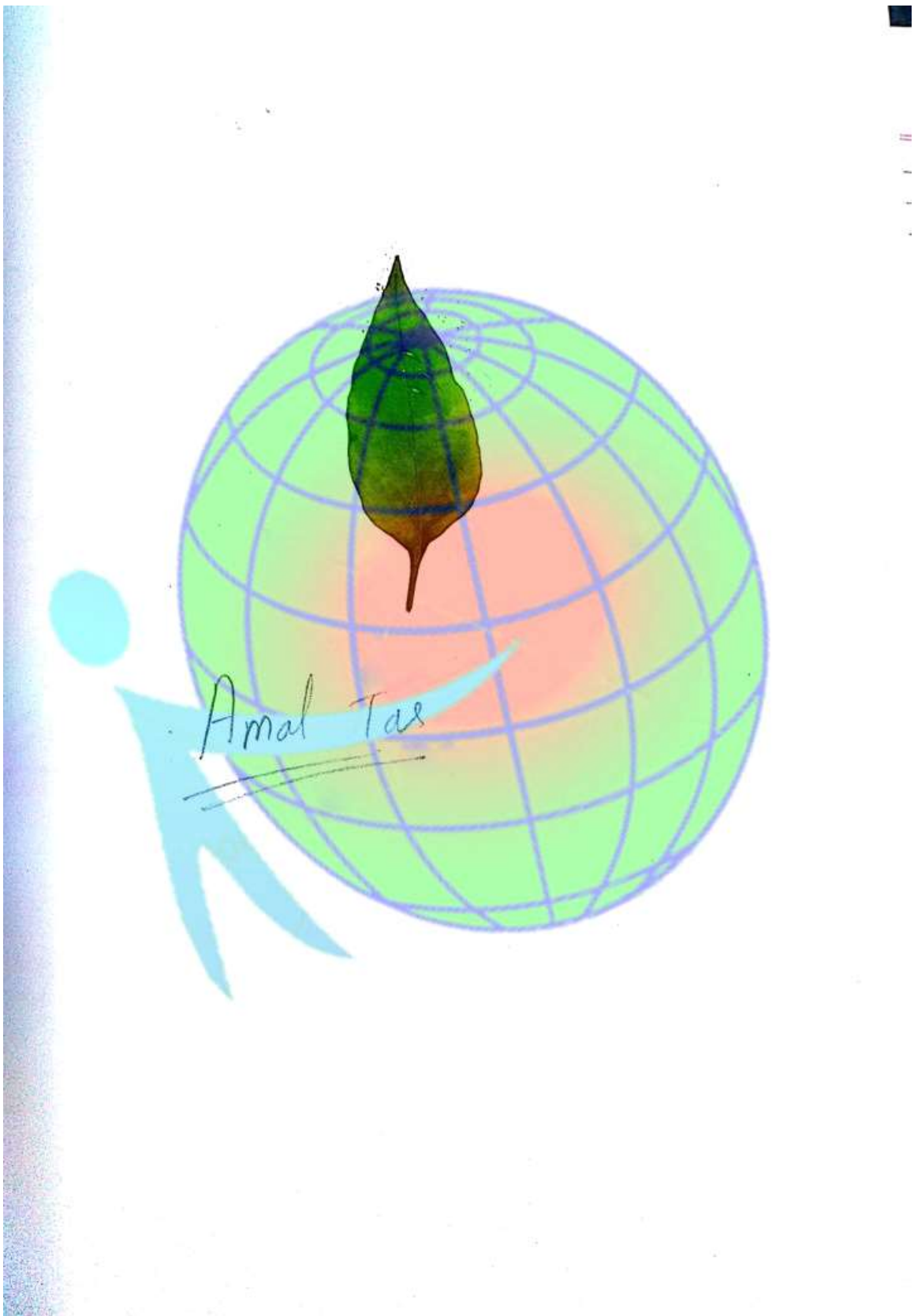
Cassia fistula

Hindi :-

Amal tree

Medicinal Properties and uses:-

- ⇒ The root is used in skin disease, leprosy
- ⇒ The leaves are astringent, cure ulcers, used in rheumatic disease.
- ⇒ The buds improve taste, is antiparasitic, cure skin disease, leprosy
- ⇒ The flowers is a cooling astringent
- ⇒ The fruit is purgative and antiparasitic, cure biliousness and disease of heart and abdominal pain
- ⇒ The seeds are sweetish improve appetite and cure biliousness.



Biology

Project

On

The

Stages

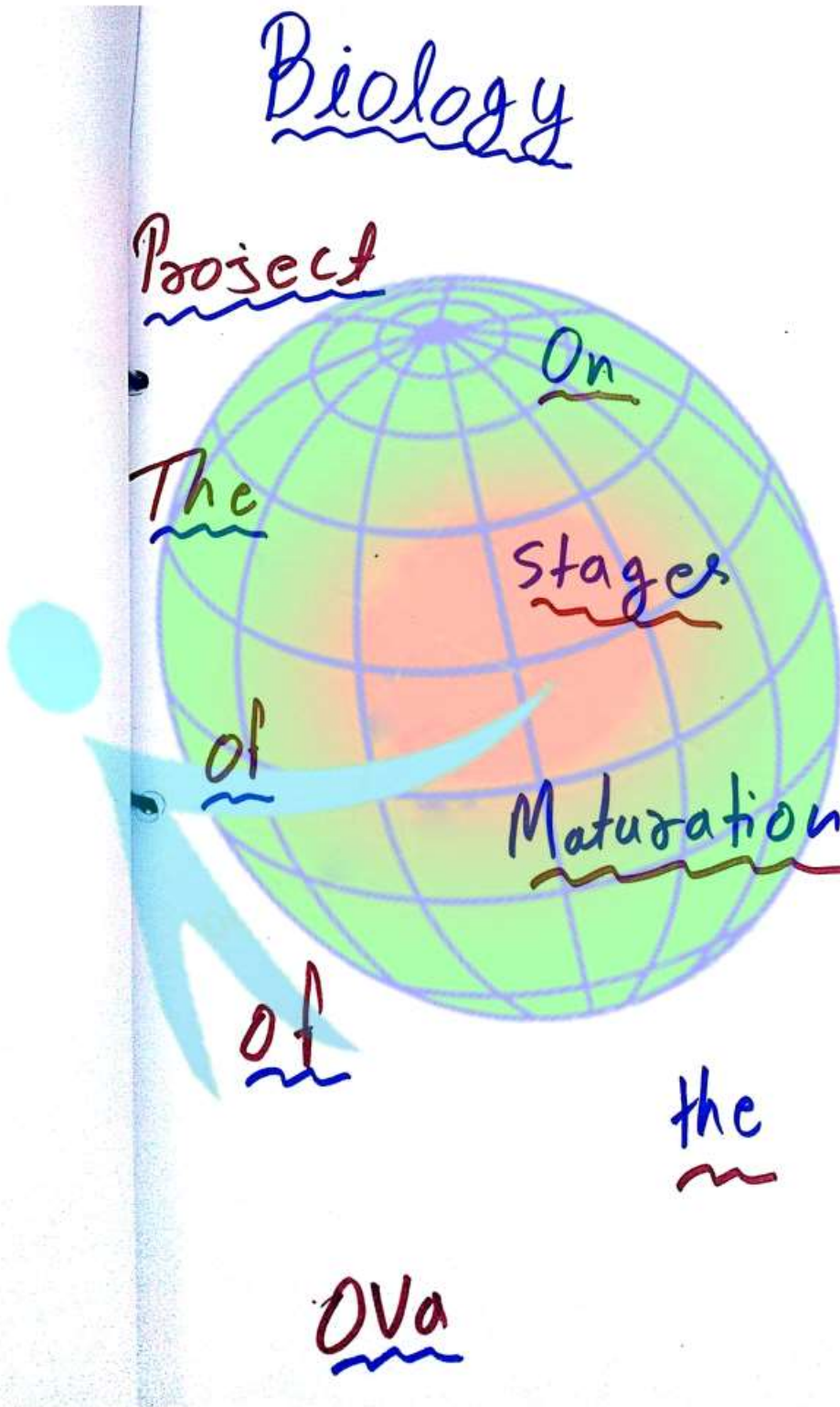
of

Maturation

of

the

Ova



Aim :- To study of frog / Toad's ovary during breeding season to identify the stages of maturation of the ova.

Material Required :- dissecting tray, dissecting instruments, chloroform, female frog, duster, cotton wool, pins, black paper, water

Identification of male and female frog :-

- ⇒ Male frog is comparatively bigger in size than the female.
- ⇒ The male frog possesses vocal sacs which work as resonators to intensify the croaking. The vocal sacs are absent in female frog.
- ⇒ The hind finger in the hand of male develops during breeding season a large black swelling covered with rough skin.
- ⇒ The abdomen of female is comparatively large and distended due to the ripe ovaries.

Procedure :-

- ⇒ Take a freshly chloroformed female frog. Put it in a dissecting tray with its ventral side up. stretch its limbs and pin them to the dissecting tray. Fill tray with water.

- ⇒ with the help of the forceps, lift the loosely attached skin of the belly near the mid-ventral and make a small transverse incision, using a pair of fine scissors.
- ⇒ Now insert one tip of snout and backward down to the extent of up the tip of snout and backward down to the cloacal aperture. Now put a transverse cut at the level of the two limbs. Lift the muscular body wall and make an incision in it near the mid-ventral line.
- ⇒ Care should be taken to hold the body wall up from the organs beneath so that they may not get damaged.
- ⇒ Also see that the anterior abdominal vein which is visible externally as a black line is not cut.

Ovaries:-

- ⇒ ovaries are the female reproductive structures in which ova are produced
- ⇒ Each ovary is a highly irregular structure. During rainy season they become enlarged and prominent.
- ⇒ Each ovary is situated in the same position as testis in male

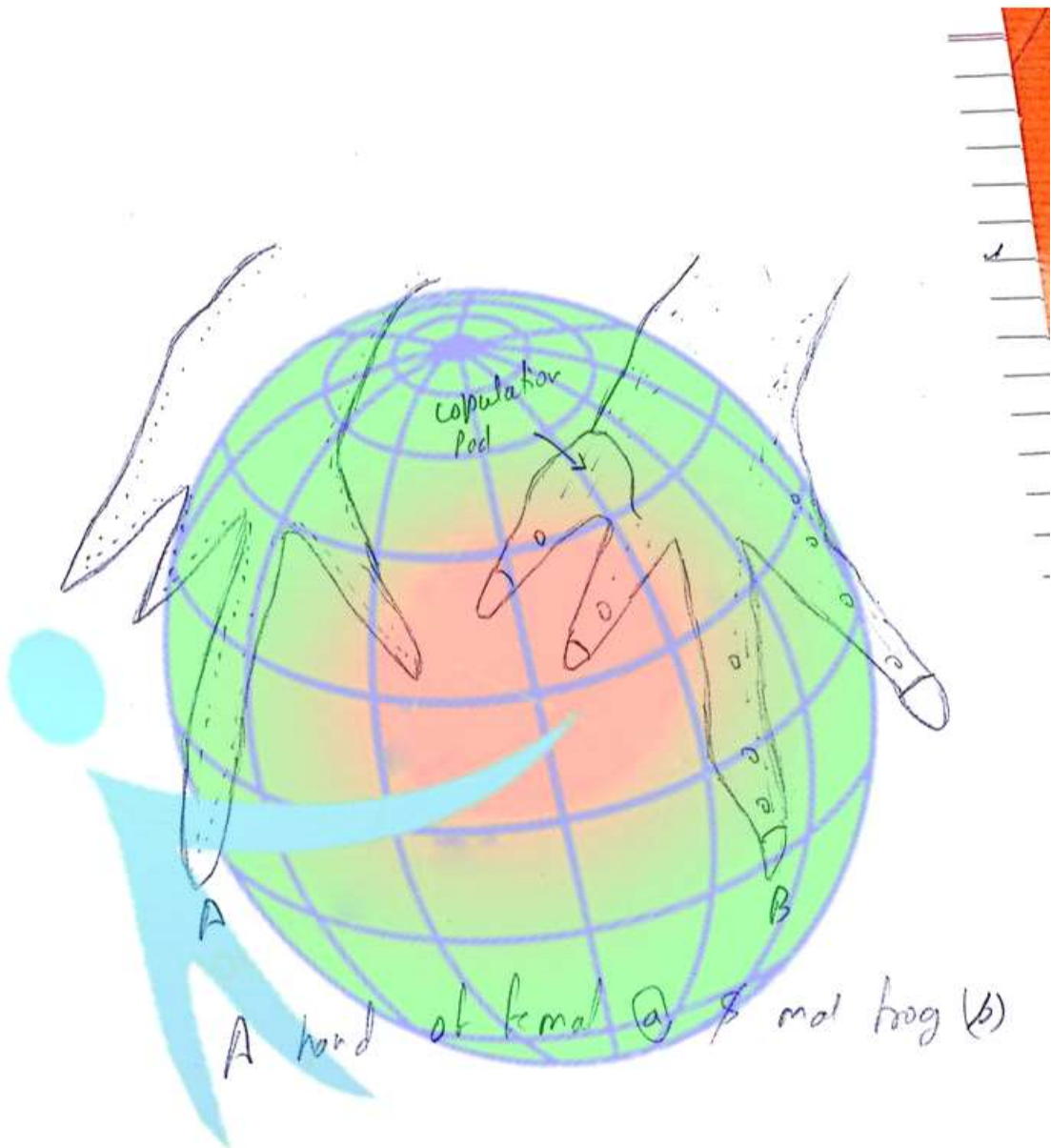
- ⇒ They are suspended from the kidneys by a positional fold the mesovarium but they have no connection with the kidneys.
- ⇒ Each ovary is dark grey coloured in appearance with black dots.
- ⇒ In front of each ovary is a large branched fat body.
- ⇒ On the side of the each ovary a white tubular structure the oviduct is present.

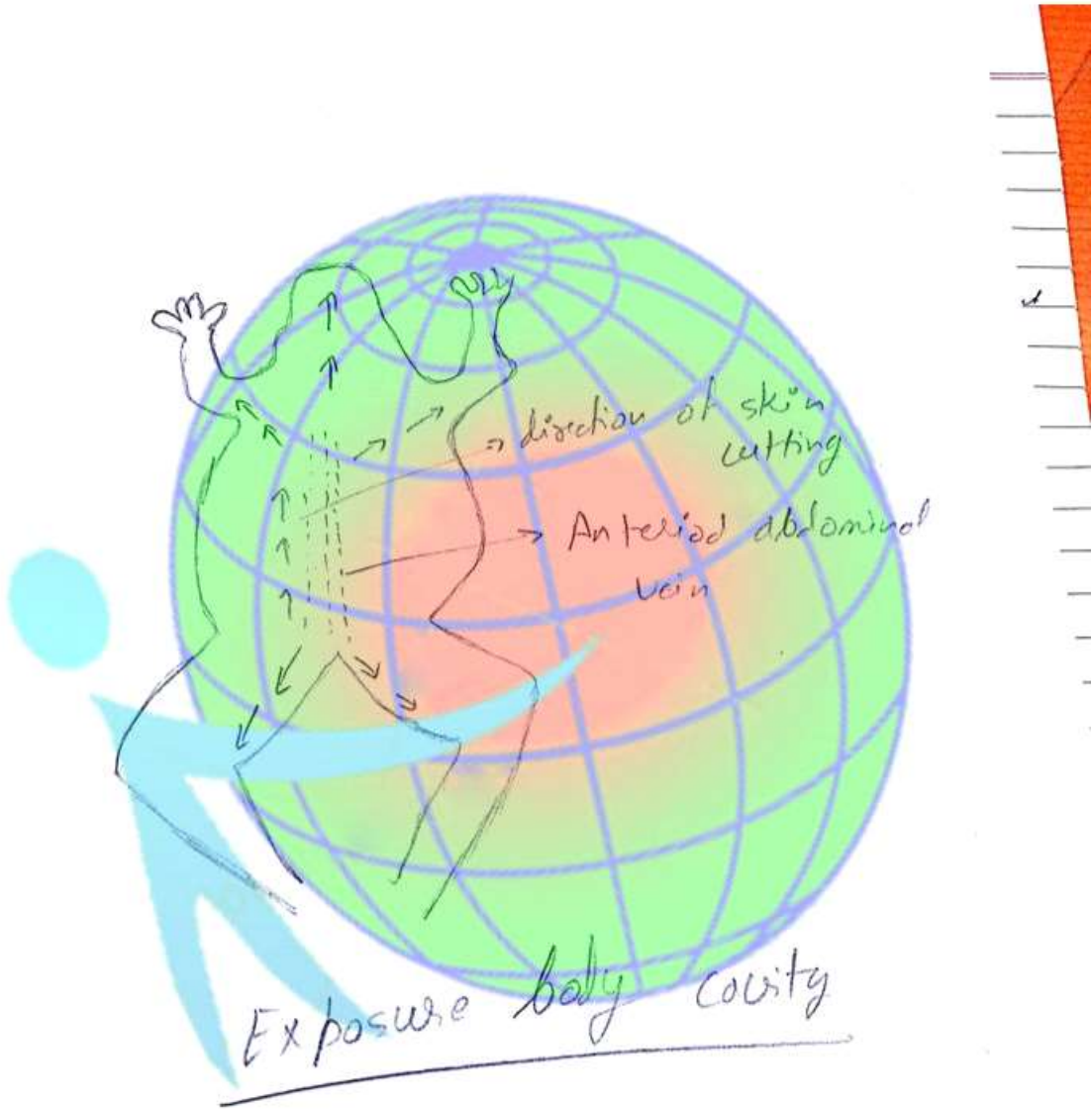
Egg (Ova) in the Ovary : ⇒

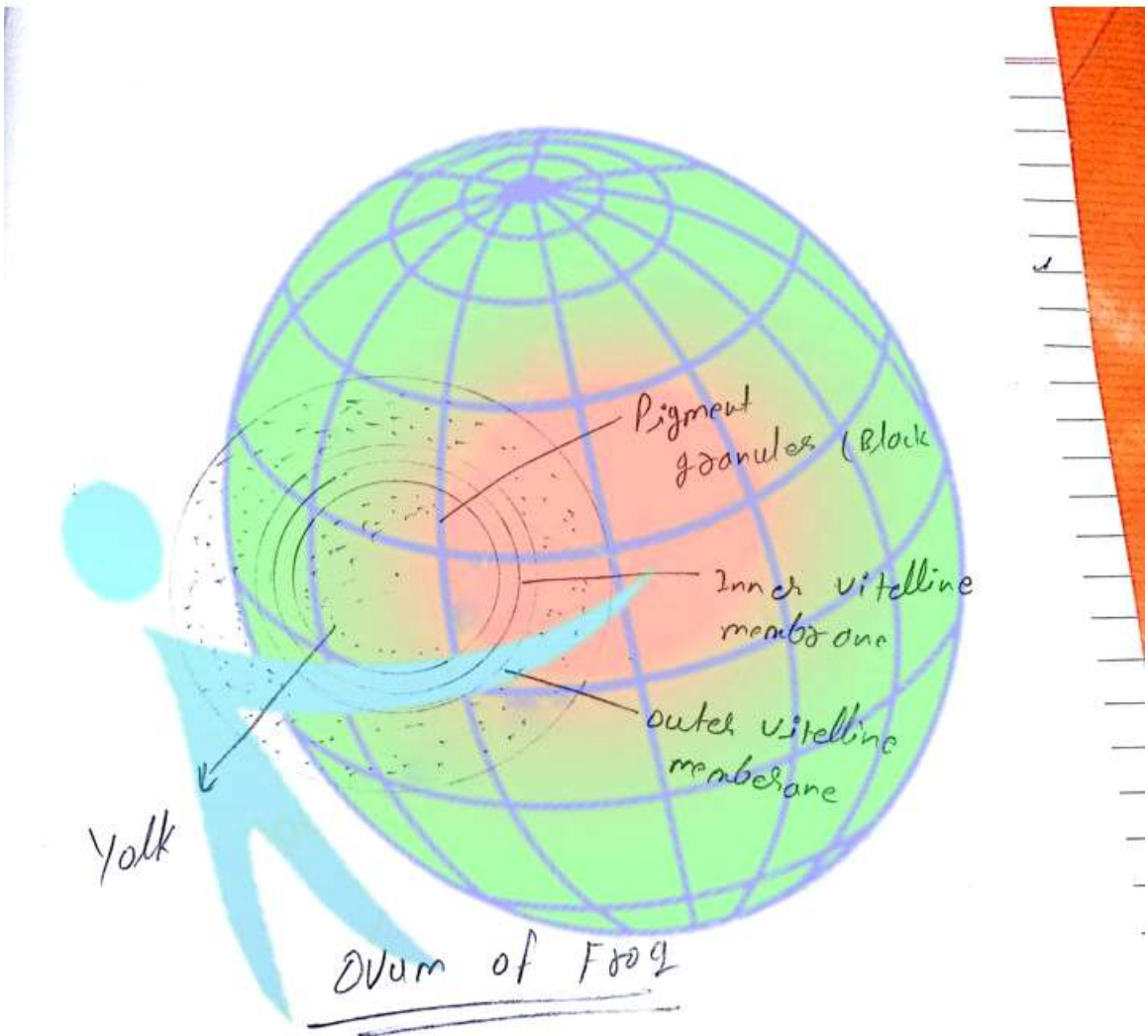
- ⇒ Every ovary consists of thousands of black and white round small eggs.
- ⇒ The ova found in the ovary are in various stages of their development.
- ⇒ Take out a few ova. Place them on a glass slide in a drop of glycerine. observe their structure.
- ⇒ The transverse section of the ovary will show you ova in the various stages of development.

Conclusion and Explanation:-

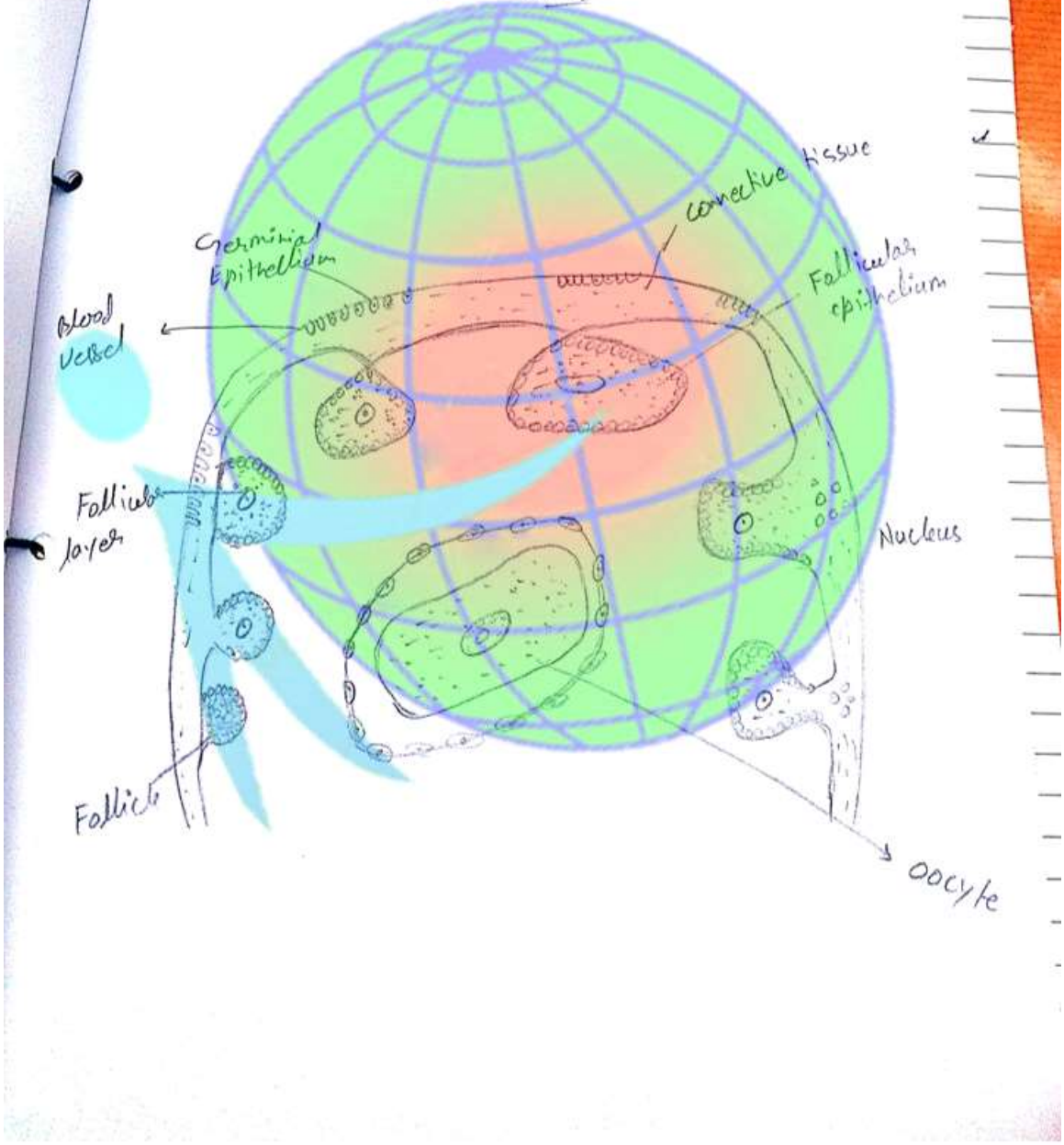
ovary in frog is made up of ovarian follicles. The most important factor for breeding in frog is suitable day length or photoperiod. In germinal epithelium of ovary oogenesis takes place due to which different stage such as oogenium, primary oocyte and secondary oocyte can be observed. when egg is released in water it is in secondary oocyte stage having one polar body attach to it. In water the jelly surrounding the egg swells up and it's main function is to keep the egg warm. The second maturation division takes place after fertilization and second polar body is produced.

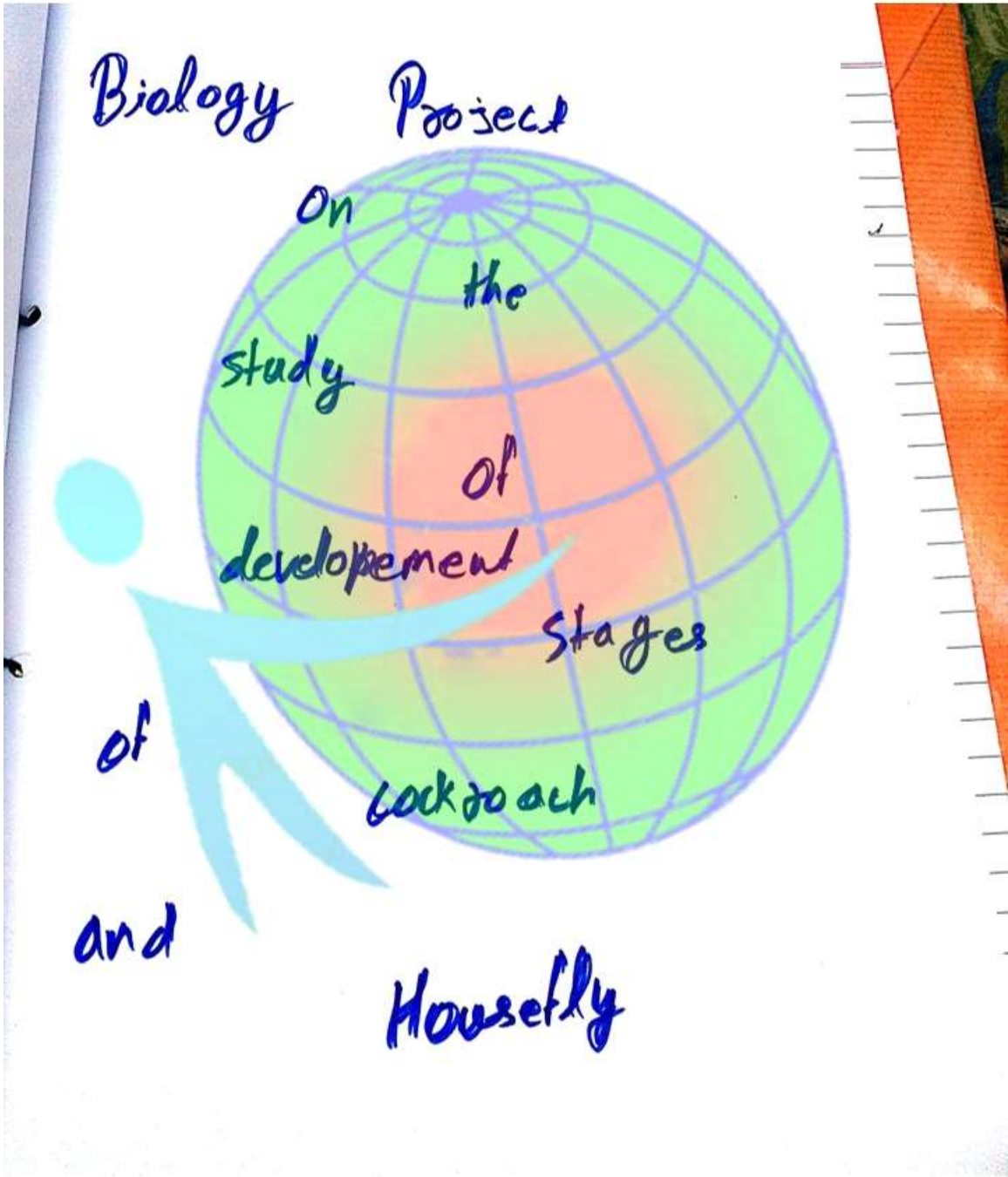






Tiss of part of ovary showing ova in different stages of development





Aim :-

To study of development stages of Housefly and cockroach

Material Required :-> Preserved specimens of different development stages of housefly, cockroach, note book, pen etc.

Procedure :- let the preserved specimen of different development stages of housefly & cockroach and observe the stage carefully.

Observation :-

A) Development stages of Housefly (*Musca domestica*)

1.) Adult housefly :- Housefly has grey body of about 6-7 mm long. The body is divided into head, thorax and abdomen.

(i) Head :-> Head is oval with two large, lateral compound eyes. Ommatidia is the unit of compound eye. In the centre of head ocelli or simple eyes are present. In front of the head are two small, sensitive antennae.

ii) Mouth Part :- The Proboscis (mouth) is made up of these parts (i) rostrum (ii) caecostellum and oval disc (sucker) for feeding the caecostellum forms food channel. This pierces into the food and sucks it into the alimentary canal.

iii) Thorax ⇒ It is divided into (i) prothorax (ii) mesothorax (iii) metathorax - Three pairs of legs arise from the segments of thorax. Each has five parts -
 (a) coxa (b) Trochantor (c) Femur (d) Tibia (e) Tarsus

The mesothorax contains a pair of wings they are transparent and have supporting veins. Metathorax contains halteres, the vestigial wings.

2) Eggs :- Eggs are cylindrical white about 3mm long. Female lays about 120-150 eggs at a time. These hatch out after 8 to 24 hours, depending on the temperature.

3) Larva :- The larva is creamy, soft, wriggling worm like. The body is made up of 12 segments and a distinct head.

4) pupa :- The larva stops feeding and starts contracting. Finally it converts into pupa.

A barrel-shaped segmented 3-6 mm long brown case is formed puparium. Inside puparium the larva undergoes changes and develops into adult with 4-5 days.

Development stages of cockroach :-

i) Adult cockroach :- Cockroach is a brown, elongated dorsoventrally flat creature of about 40 mm long and 10 to 12 mm broad.

i) Head :- The head is triangular hanging downwards. A pair of long sensitive antennae is seen in front of two lateral compound eyes.

ii) Thorax :- It is divided into prothorax, mesothorax and metathorax, each bearing a pair of legs. Like housefly here also the legs are made up of five joints, Pulvillus and claws. Meso and metathorax bear a pair of wings each.

iii) Abdomen :- It contains ten segments gradually narrowing down. The sclerites on dorsal side are called tergum and on ventral side sternum, males possess anal coxist and style in pairs.

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2) Ootheca (Egg case) :-> It is a purse shape structure containing sixteen fertilised eggs in two rows. It is formed by the secretion of the colleteral glands over the fertilised eggs in the genital pouch of female cockroach.

3) Nymph :->

Inside the ootheca eggs develop into the young one called nymphs. The ootheca wall is about 7-8 days and young nymphs emerge out of it. A nymph is small light brown creature like the adult cockroach. Each nymph undergoes 6-7 moulting to develop into an adult cockroach.

Conclusion

Here we come to an end of the Project on 'Medicinal Plant', stages of maturation of our and stages and development of cockroach and housefly. I hope that I have been successful in bringing out the important uses of Plant include in the Projected. I thank all the people who have helped in completing the Projected.

I hope you will noted benefit from this Project. I ask you to forgive any mistakes it committed.

Prashant Kumar

