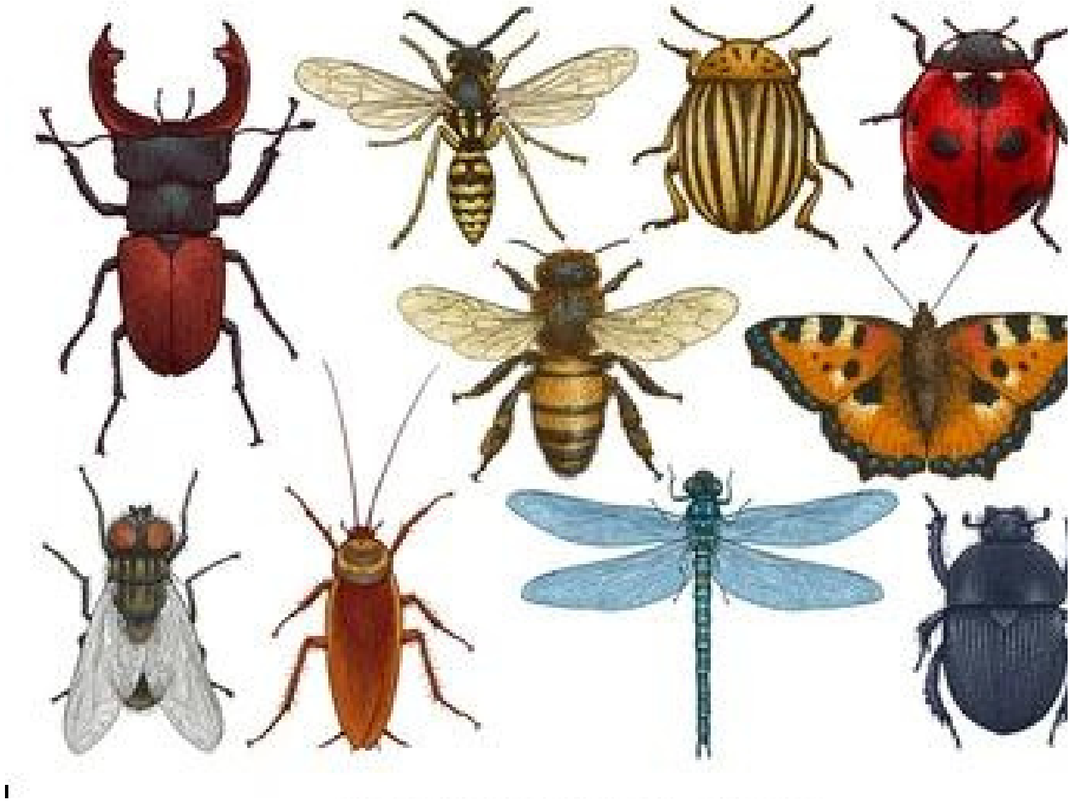
INTRODUCTION TO INSECT



PRESENTED BY SAIMOUN

INTRODUCTION

INSECTS ARE BELONGS TO PHYLUM ARTHROPODA AND CLASS INSECTA.

THE ANCESTOR OF THE ARTHRODA WAS IN ALL PROBABILITY A SEGMENTED WORM LIKE MARINE CREATURE THAT LIVED IN OCEANS DURING THE LATE PRECAMBRIAN .

ARTHROPODS ARE CHARACTERIZED BY A NUMBER OF FEATURES: THEY ARE TRIPLOBLASTIC ,BILATERALLY SYMMETRICAL,METAMERICALLY SEGMENTED,BODY DIVISIBLE INTO HEAD,THORAX AND ABDOMEN.

INSECTS ARE THE DOMINANT MULTICELLULAR LIFE FORM ON THE PLANET ,RANGING IN SIZE FROM MINUTE PARASITE WASPS AT AROUND 0.2MM

TO STICK INSECTS MEASURING 35CM IN LENGHT.

INSECT HAVE EVOLVED DIVERSE LIFESTYLES AND ALTHOUGH THEY ARE MAINLY TERRESTRIAL,THERE ARE A SIGNIFICANT NUMBER OF AQUATIC SPECIES.

INSECTS HAVE A VERSATILE,LIGHTWEIGHT AND WATERPROOF CUTICLE,GENERALLY SMALL IN SIZE AND HAVE A COMPLEX NERVOUS SYSTER SURROUNDED BY AN EFFECTIVE BLOOD BRAIN BARRIER.

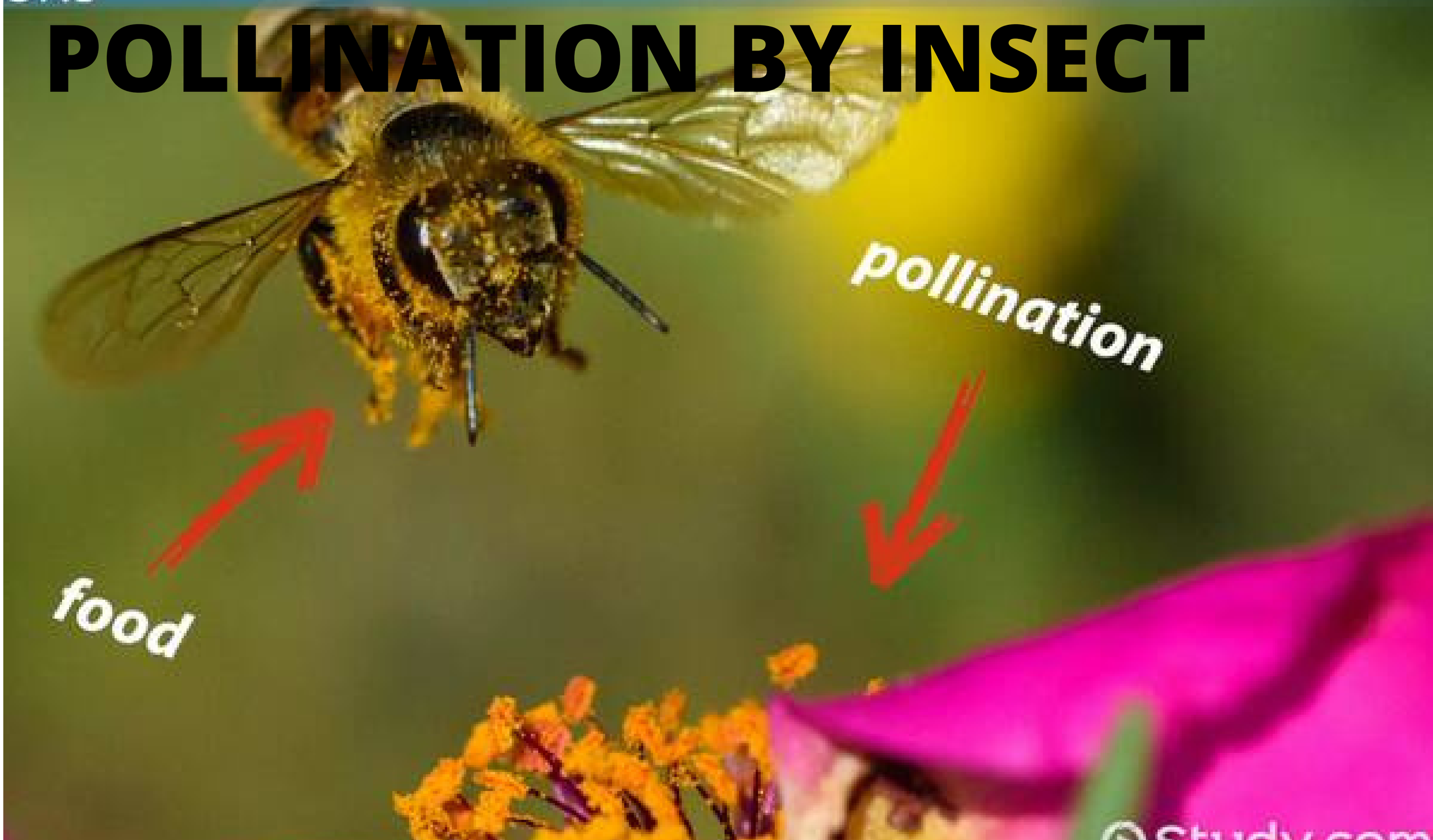
IN COMPARISON TO INSECTS,VERTEBRATE SPECIES MAKE UP LESS THAN 3% OF ALL SPECIES.AS HERBIVORES THEY ARE ALTOGETHER OUT MUNCHED BY THE MYRIAD HERBIVOROUS INSECTS.

IN TROPICAL FOREST,FOR EXAMPLE ,12-15% OF THE TOTAL LEAF AREA IS EATEN BY INSECTS AS COMPARED WITH ONLY 2-3% LOST TO VERTEBRATE HERBIVORES.

INSECTS POLLINATE THE VAST MAJORITY OF THE WORLDS 250000 OR SO SPECIES OF FLOWERING PLANT .THE ORIGIN OF BEES COINCIDES WITH THE MAIN RADIATION OF THE ANGIOSPERMS APPROXIMATELY 100 MILLION YEARS AGO ,AND WITHOUT THEM THERE WOULD BE NO FLOWERS ,FRUITS OR VEGETABLES.

AT LEAST 25% OF ALL INSECT SPECIES ARE PARASITES OR PREDATORS OF OTHER INSECT SPECIES.
INSECT ARE ALSO IMPORTANT IN NUTRIENT RECYCLING BY DISPOSING OF CARCASSES AND DUNG .

POLLINATION BY INSECT



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GENERAL FEATURES OF INSECTS

WE KNOW THAT INSECT LIVED IN DIFFERENT HABITAT SO THAT THEY MODIFY THEIR BODY TO ADAPT IN HARSE ENVIRONMENT. SOME OF GENERAL FEATURES ARE-

1.INSECTS ARE META-MERICALLY SEGMENTED AND BILATERALLY SYMMETRICAL, TYPICALLY INSECTS BODY DIVIDED INTO THREE REGION :HEAD ,THORAX AND ABDOMEN .

2.INSECTS ARE COLD BLOODED ANIMAL,HENCE THEY CONSERVED ENERGY .

3.INSECTS HEAD IS CONSISTS OF 6 FUSED SEGMENTS.

4. INSECT HEAD BEAR ONE PAIR OF ORAL ANTENNAE .

5. INSECT HEAD BEARS A PAIR OF COMPOUND EYES.

6 THE ANTERIOR REGIONS OF HEAD IS PROVIDED WITH THE MOUTH PARTS ADAPTED FOR BITING, CHEWING, SUCKING ,SIPHONING, SPONGING AND CHEWING ETC.

7. THE THORAX CONSISTS OF 3 SEGMENTS: PROTHORAX ,MESOTHORAX AND METATHORAX .

8.EACH THORACIC SEGMENT HAS ONE PAIR LEG IN EACH SEGMENT. (HENCE HEXAPODA)

9. IN MESOTHORAX AND METATHORAX 2 PAIR WINGS PRESENT .SOME TIME ONLY ONE PAIR IS FUNCTIONING AND THE OTHER IS REDUCED OR ABSENT.

10. THE ABDOMENCOMPRISES 7-11 SEGMENT .

11DIGESTIVE SYSTEM IS COMPLETE . DIGESTIVE TRACT HAS MIDGUT DIVERTICULA . SALIVARY GLANDS ARE PRESENT.

12 .RESPIRATORY SYSTEM CONSIST OF TRACHEA WHICH OPEN OUT BY PAIRED SEGMENTAL SPIRACLES .

13 . CIRCULATORY SYSTEM CONSIST OF HEART AND OSTIA .

14 . EXCRETION OCCUR BY MALPIGHIAN TUBULES ,NEPHROCYTE ,OENOCYTE ,INTEGUMENT .

15.THE NERVOUS SYSTEM IS COMPOSED OF GANGLIONIC MASSES WHICH ARE INTER CONNECTED WITH NERVE CORD .

16 .REPRODUCTION IS USUALLY SEXUAL SOMETIME VIVIPAROUS AND PARTHENOGENESIS.

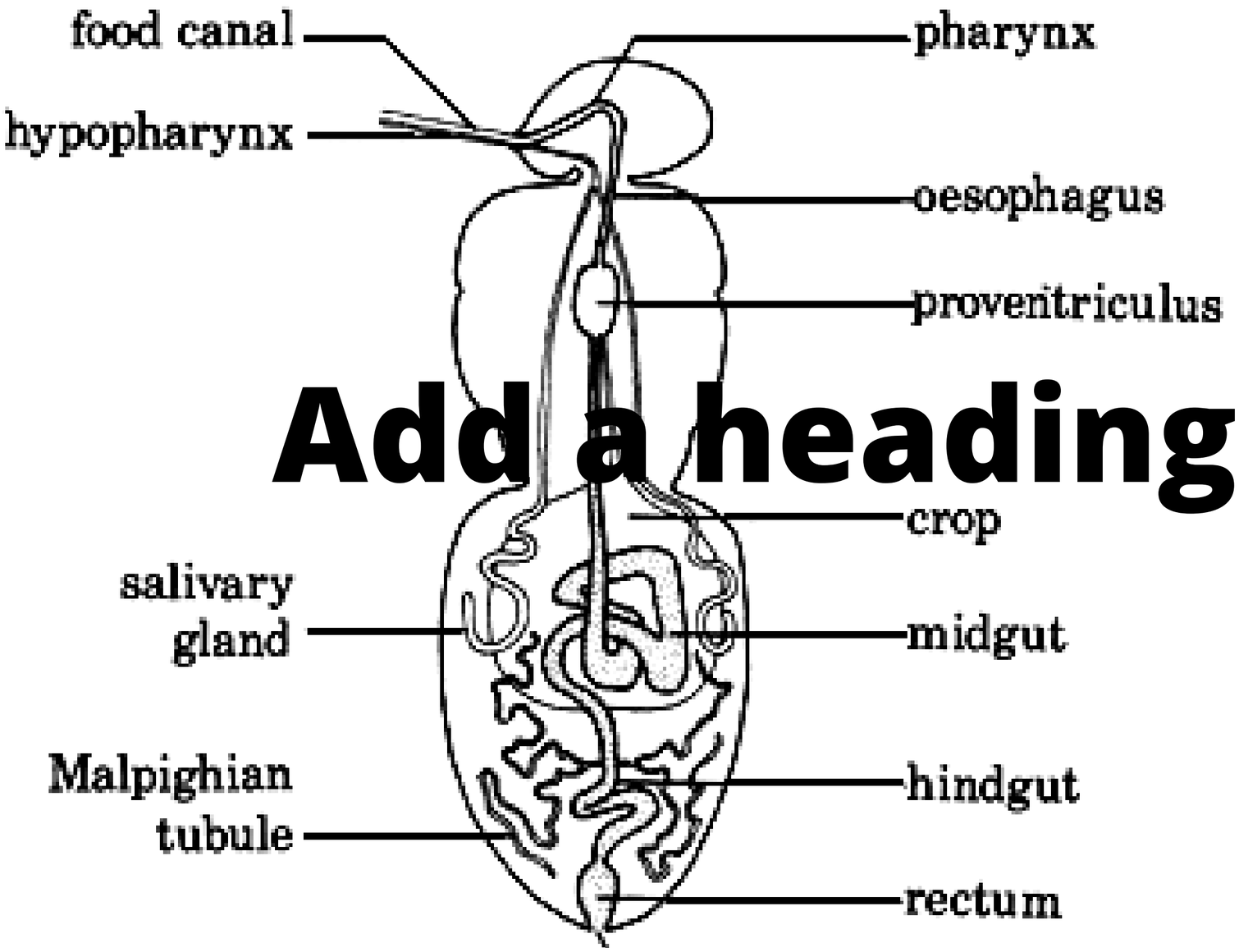
17 .DEVELOPMENT USUALLY OCCURS WITH METAMORPHOSIS .

18 .SENSE ORGAN INCLUDE COMPOUND EYE , AUDITORY,OLFACTORY,CHORODOTONAL ,GUSTATORY AND THE LIGHT PRODUCING ORGANS

19 .THE INSECT ARE FOUND IN ALL HABITAT LIKE WATER, LAND ,AIR AND THEY ARE FEWER IN THE OCEAN .

20 .MAJORITY OF INSECT ARE FREE LIVING ,SOME ARE PARASITES OF PLANT AND ANIMALS. A FEW ARE COLONIAL AND SOCIAL .

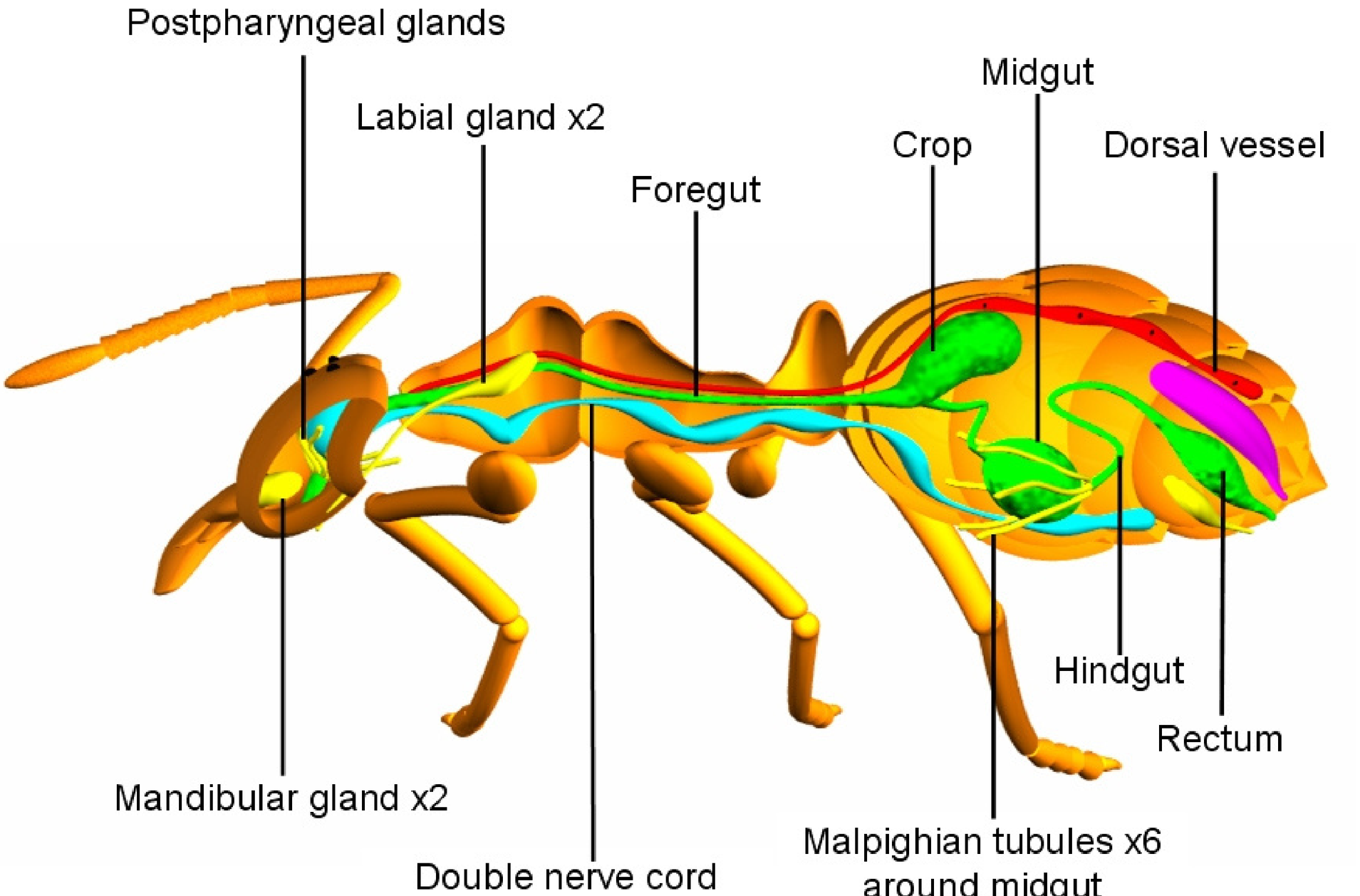
DIGESTIVE SYSTEM OF INSECT



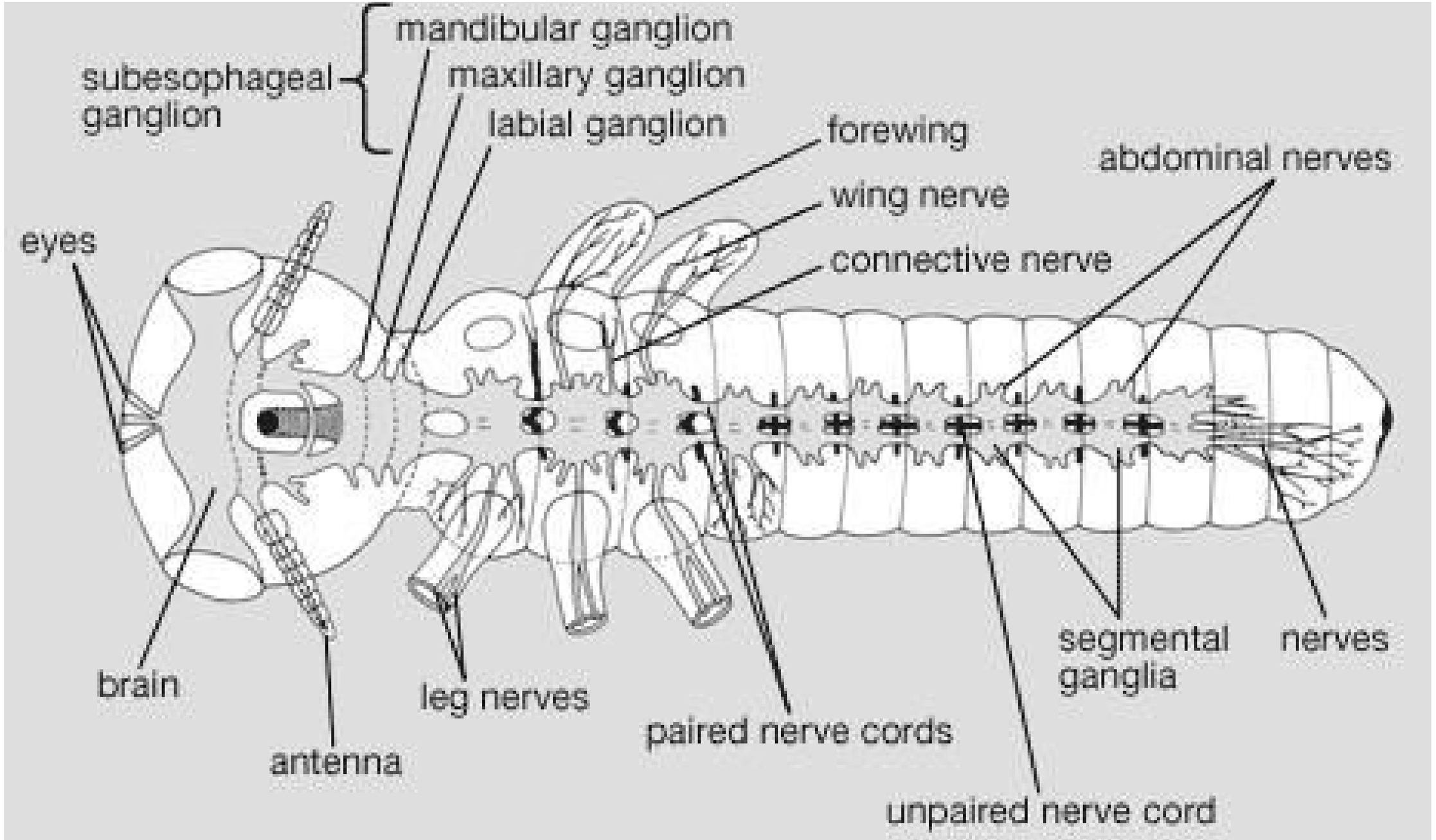
Add a heading

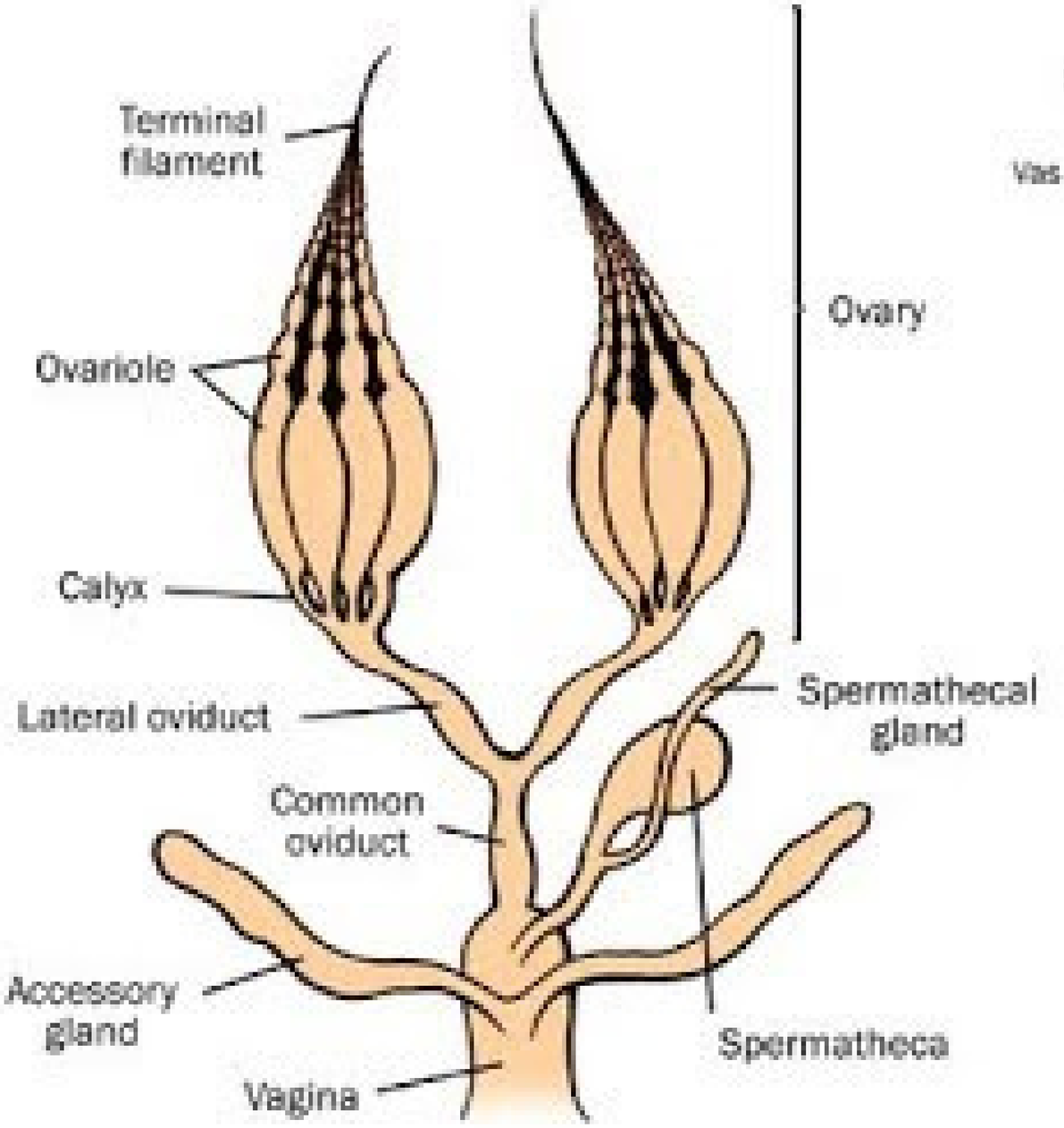
EXCRETORY SYSTEM OF INSECT

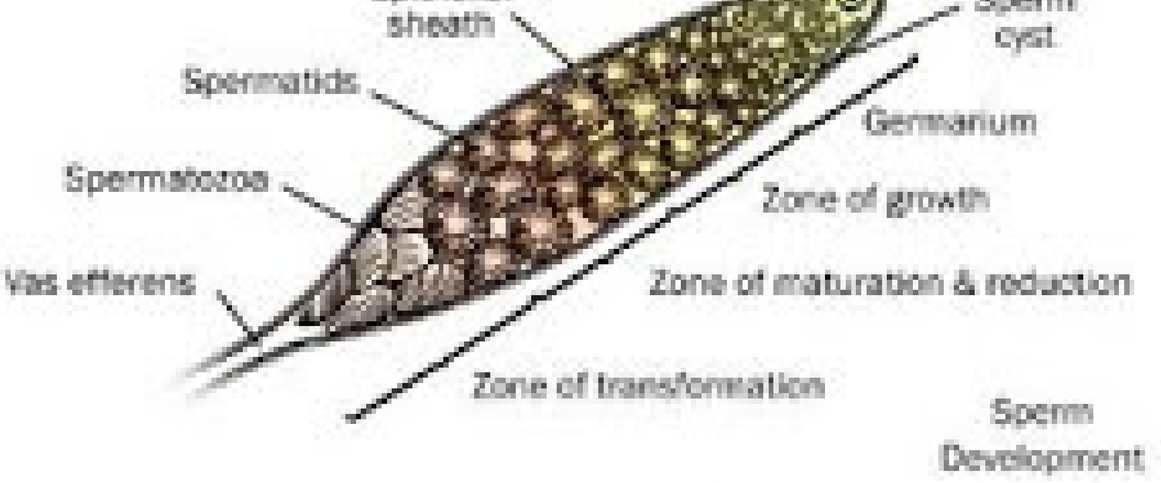
glands and other structures

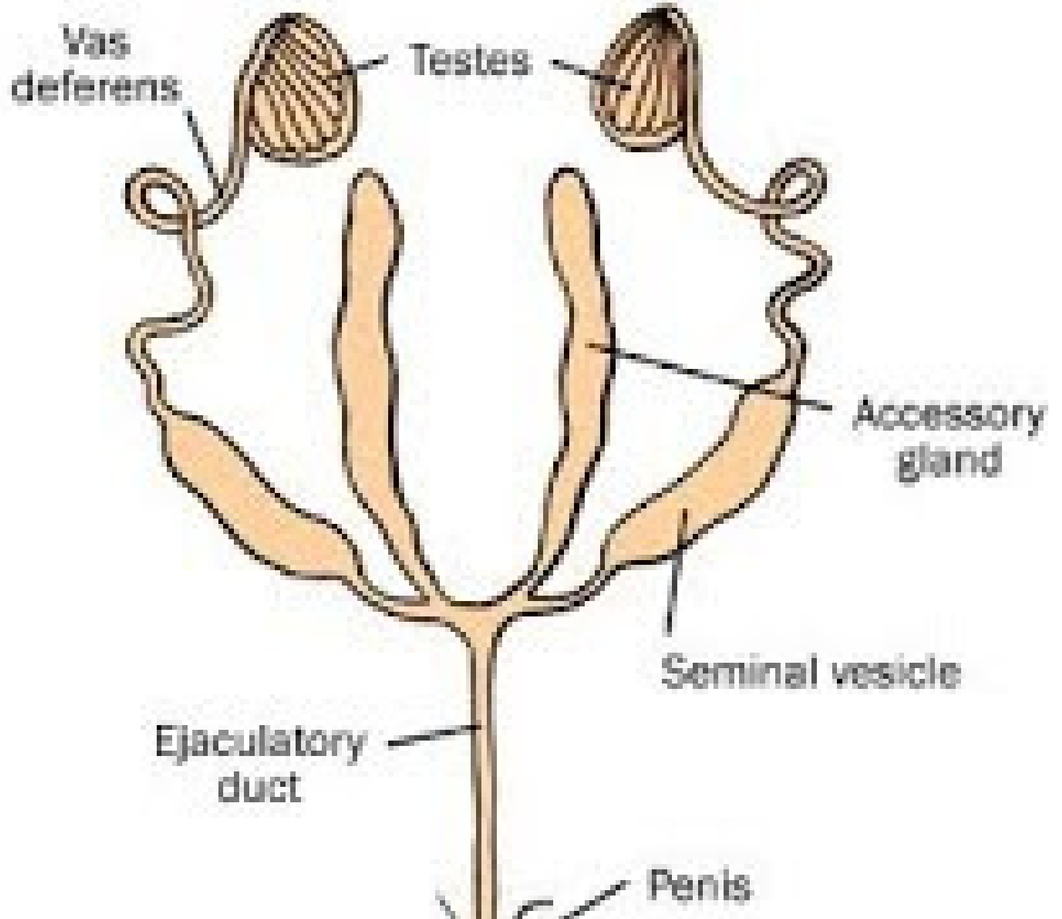


NERVOUS SYSTEM OF INSECT




Terminal filament
Ovary
Ovariole
Calyx
Lateral oviduct
Spermathecal gland
Common oviduct
Accessory gland
Spermatheca
Vagina


sheath
Spermatids
Germarium
Spermatozoa
Zone of growth
Vas efferens
Zone of maturation & reduction
Zone of transformation
Sperm Development


Vas deferens
Testes
Accessory gland
Seminal vesicle
Ejaculatory duct
Penis

THANKS YOU