



Practical invertebrate



General characteristics

- 1- Multicellular, sessile aquatic animals.
- 2- Have single body cavity known (paragaster or spongecoel). Wholly or partially lined with specialize cell known (choanocytes).
- 3- Have three body types (Ascon, Sycon and Leucon).
- 4- Their body have one large opening is Osculum (exhalent pore) and many tiny pores Ostia (inhalant pores).
- 5- Their skeleton composed of calcareous, siliceous spicules or Horney fiber.
- 6- Have two reproductive forms sexual ciliated larvae amphiblastula and asexual buds gemmules.



Phylum:	Porifera	Porifera	
Class:	Calcarea	Demospongia	
Genus:	<u>Grantia</u>	<u>Spongilla</u> ✓ نمردج	<u>Euspongia</u>
Skeleton	<u>Trioxones spicules</u> ✓	<u>Monoxones spicules</u> ✓	<u>Horney fiber</u> ✓
Common name	-	-	Boring sponge Fingered sponge
Body type	Sycon	Leucon	Leucon

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Lab-2- Cnidaria

General characteristics

- 1- Diploblastic, radially symmetric, with specialized cell called cnidocyte.
- 2- There are two body forms the sexual form medusa and asexual form polyp.
- 3- One opening called mouth into digestive (gastrovascular) cavity.
- 4- The zygote hatch into ciliated larvae called planula larvae

Phylum:	Cnidaria	Cnidaria	Cnidaria
Class:	Hydrozoa	Hydrozoa	Hydrozoa
Order:	Calyptoblastea	Hydrida	Gymnoblastera
Genus:	<u>Obelia</u>	<u>Hydra</u>	<u>Tubularia</u>
Common name	-	-	Pink mouthed pink hearted

Lab-3- Cnidaria

Phylum:	Cnidaria	Cnidaria	Cnidaria	Cnidaria
Class:	Scyphozoa	Anthozoa	Anthozoa	Anthozoa
Order:	Semaeostomeae	Alcyonaria	Actinaria	Scleractinia
Genus:	<u>Aurelia</u>	<u>Corallium rubrum</u>	<u>Metridium</u>	-
Common name	jellyfish	Red coral or precious coral	Plumose anemones	Fungi coral brain coral horn coral

Lab-4- Platyhelminthes

General characteristics

- 1- Triploblastic, their body consist of three cell layers (ectoderm, mesoderm and endoderm).
- 2- Acoelomate animals, don't have body cavity.
- 3- Bilateral symmetry.
- 4- They have complex tissue organs (nervous system and digestive system).
- 5- They have specialize cell called **flame cells** as excretory system.
- 6- They are **hermaphrodite** except one genus.
- 7- They have one body opening known **mouth**.

Phylum	Platyhelminthes	Platyhelminthes	Platyhelminthes	Platyhelminthes	Platyhelminthes
Class	Turbellaria	Trematoda	Trematoda	Cestoda	Cestoda
Order	Tricladida	Digenea	Digenea	Eucestoda	Eucestoda
Genus	<u>Planaria</u>	<u>Fasciola hepatica</u>	<u>Schistosoma</u>	<u>Taenia saginata</u>	<u>Echinococcus granulosis</u>
Common name	-----	liver fluke or sheep liver fluke	blood fluke or bilharzia	beef tapeworms	dog tapeworm or hydatid worms
Disease	free living	fascioliasis	schistosomiasis	-----	hydatid disease or cysticechinococcus
Intermediate host	-----	snail	snail	muscles of livestock animals	live stock animals & human
Final host	-----	bile ducts of human, sheep & cattle	Blood vessels of human	intestine of human	small intestine of dogs canids & others
Infective stage	-----	metacercaria	cercaria	cysticercus	eggs or cysticercus

Lab-5- Nematoda

General characteristics

- 1- Triploblastic, their body consist of three cell layers (ectoderm, mesoderm and endoderm) and have cuticle layer.
- 2- Pseudo coelomate animals.
- 3- The have cylindrical body with two opening mouth and anus.
- 4- They are separate sexes male and female.

Phylum	Nematoda	Nematoda	Nematoda	Nematoda
Class	Adenophorea	Secernentea	Secernentea	Secernentea
Order	Trichurata	Rhabditia	Ascaridida	Strongylida
Genus	<u>Trichinella spiralis</u>	<u>Rhabditis</u>	<u>Ascaris lumbricoides</u>	<u>Ancylostoma duodenale</u>
Common name	pork worm	-----	giant round worm	hook worm
Disease	trichinosis	-----	ascariasis	-----
Host	small intestine of human, pigs, cats & rats	infective of plant & animal	small intestine of human	small intestine of human, cats & dogs
Infective stage	nurse cell larvae	-----	eggs	filariform larvae

Lab-6- Annelida

General characteristics

- 1- cylindrical long worms.
- 2- their body segmented into similar segments.
- 3- they have nephridia.
- 4- they have true coelomate.
- 5- they are hermaphrodite.

Phylum	Annelida	Annelida	Annelida
Class	Polychaeta	Oligochaeta	Hirudina
Genus	<u>Neries</u>	<u>Lumbricus</u>	<u>Hirudo medicinalis</u>
Common name	sand worm	earth worm	leech
Host	free living	free living	exoparasite on fish, human and other invertebrate

Lab-7- Arthropoda

General characteristics

- 1- Bilateral symmetry body and consist of three region cephalon, thorax and abdomen.
- 2- Their body have outer segmented hard exoskeleton carapace .
- 3- They have simple and compound eyes and pairs of touch sensors antenna and antennules. and have jointed flexibility and movement appendages.
- 4- They have open circulatory system and respiration by tracheae or book lungs and excretion by malpighain tubule or nephridia. Separate sexes and parthenogenesis.

Phylum	Arthropoda	Arthropoda	Arthropoda	Arthropoda
Subphylum	Mandibulata	Mandibulata	Mandibulata	Mandibulata
Class	Crustacea	Crustacea	Crustacea	Crustacea
Subclass	Branchiopoda	Branchiopoda	Ostracoda	Copepoda
Order	Anostraca	Cladocera	Podocopa	Cyclopedia
Genus..	<u>Artemia</u>	<u>Daphnia</u>	<u>Cypris</u>	<u>Cyclops</u>
Common name	brine shrimp	water fleas	seed shrimp	water fleas

Lab-8-

Phylum	Arthropoda	Arthropoda	Arthropoda	Arthropoda
Subphylum	Mandibulata	Mandibulata	Mandibulata	Mandibulata
Class	Crustacea	Crustacea	Crustacea	Crustacea
Subclass	Cirripedia	Cirripedia	Malacostraca	Malacostraca
Order	Thoracica	Thoracica	Decapoda	Decapoda
Genus	<u>Lepas</u>	<u>Balanus</u>	<u>Penaeus</u>	<u>sesarma</u>
Common name	-	-	shrimp	crab

Lab-9-

Phylum	Arthropoda	Arthropoda	Arthropoda
Subphylum	Mandibulata	Mandibulata	Chelicerata
Class	Chilopoda	Diplopoda	Arachnida
Subclass	-	-	-
Order	-	-	Scorpionida
Genus	<u>Scolopendra</u>	<u>Julus</u>	<u>Buthus</u>
Common name	centipedes	millipedes	scorpion

Lab-10- Mollusca

General characteristics

- 1- Triploblastic animals.
- 2- They have true coelomate.
- 3- Their body consist of head, foot and visceral hump.
- 4- Their almost genera covered with shell.
- 5- Hermaphrodite.

Phylum	Mollusca	Mollusca
Class	Gastropoda	lamillibranchiata
Order	Pulmonata	Eulamillibranchiata
Genus	<u>Helix</u>	<u>Anodonta</u>

Echinodermata

General characteristics

- 1- Marine animals, without head, radial symmetrical with five arms in almost genera.
- 2- Their body have two sides oral surface contain mouth and aboral surface contain madreporite .and separate sexes in almost.
- 3- Their have water vascular system, true coelomate.

Phylum: Echinodermata

Class: Asteroidea

Order: Forcipulata

Genus: Asterias (starfish)