



Classification & Characteristics of Crustacea





Phylum: Arthropoda



General characters

- ✚ Triploblastic, bilaterally symmetrical, **metabolically segmented**
- ✚ Body is covered with a thick **chitinous cuticle** forming an exoskeleton
- ✚ Body segments usually bear paired lateral and **jointed appendages**
- ✚ Body cavity is **haemocoel**. The true coelom is reduced to the spaces of the genital and excretory organs



Phylum: Arthropoda



General characters

- + **Digestive tract is complete**; mouth and anus lie at opposite ends of the body
- + **Circulatory system is open** with dorsal heart and arteries but without capillaries
- + Respiration through general body surface, **by gills in aquatic forms**, tracheae or book lungs in terrestrial forms
- + Excretion by coelomoducts or **Malpighian tubules or green or coxal glands.**



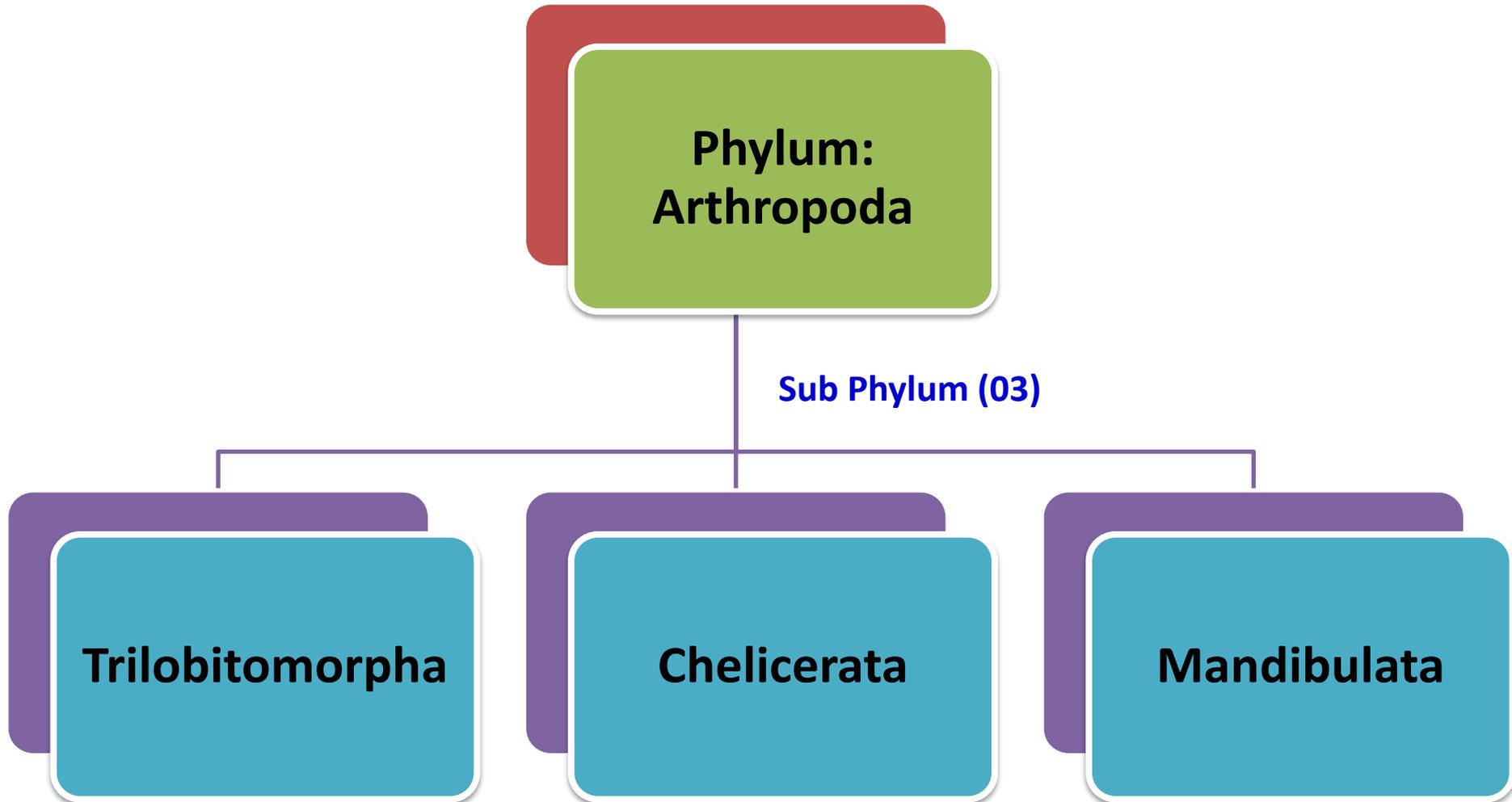
Phylum: Arthropoda



General characters

- ✚ **Cilia are entirely absent** from all parts of the body
- ✚ Sex are generally **separate and sexual dimorphism** is often exhibited by several forms
- ✚ Fertilization is **internal**. Development is usually indirect through larval stages
- ✚ **Parental care** is also often well marked in many arthropods

Classification





Sub-phylum: Mandibulata



General characters

(Mandibula=mandible + ata=group)

✚ **Body divisible into cephalothorax and abdomen or head, thorax and abdomen**

✚ Appendages of head consist of one or two pairs of antennae, **one pair of mandible** and one or two pairs of maxillae

✚ Eye usually compound, respiration through gills or tracheae, excretion by malpighian tubules or green glands

✚ Sexual dimorphism

✚ **Development usually involves larval stages.**

**Sub-phylum:
Mandibulata**

Class (06)

Crustacea

Chilopoda

Symphyla

Pauropoda

Diplopoda

Insecta



Class: Crustacea



General Characters

- + Crusta (Latin) = **a hard shell**
- + **Mainly aquatic**, generally marine but few freshwater and few live in moist places
- + Generally **free living** but few are parasitic
- + Head often fused with thorax to form **cephalothorax** covered dorsally by **carapace**
- + Head bears a pair of **compound eye** and **five pairs of appendages**



Class: Crustacea



General Characters

- ✚ Thorax and abdomen often with a pair of **biramous appendages in each segments**
- ✚ Respiration either **by gill** or general respiratory surface
- ✚ Coelom greatly reduced, it is in the form of **haemocoel**
- ✚ Excretory organs are modified coelomoduct which may be either **maxillary gland or antennary (green) glands**
- ✚ Sex usually **separate & sexual dimorphism** is common
- ✚ Development includes **metamorphosis** with free larval stages

Crustacea

Sub Class (08)

Cephalo-
-cardia

Branchi-
o-poda

Ostra-
-coda

Mystaco-
-cardia

Cope-
-poda

Branchi-
-ura

Cirri-
-pedia

Mala-
-costraca

Cephalocardia: Horseshoe Shrimp





Brachipoda: Clam Shrimp



Ostracoda: Seed Shrimp

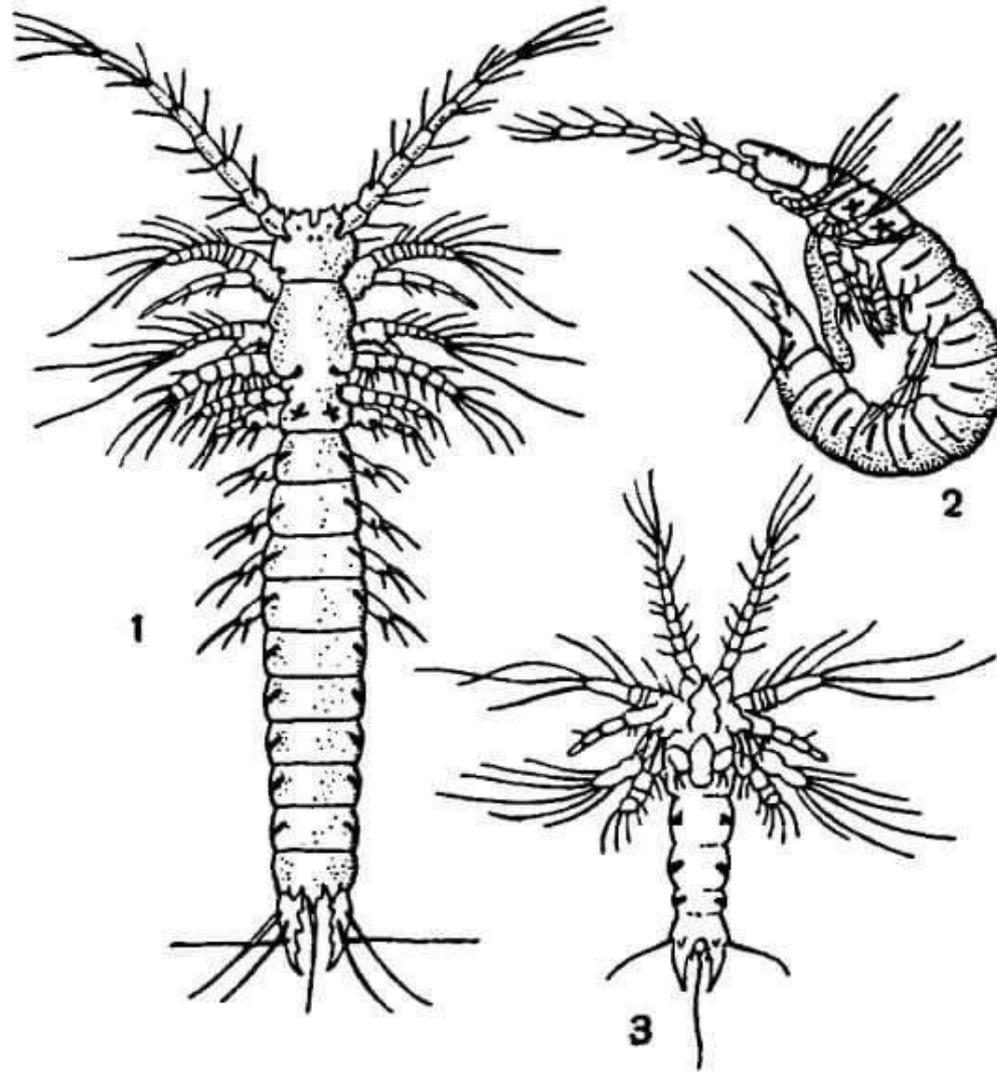


Рис. 218. *Derocheilocaris remanei*:

Mystacocardia



Copepoda: Cyclops



Branchinura: Argulus



Cirripedia: Brances

Malacostraca

General Characters of sub class Malacostraca (Malakos = soft + ostrakon=shell)

- ✦ Largest subclass of crustacea including most crabs, lobster, shrimps, crayfish, krill, sow bugs and beach flies
- ✦ Large marine and fresh water crustacean
- ✦ Thorax comprises eight segments, abdomen six segment, rarely seven.
- ✦ Exoskeleton of head unite with few or more thoracic segment to form cephalothoracic carapace.
- ✦ Compound eye usually stalked.

Malacostraca

Order (06)

Nebaliacea

Mysidacea

Isopoda

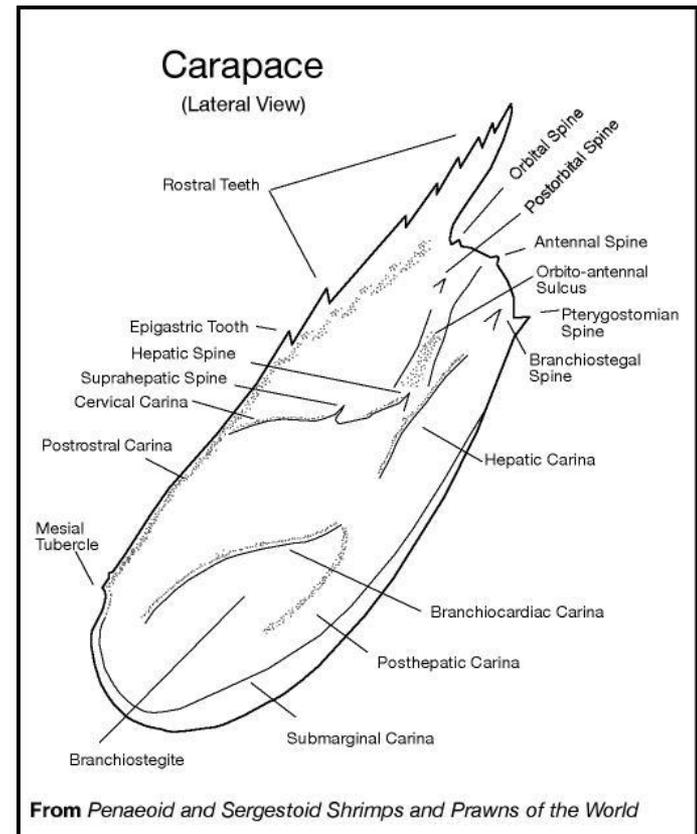
Amphipoda

Stomatopoda

Decapoda

General Characters of Decapoda (Deca=ten + pods=Foot)

- Carapace covers the entire thorax
- Thoracic appendages are modified as three pairs of maxillipedes and five pairs of walking legs
- Statocyst present



Decapoda

Sub Order (02)

Dendrobranchia

Pleocyemata

Branching form of gills

Divided into two **super family**

1. **Penaeoidea**
2. **Sergestoidea**

Contain lamellar gills

Divided into **07 infraorder**

1. **Caridea** (True Shrimp)
2. **Stenopodidea** (Boxer shrimp)
3. **Astacidea** (clawed lobster & crayfish)
4. **Thalassinidea** (ghost & mud shrimp)
5. **Palinura** (spiny & slipper lobster)
6. **Anomura** (Hermit, porcelain & King Crab)
7. **Brachynura** (true crabs)

Taxonomic Classification

Phylum:	Arthropoda
Subphylum:	Mandibulata
Class:	Crustacea
Subclass:	Malacostraca
Order:	Decapoda
Suborder:	Dendrobranchia (Penaeid Prawn)
	Pleocyemata (Palaemonid Prawn, Carbs, Lobster)

