



Non-chordates

Invertebrates

(अकशेरुकीय  
प्राणी)

Phylum  
(समूह) → Porifera (पौरीफेरा)

⇒   Sponges of Animal Kingdom.  
(जन्तु जगत का संघ)

⇒ Aquatic (जलीय) → Marine (समुद्र).  
→ Fresh water  
(मीठे पानी).



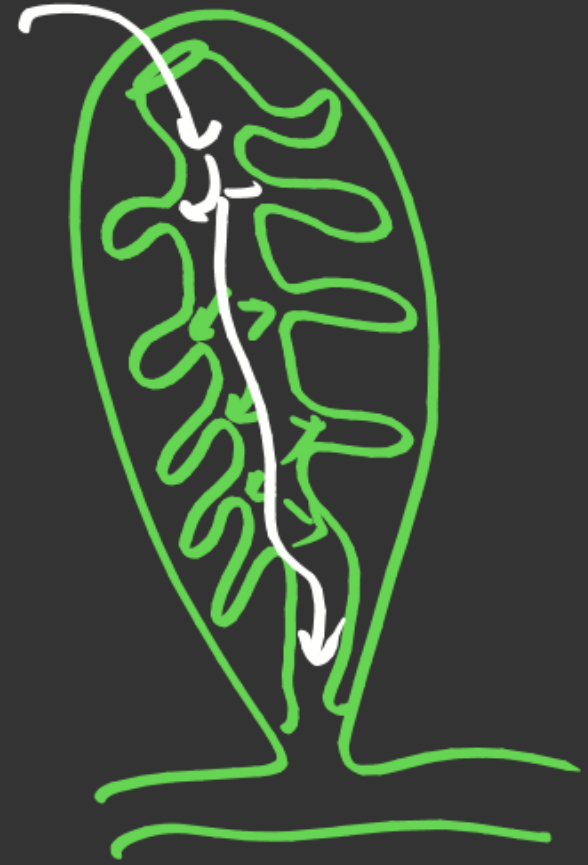
⇒ Canal System ( नहर प्रणाली ).

⇒ Asymmetrical (असममिती)

⇒ Hermaphrodite  
(उभयचर).

⊙ Bisexual (द्विलिंगी).

Fold  
गुँ.



## Phylum – Porifera

*Spongilla*

*Euspongia*

*Sycon*



i. Members of this phylum are commonly known as sponges.

ii. Sponges have a water transport or canal system.

iii. Sexes are not separate (hermaphrodite).

iv. Examples of Porifera :

(a) Sycon

(b) Euspongia (c) Spongilla.



- Examples: Jellyfish, coral, anemones, hydra

जेलीफिश



कोरल (प्रवाल)



[मूँगा]

सी-ऐनिमोन



हाइड्रा

## Phylum – Coelenterata (Cnidaria)

1. They are aquatic, mostly marine, sessile or free-swimming, radially symmetrical animals.
2. Cnidarians exhibit two basic body forms called polyp and medusa.
3. Examples : Hydra , Sea anemone, corals and Aurelia or jelly fish.

Phylum Cnidaria (समूह निर्देरिया)

OR Coelentrata (सिलेन्ट्रेटा)

⇒ Mostly marine (अधिकांशतः समुद्री).

⇒ Radial symmetry (रेडियल)

~~imp~~ Polyp / Medusa (पोलिप या मेडूसा).

Phylum → Ctenophora (टीनोफोरा)

⇒ Marine (समुद्री).

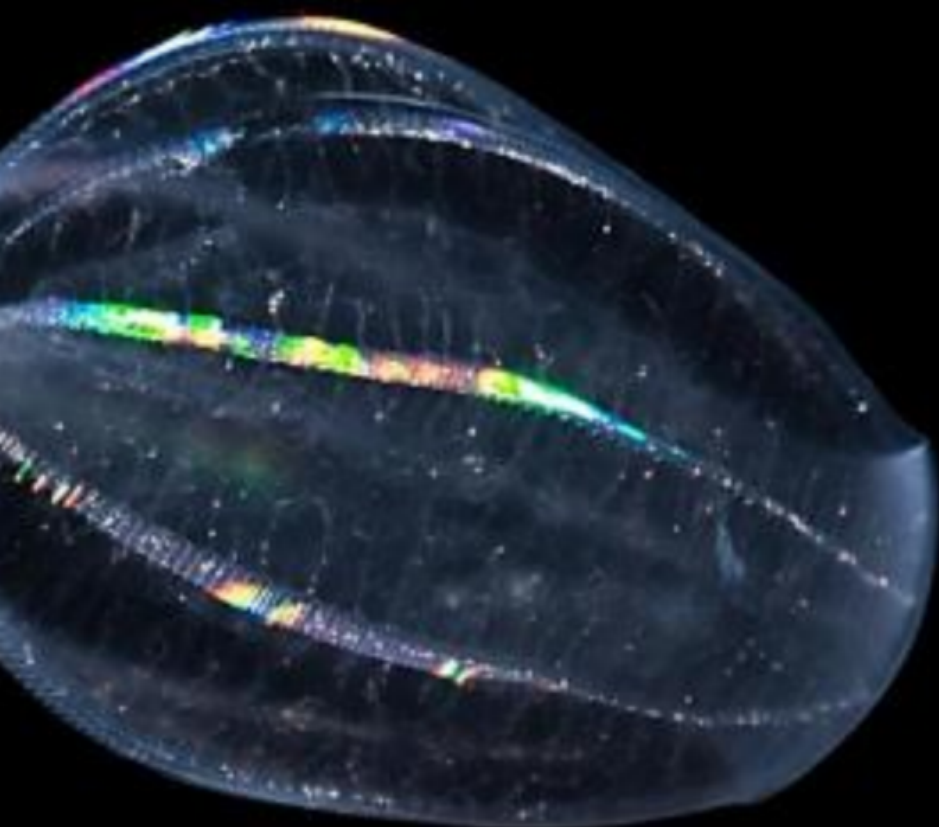
⇒ Bioluminance (जैव-प्रदीपन) → electricity / बिजली

⇒ Transparent (पारदर्शी)

⇒ Comb Jellies (काम्ब जैली).

Sea-Walnut  
समुद्री अखरोट

## **Phylum – Ctenophora**



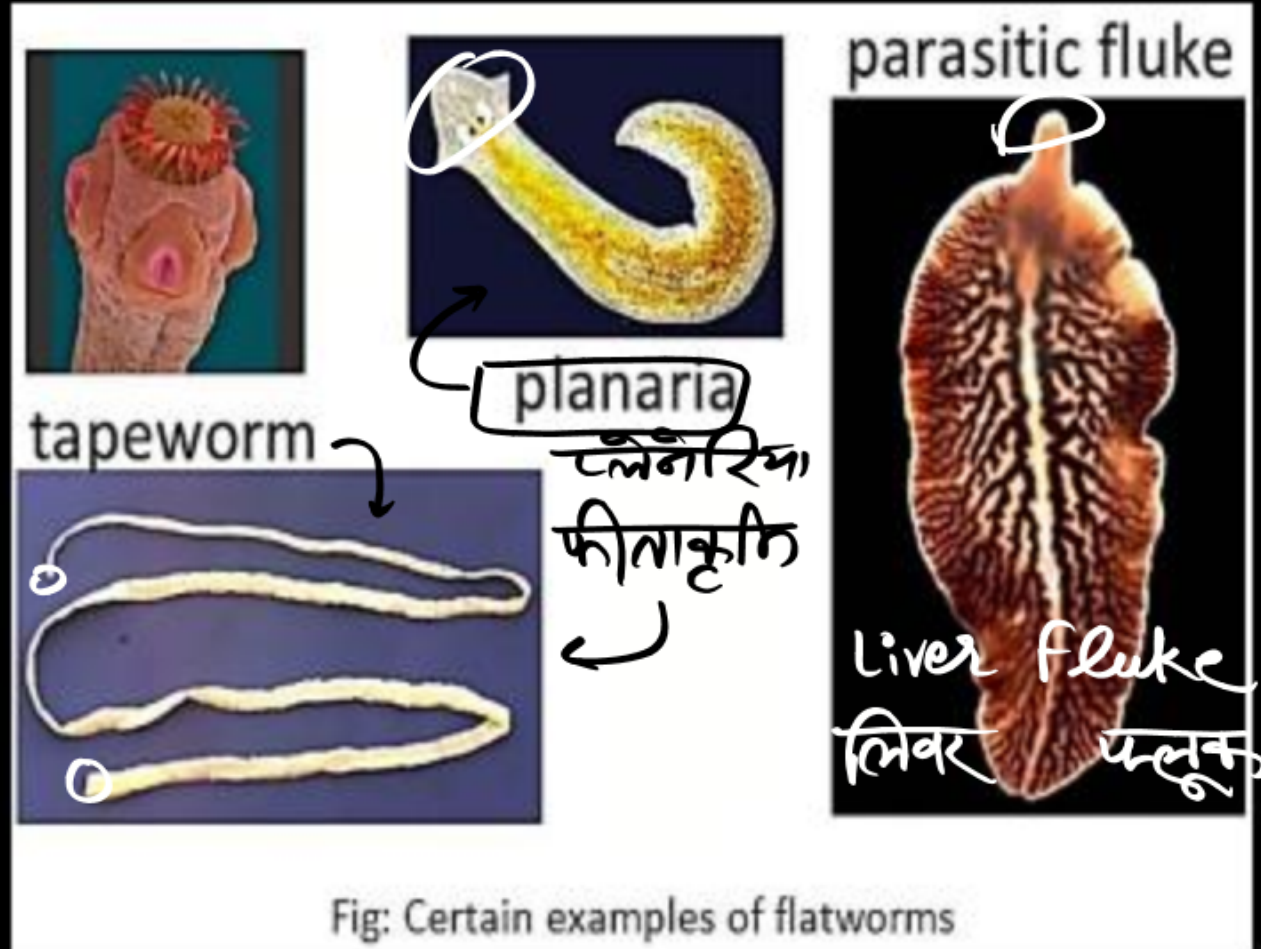
**1.Ctenophores, commonly known as sea walnuts or comb jellies.**

**2.Bioluminescence (the property of a living organism to emit light) is well-marked in ctenophores.**

**3.Examples: Pleurobrachia and Ctenoplana.**



## Phylum – Platyhelminthes



1.They have dorso-ventrally flattened body, hence are called flatworms.

2.These are mostly endoparasites found in animals including human beings.

3.Hooks and suckers are present in the parasitic forms.

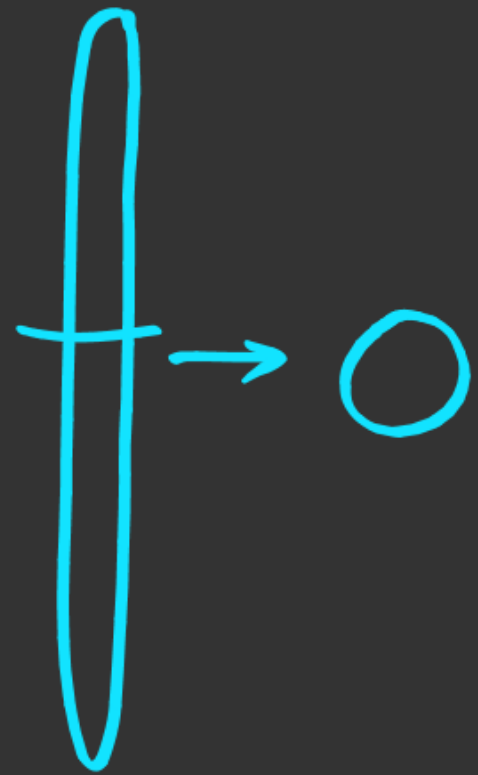
4.Examples: Taenia (Tapeworm), Fasciola (Liver fluke).

Phylum → Platyhelminthes (प्लैटीहेल्मिन्थीजा)

Flat

worm ⇒ Flat worm   
चिपेट कृमि

⇒ endoparasites (अन्तः परजीवी) → रोग/Diseases.

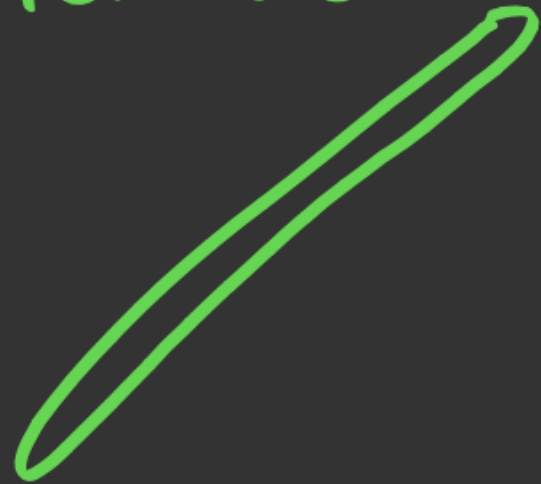


Phylum → Ascalminthes (ऐस्कैन्थेन्सीय)

↓ ↓  
Round worm

(गोलान्तर कृमि) ❤️

Female (मादा)



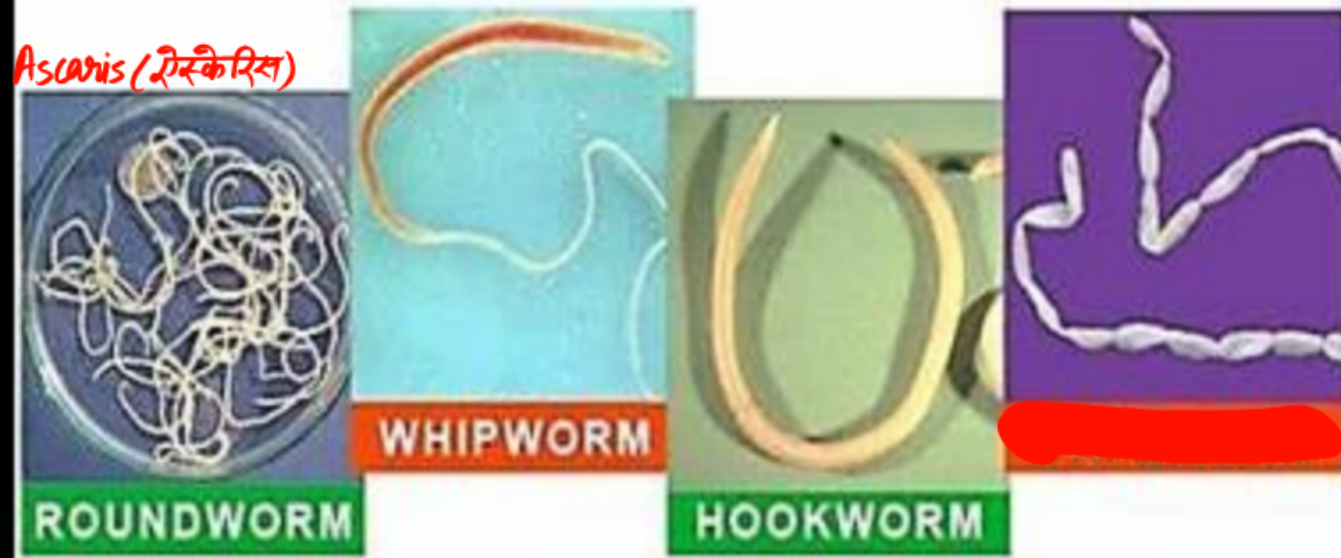
Male (नर)



⇒ endoparasites.  
अन्तःपरजीवी.

## Phylum – Aschelminthes

### COMMON TYPE OF WORMS



Ascaris (ऐस्कैरिस)

दुवार्म

1. Also known as roundworms.

2. Often females are longer than males.

3. Examples : Ascaris (Round Worm),  
Wuchereria (Filaria worm), Ancylostoma  
(Hookworm).





**1. Metamerically segmented body.**

**2. Aquatic annelids like Nereis possess lateral appendages, parapodia, which help in swimming.**

**3. A closed circulatory system is present.**

**4. Nephridia help in osmoregulation and excretion.**

**5. Neural system consists of paired ganglia connected by lateral nerves to a double ventral nerve cord.**

**6. Note : Nereis, an aquatic form, is dioecious, but earthworms and leeches are monoecious.**

**7. Examples : Nereis, Pheretima (Earthworm) and Hirudinaria (Blood sucking leech).**



कैचुआ  
Earthworm

Leech  
(जोंक)

Nereis  
(नैरीस)

\* Nephridia (नैफ्रिडिया) → उत्सर्जन  
excretion.

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