Life Cycle and General Characteristics of Leech

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General Characteristics And Life Cycle

Annelida

Part-3

Leech

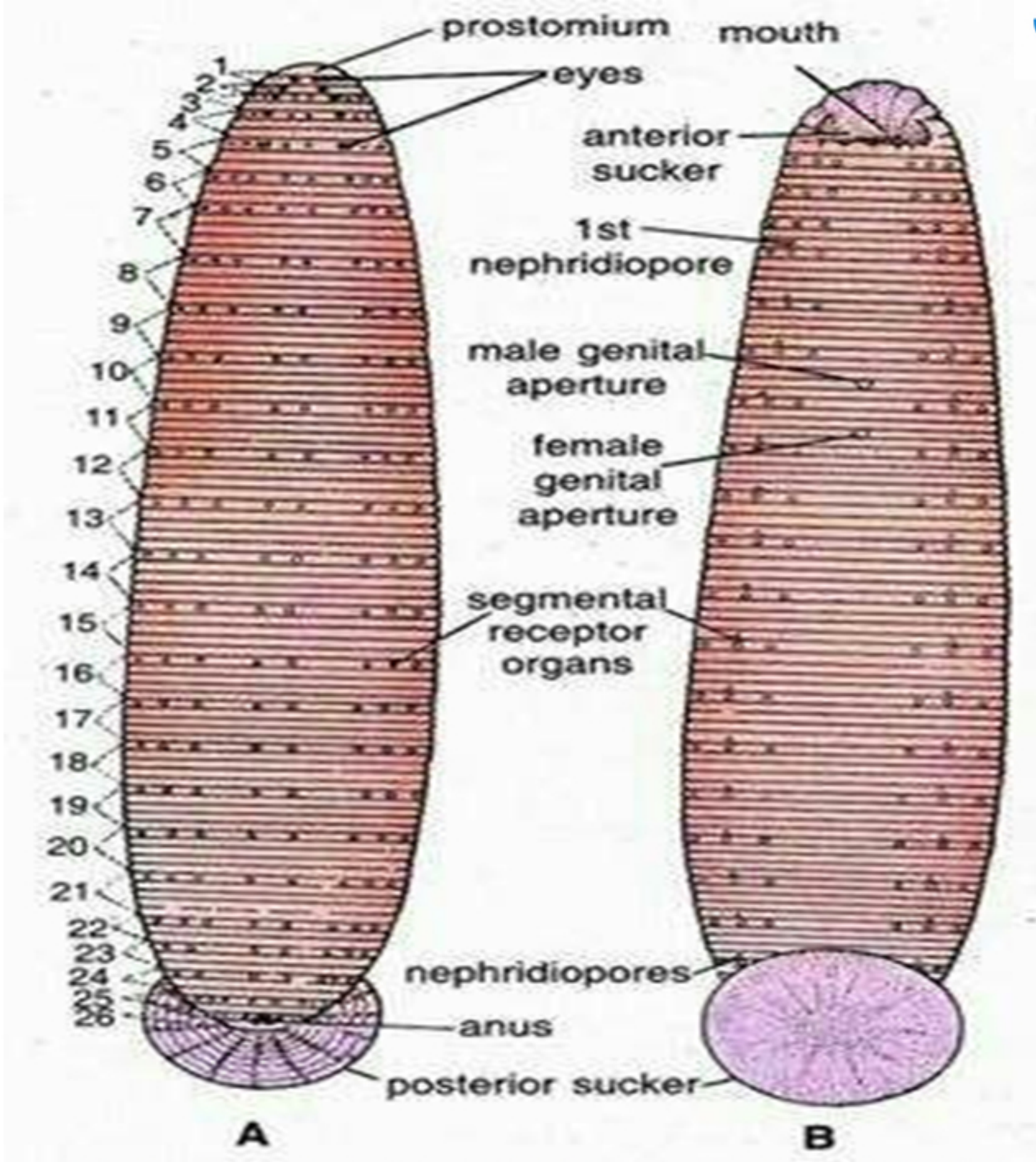
Leech:

- Classification:
- Phylum: Annelida
- Class: Clitellata
- Sub-Class: Hirudinea
- Genus: Hirudinaria
- Species: granulosa

General:

- It is a common Indian leech found in freshwater tanks, ponds, lakes, swamps, and slow streams.
- It prefers shallow water and remains concealed under weeds, logs and stones.
- It is sanguivorous (blood-sucking) sucking the blood of fishes and frogs, ands also of cattle or human beings when they enter the pond.

- Leeches show a great diversity in their habits and habitat. Some species are marine, some are freshwater, while others are terrestrial.
- Though many species are blood-suckers (ectoparasitic) yet a large number are not ectoparasitic but are predatory and feed on worms, snails and insect larvae.
- The body of Hirudinaria is soft, vermiform,elongated, bilaterally symmetrical and metamerically segmented.


prostomium
mouth
eyes
anterior sucker
1st nephridiopore
male genital aperture
female genital aperture
segmental receptor organs
nephridiopores
anus
posterior sucker
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
A
B

Life Cycle of Leech:

- Leeches are hermaphrodite (monoecious),i.e., each individual possesses a complete set of well differentiated male and female reproductive organs.
- Self-fertilisation does not occur.
- Cross- fertilisation, preceded by copulation, is being effected.

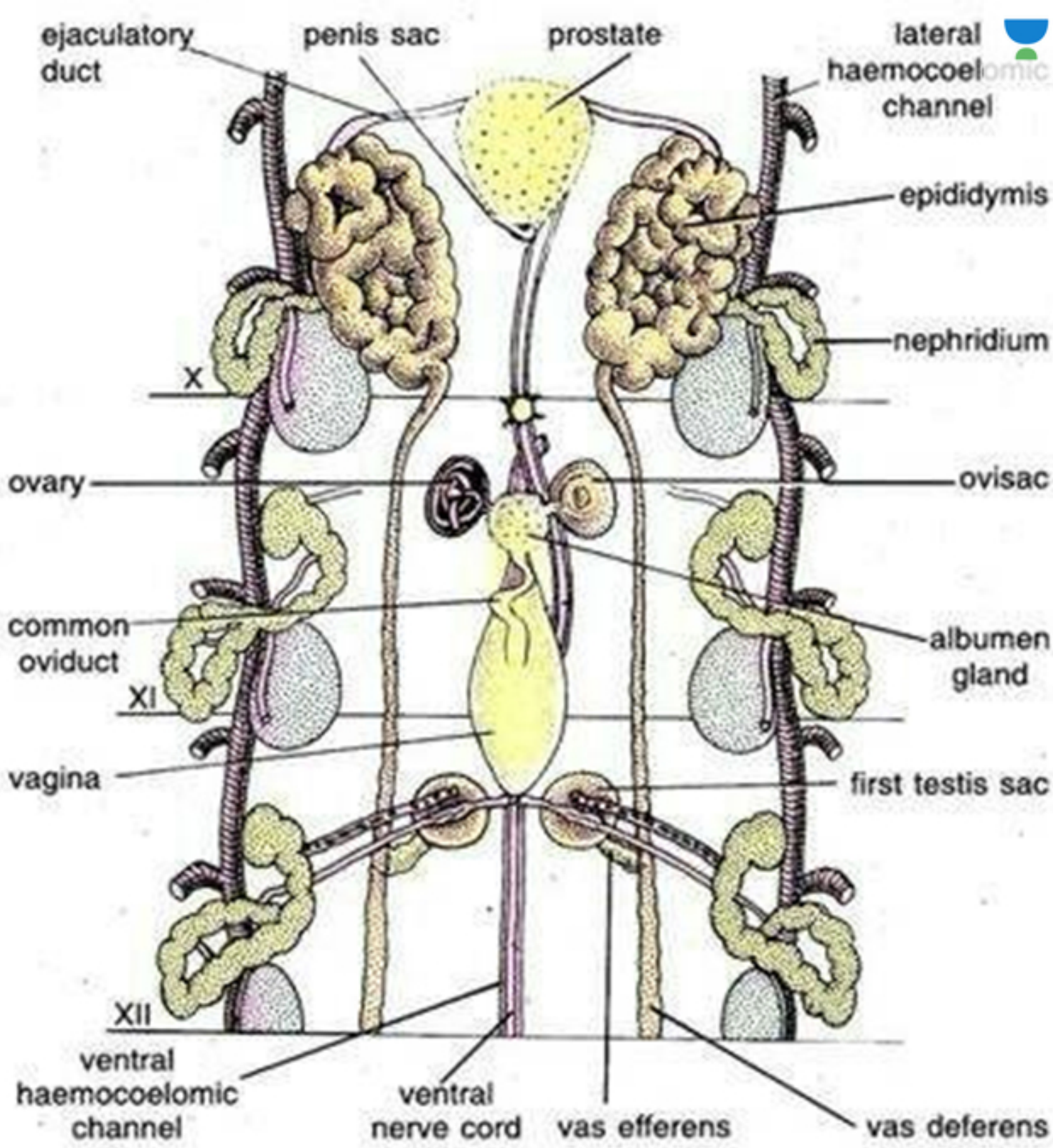


Fig. 67.28. *Hirudinaria*. Reproductive organs of X, XI and XII segments of body.

- **Copulation:**

- Copulation takes place in the months of March and April.
- During copulation two leeches come together by their ventral surfaces pointing in opposite directions(Head to tail position), so that the male aperture of each is opposite the female aperture of the other.

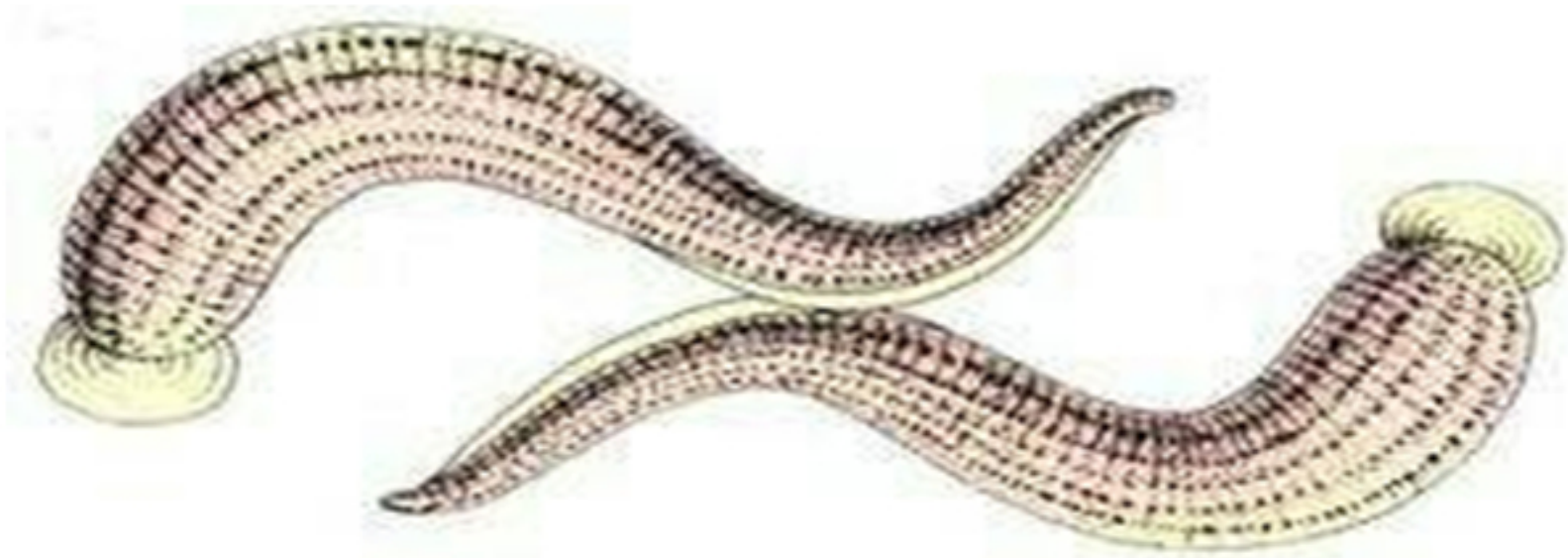


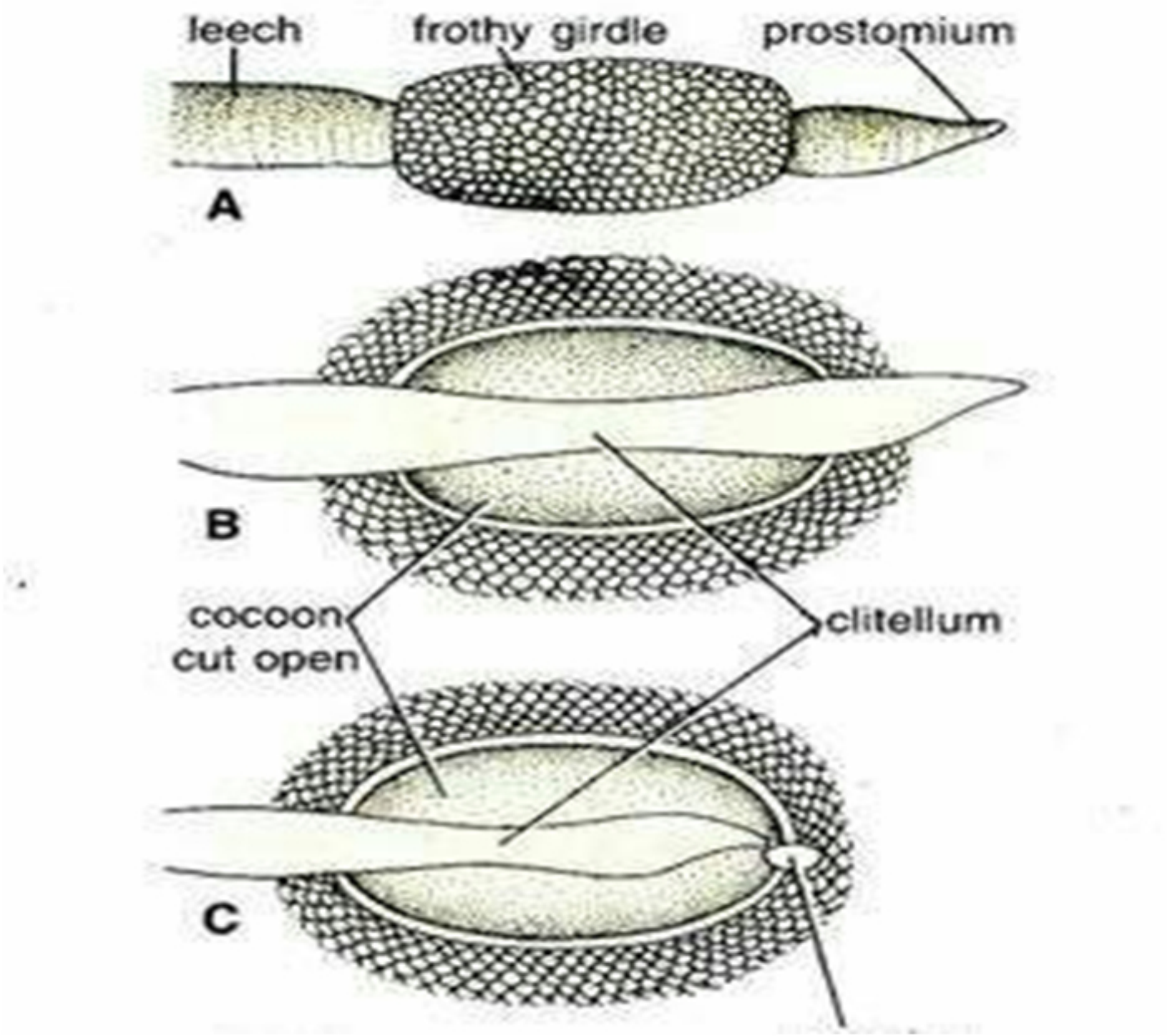
Fig. 67.31. *Hirudinaria.* Two leeches in copulation.

- Copulation may occur on land or in water, it lasts for an hour after which the two worms separate.

- **Fertilisation:**
- Fertilisation occurs in vagina, i.e., it is internal.
- The fertilised eggs are discharged through the female genital aperture into the cocoon (ootheca)where further development occurs.

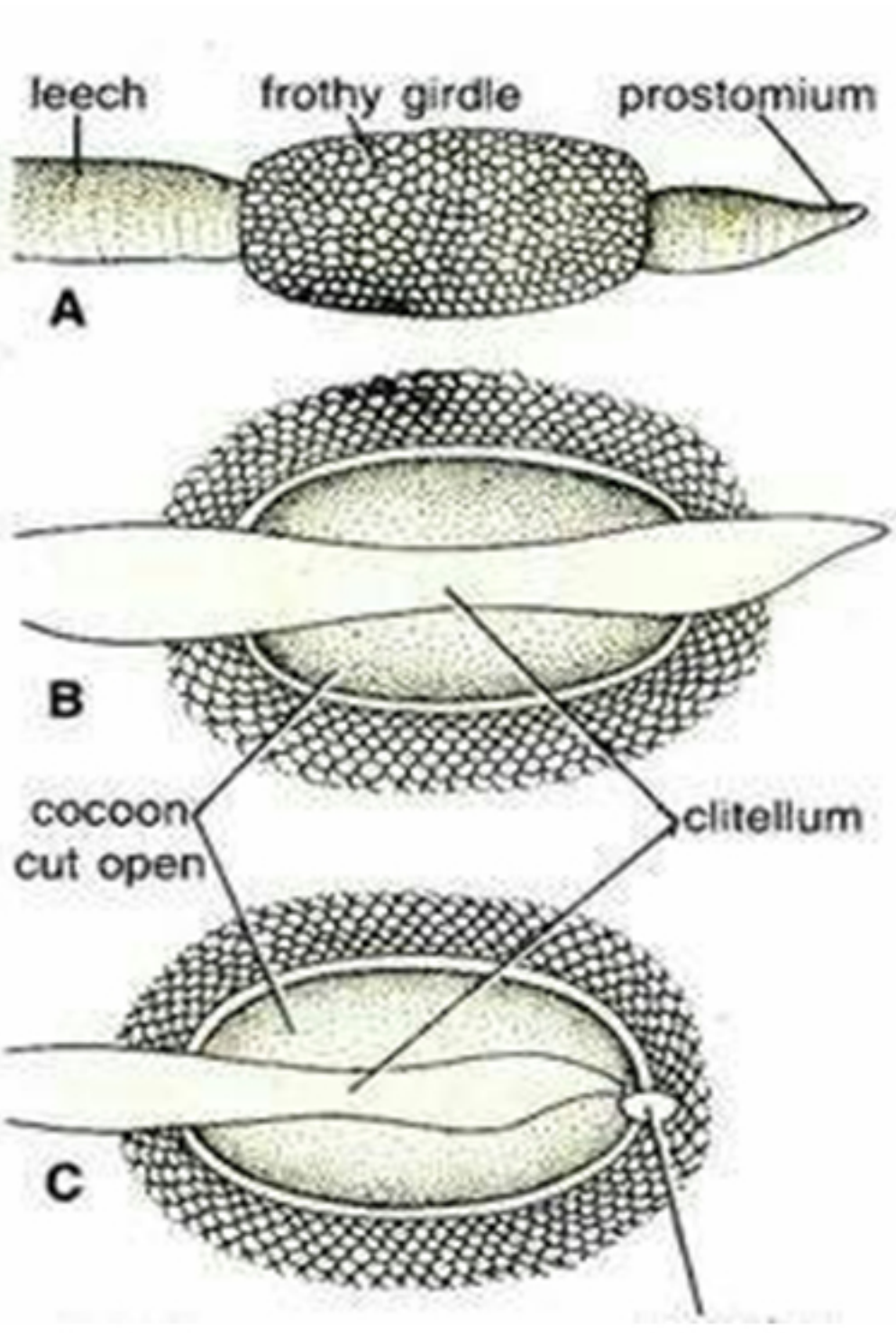
• Cocoon or Ootheca Formation:

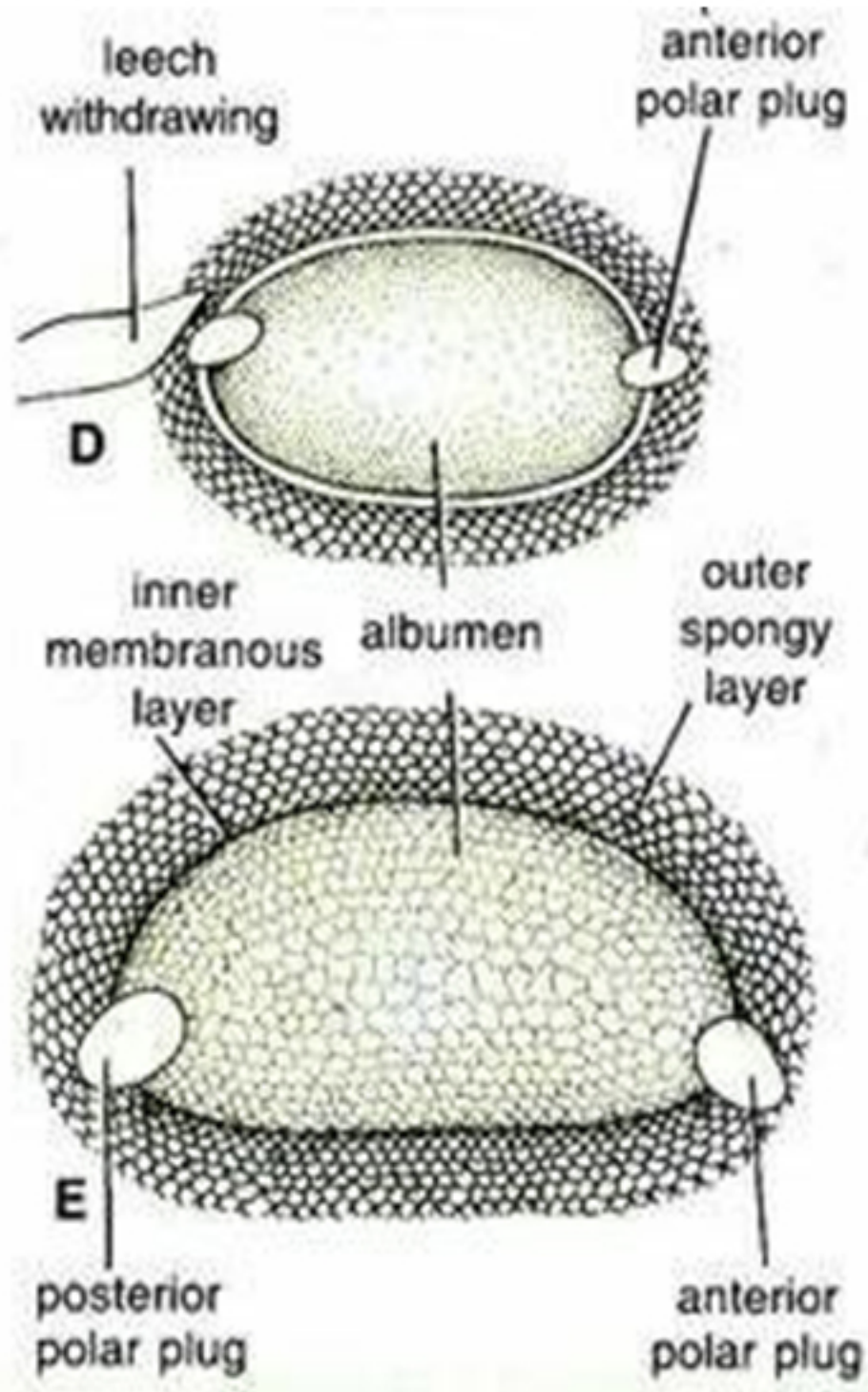
- The coccon of Hirudinaria are formed in April, May and June.
- The clitellum forms around segments nine to eleven during breeding season, its glands secrete a frothy girdle which hardens to form a cocoon, the clitellar glands secrete albumen into the cocoon used as nourishment by the developing embryo.
- The fertilised eggs are extruded into the cocoon. The leech wriggles out backwards from the cocoon, the two ends are closed by polar plugs secreted by the prostomial glands.
- Cocoon formation takes about six hours.


leech
frothy girdle
prostomium
A
B
cocoon
cut open
clitellum
C

• Development:

- Development of young proceeds within the cocoon.
- In each cocoon one to twenty-four embryos develop and swim in the cocoon feeding on albumen, they finally escape from the cocoon.
- Development is direct and occurs within the cocoon, there is no larva and the process is completed in about fifteen days.
- The albumen of the cocoon is used as food during development.
- When development becomes completed the polar plugs drop off and young leeches come out.


leech
frothy girdle
prostomium
A
B
cocoon
cut open
clitellum
C


leech
withdrawing
anterior
polar plug
D
inner
membranous
layer
albumen
outer
spongy
layer
E
posterior
polar plug
anterior
polar plug

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