

Excretory system

Excretion - The active biological process by which waste products of metabolism are given outside the body.

- space
- Toxic effect

⇒ Carbon dioxide - Release - Respiratory system

⇒ Water - More than one way

⇒ Nitrogenous waste products:-

Nitrogen containing compound - Amino Acid

} Purine
Pyrimidine

⇒ Amino Acid -

↳ Ammonotelic animal

Ammonotelism

⇒ Ammonia - Highly toxic substance

↳ Dilute - Water

Unlimited water

Ammonotelic animal or Ammonotelism

↓
Animals which excrete

nitrogenous waste products in the
form of Ammonia.

Amino acid

Carbohydrate → Glycogen

Fat - Adipocyte

✓ Ureotelic animal →

Limited supply of water

Drink - Considerable amount

Ammonia → Urea
less toxic

Ureotelism

Uricotelic animal

Urea → Uric acid
least toxic

Uricotelism

Water

Ureotelic animal

Urea $\longrightarrow$ Uric acid

Dual in excretion:-

Crocodile - water - Ammonia

Land - Urea

Earthworm

Feed - more $\rightarrow$ Ammonia

Starvation $\rightarrow$ Urea

Earthworm:-

Excretory organ - Nephridia.

Chloragogen cell.

Nephridia :-

Structure - same
Different - size
Absence of nephrostome

⇒ Integumentary nephridia:-

⇒ Present in all segments except 1st two segments.

⇒ Smallest in size & large in number.

⇒ Pharyngeal nephridia:-

⇒ Moderate in size.

⇒ Bunch - one pair of its bunch 4th, 5th & 6th seg each.

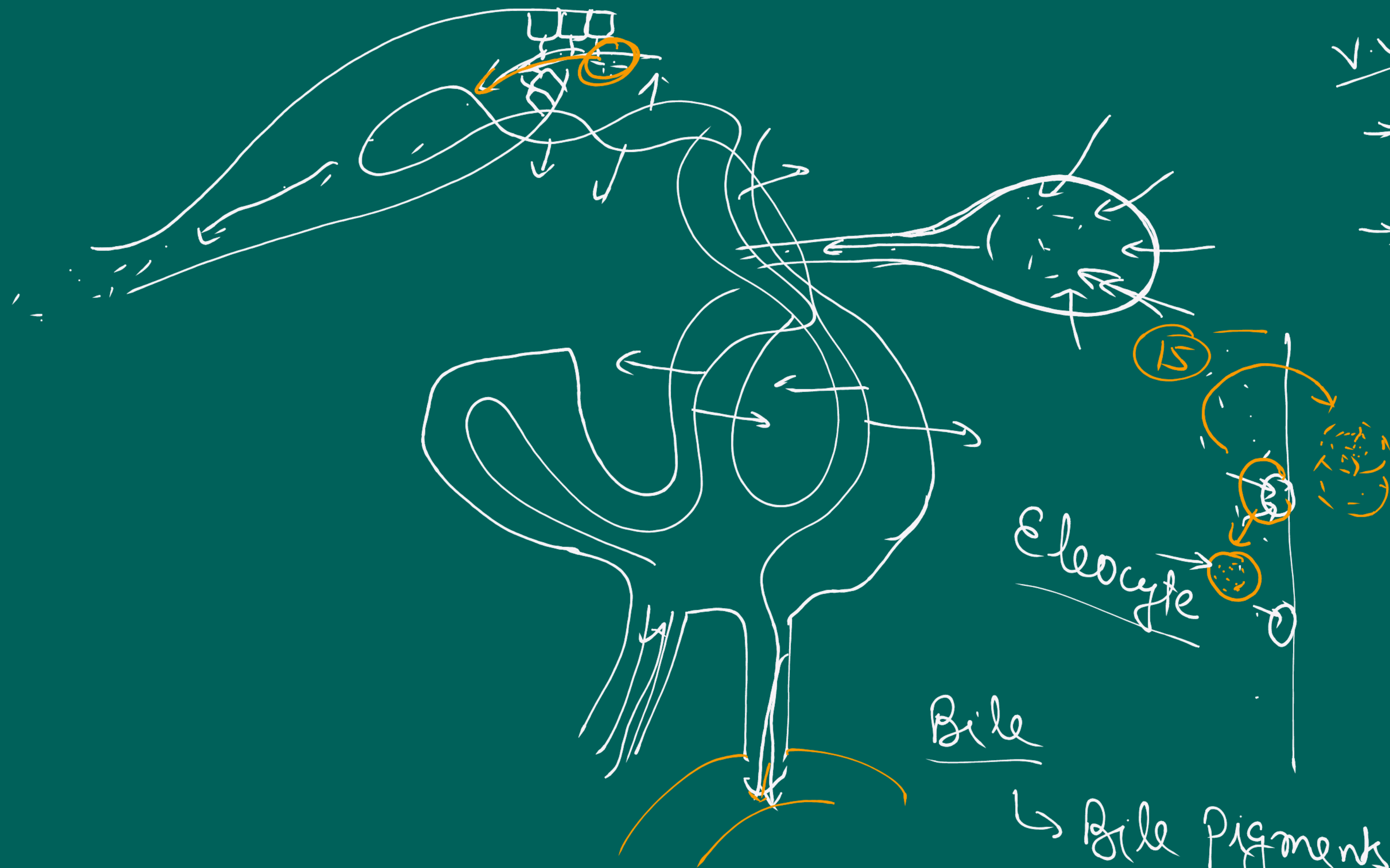
Presence of nephrostome ✓

⇒ Septal nephridia:-

⇒ Largest in size.

⇒ From 15th seg to last seg.

three



V.V.T.

→ Filtration

→ Reabsorption

[Analogous to liver
of vertebrate]

↓
Chloragogen cell

Bile

↳ Bile Pigments (Bilirubin & Biliverdin)

On the basis of location of opening:-

⇒ Exonephric nephridia:- ✓

↳ opening of nephridia remain outside the body cavity
or, on body surface.

Integumentary nephridia

↳ on body surface - Nephridiopores.

⇒ Enteronephric nephridia:- opening lies inside the body cavity.

Pharyngeal nephridia - Buccal cavity & pharynx.

Septal nephridia - Intestine.