

## 13<sup>th</sup> Lab

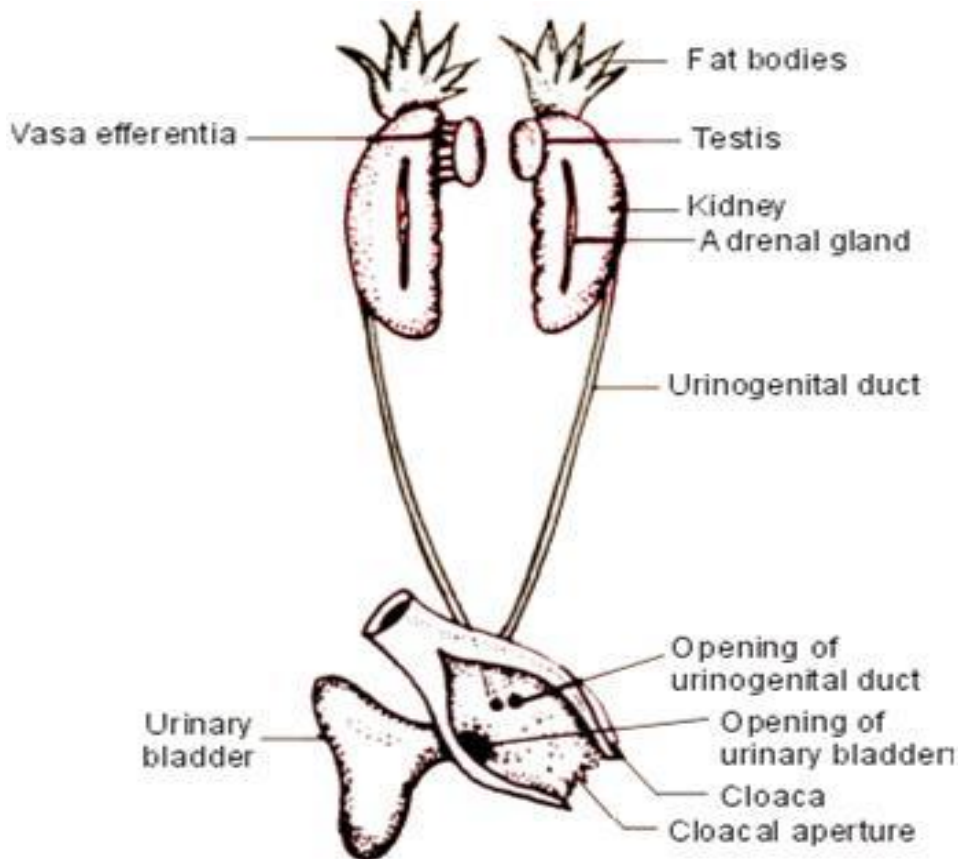
## The Urogenital system of frog

### ➤ Dissection instruction

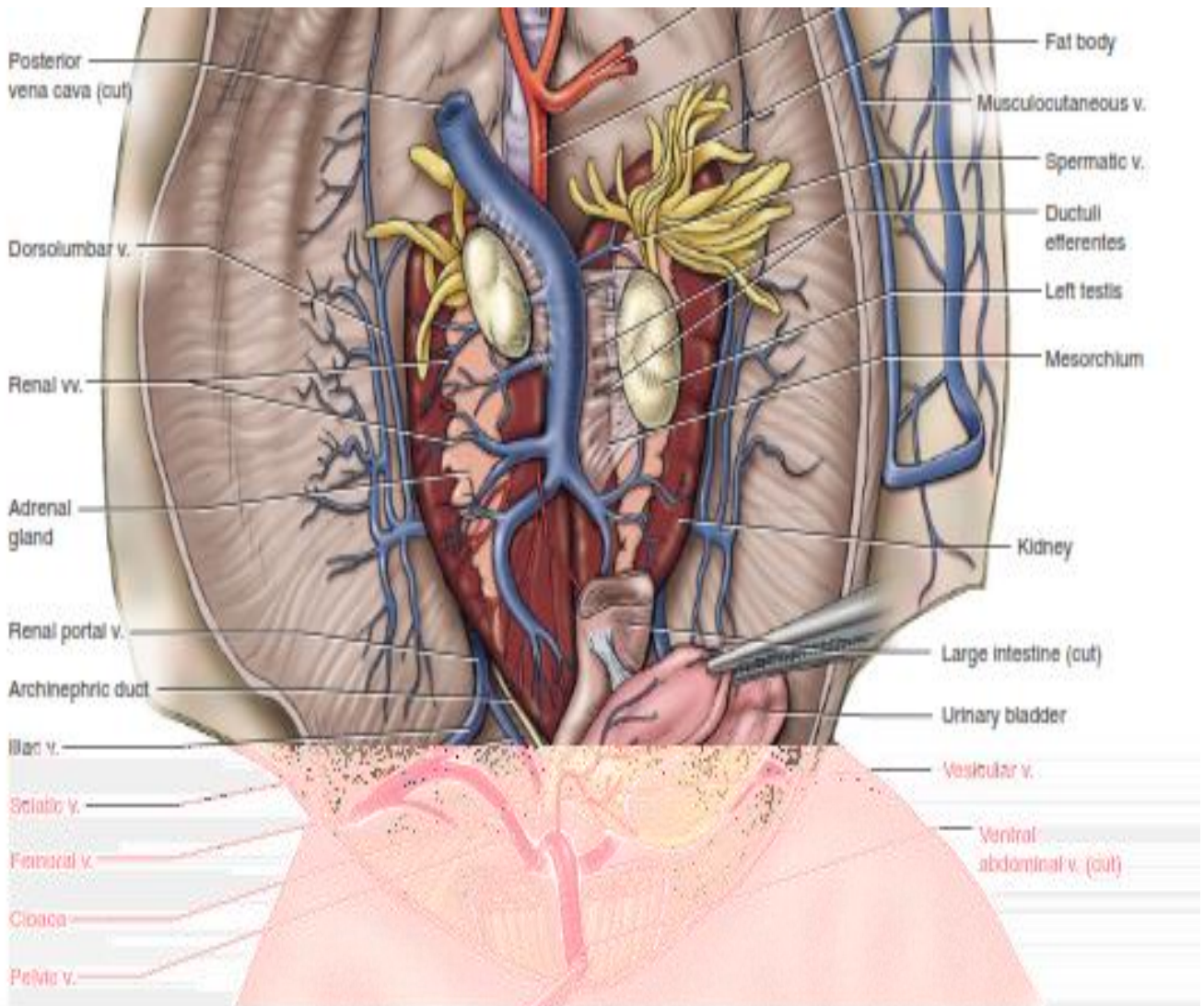
- Open the frog in usual way, as you did in the previous lesson.
- Try to separate the **alimentary canal** from the neighbouring organs by cutting the **mesenteries** which connect them with one another.
- Remove the rest of the alimentary canal from (**oesophagus to rectum**).
- Cut with the help of the scalpel through the **pubic symphysis** between the two **thighs**, in order to expose the **cloaca**.

### ➤ Urinary system of frog

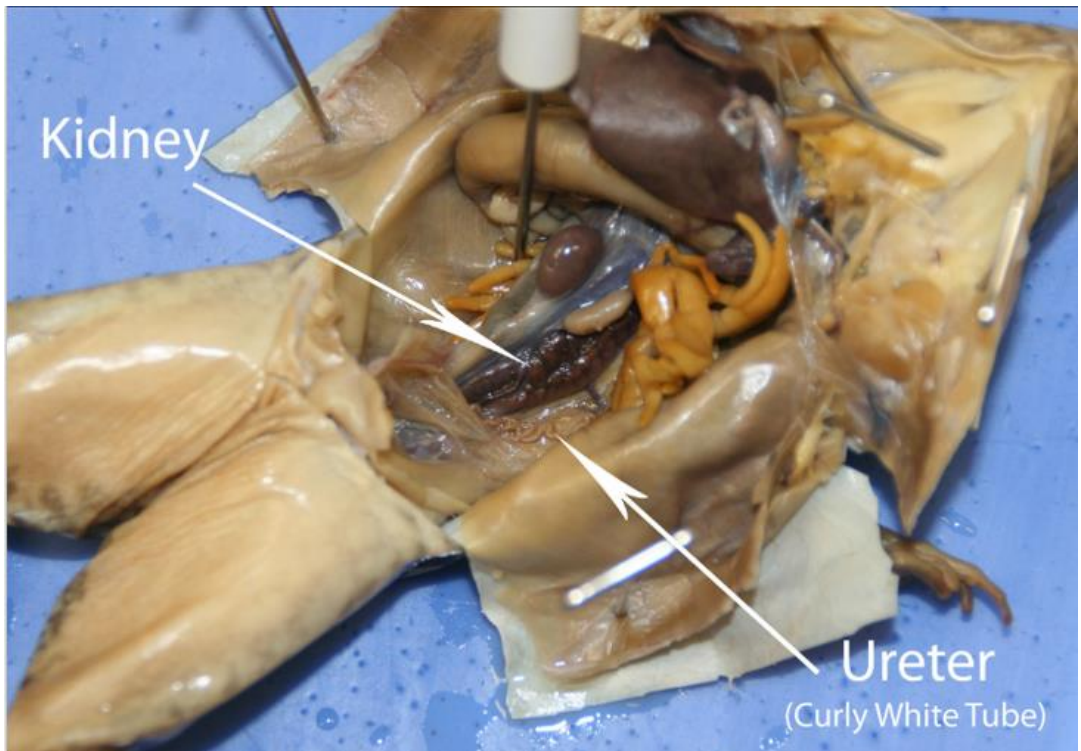
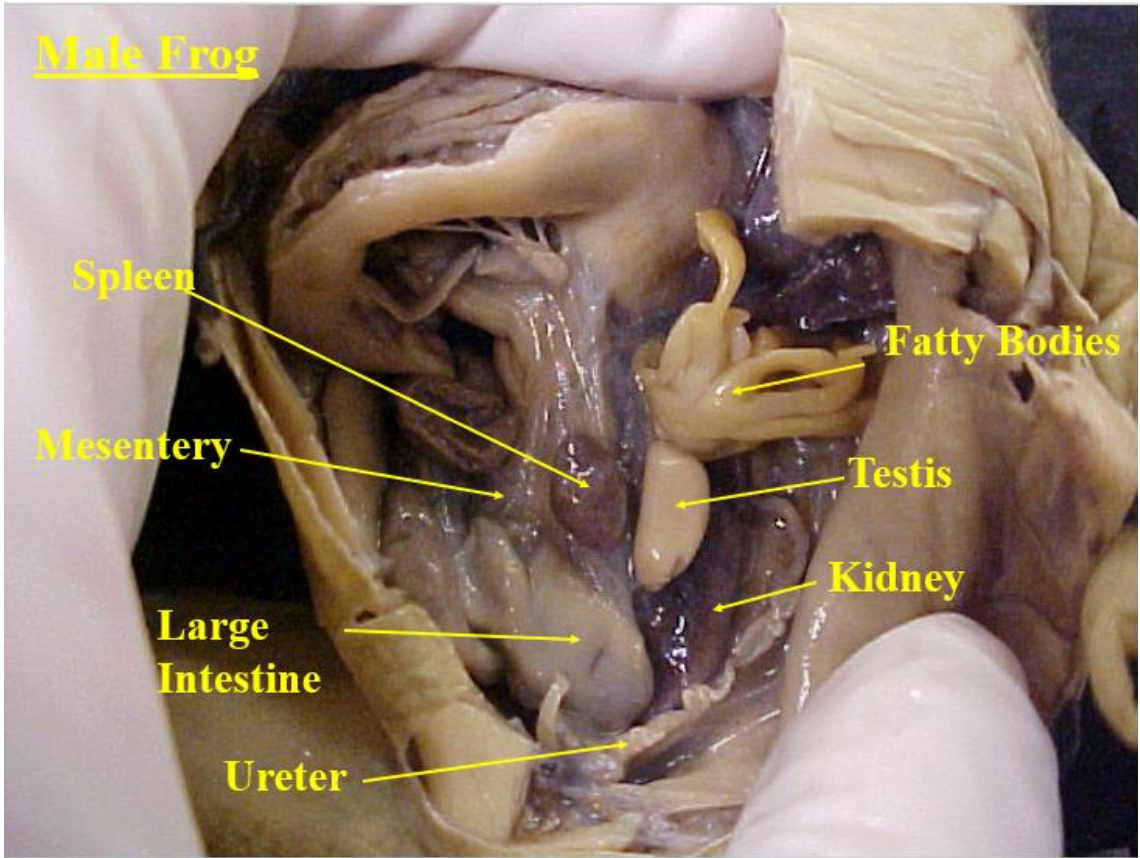
- The **urinary system** consists of the frog's **kidneys**, **ureters**, **urinary bladder**, and **cloaca**.



Urinogenital system of male frog



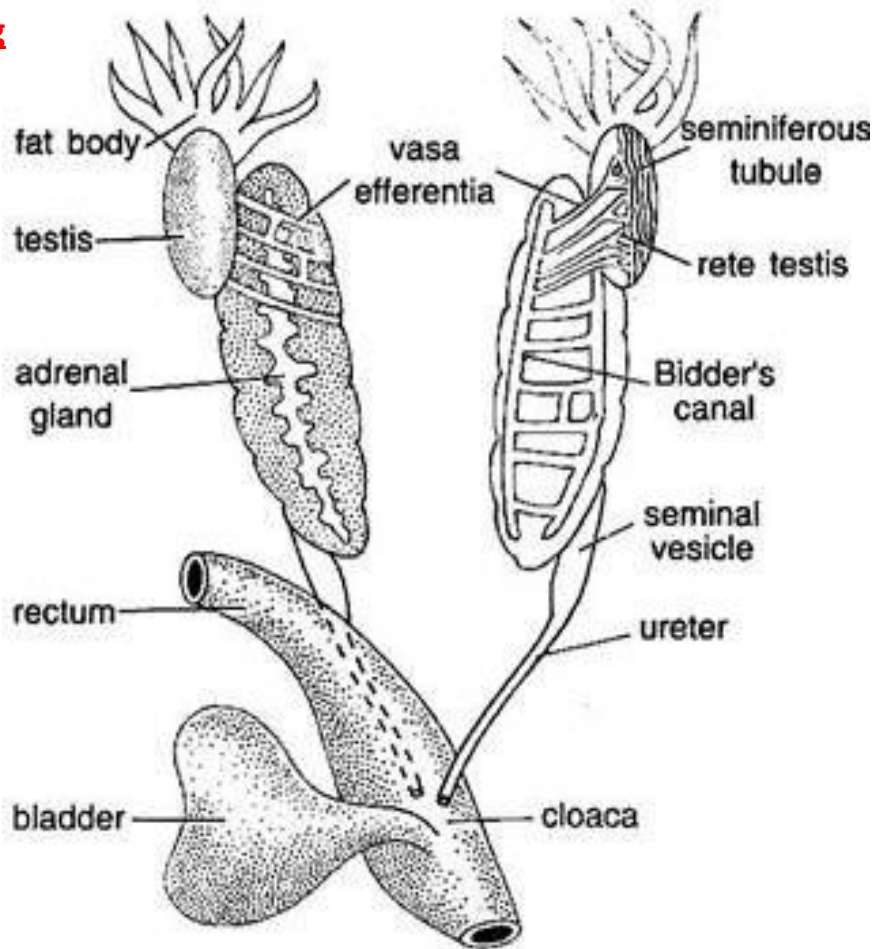
- **kidneys** are organs that filter wastes from the blood and excrete urine.
- Each kidney is dark **red** in colour. Its elongated, flattened, and ovoid structure.
- **Adrenal gland** lies along the ventral surface of the kidneys and usually appears as a lighter-coloured band.



- **Ureter** is a duct connected to each kidney and leads posteriorly into the dorsal surface of the **cloaca**. The ureter duct transports only urine in the female but carries both urine and sperm in the male.
- **Urinary bladder** is a thin-walled bilobed sac that stores urine until it passes out of the body through the **cloaca**.

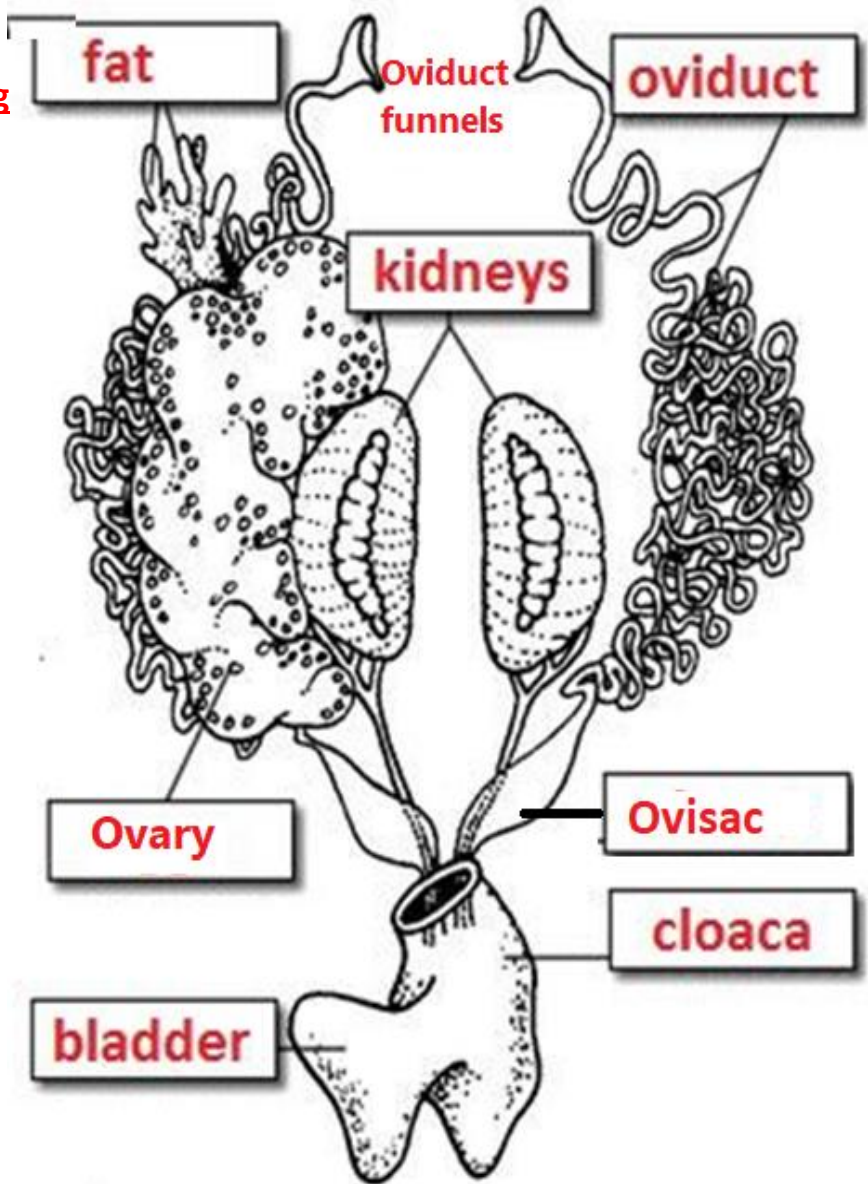
➤ **Male genital system of frog**

- **Testes** are two small ovoid bodies, yellowish in colour. Each testis is connected to upper part of a kidney.
- Each **testis** opens into the kidney with the help of numerous fine ducts called **vasa efferentia** which sperm is transported through.
- **Sperms** produced by testis are stored in **seminal vesicle** until used then they are carried through the **ureters** and hence, in the male, ureters are called **urinogenital ducts**.
- **Sperms** are ejected out through the **cloacal** aperture.



➤ Female genital system of frog

- One pair of ovaries is present at the upper pole of the kidney and it is open into cloaca by a separated duct called oviduct.
- Ovary is a large organ that occupies a large space in the body cavity, particularly during the breeding season.
- It is blackish and lobulated and contains a large number of ova (eggs) at different stages of maturity.
- Oviduct is a long tube, that opens into a body cavity by an oviduct funnel (into which the eggs enter) near the base of a lung on its side.
- It continues backward as a convoluted tube where it swells up to form the ovisac.
- Ovisac extends backward to unite with its fellow on the opposite side.
- The two united ovisacs open together by a common opening into the cloaca.



Oviduct



Ovary

- In the **breeding season**, the male and the female frogs enter into a process of mating position called **amplexus**. In which the male clasps the female about the back.



- The male holds the female, presses her trunk, and thereby forces the female to release the eggs, in a cluster called **spawn**. This process is called **spawning**.
- **Fertilization** takes place **externally**; the male releases his sperm over the eggs of the female, which have been laid, **unfertilized**, in the water.



## UROGENITAL ORGANS OF THE FROG

FEMALE

MALE

