

## 40. V. S. of skin of frog

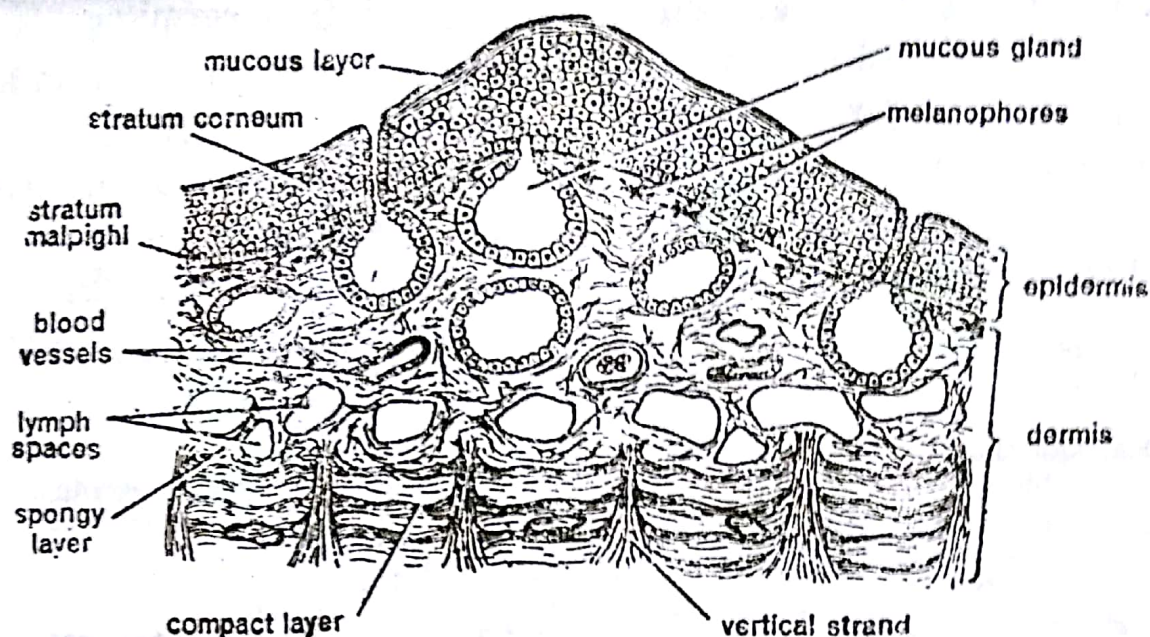


Fig. 292. V. S. of skin of frog.

**Comments :**

Vertical section of skin of frog shows the following histological details :

1. The skin consists of two distinct principal layers, the outer epidermis and inner dermis.
2. The epidermis is made up of outer stratum corneum of flattened horny cells arranged in several layers which is cast off as squamous epithelium and an inner layer of stratum malpighi.
3. The dermis consists largely of connective tissue which is differentiated into two distinct layers, *i.e.*, outer spongy layer and inner compact layer.
4. The spongy layer is composed of an areolar connective tissue and contains mucous glands, melanophores, blood vessels, nerve fibres and lymph spaces, etc.
5. Mucous glands are flask-shaped, opening on the surface of the skin. They originate from the stratum malpighi and their body lies in dermis.
6. Melanophores are colour pigments present in the dermis and imparting characteristic colour to the frog.
7. The compact layer is made up of compact fibrous connective tissue having horizontal and vertical strands.
8. The outer most covering of the skin is mucous layer which makes it slimy and slippery.

**Functions :** The skin of frog serves several functions :

- (i) Protection of body.

### **PRACTICAL ZOOLOGY CHORDATES**

- (ii) Production of mucous to keep the skin moist and slippery to protect it from enemies.
- (iii) Respiratory.
- (iv) Excretory.
- (v) Sensory.



#### 45. T. S. of liver of frog

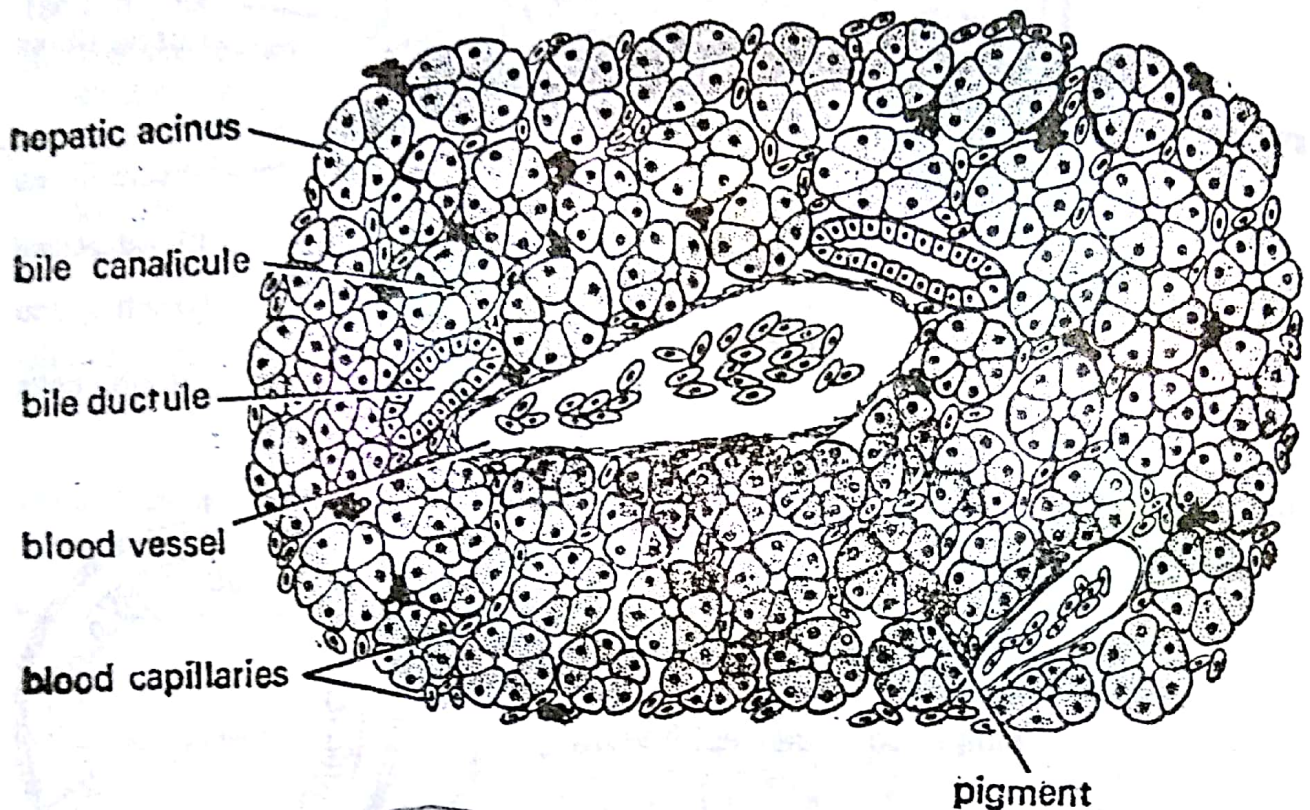


Fig. 297. T. S. of liver of frog.

#### Comments :

Transverse section of liver of frog exhibits the following histological details :

1. It is a compound tubular gland.
2. It consists of a large number of hepatic acini which appear in section lined by hepatic cells.
3. The hepatic acini are made up of granular columnar hepatic cells surrounding bile canalicule in the centre.
4. Each hepatic cell contains a prominent nucleus and granular cytoplasm which indicates its secretory nature.
5. The bile canalicule unite to form the bile ductules and these in turn unite to form bile duct.

6. Blood capillaries and sinusoids or blood spaces are seen among the acini which are formed by the breaking down of the hepatic cells.

7. The structure of the liver helps it in taking the monosaccharides from the blood of the hepatic portal vein and in secreting the bile which is drained through the bile duct.



branes, namely the  
the thin walls of the capillaries.

#### 49. T. S. of kidney of frog

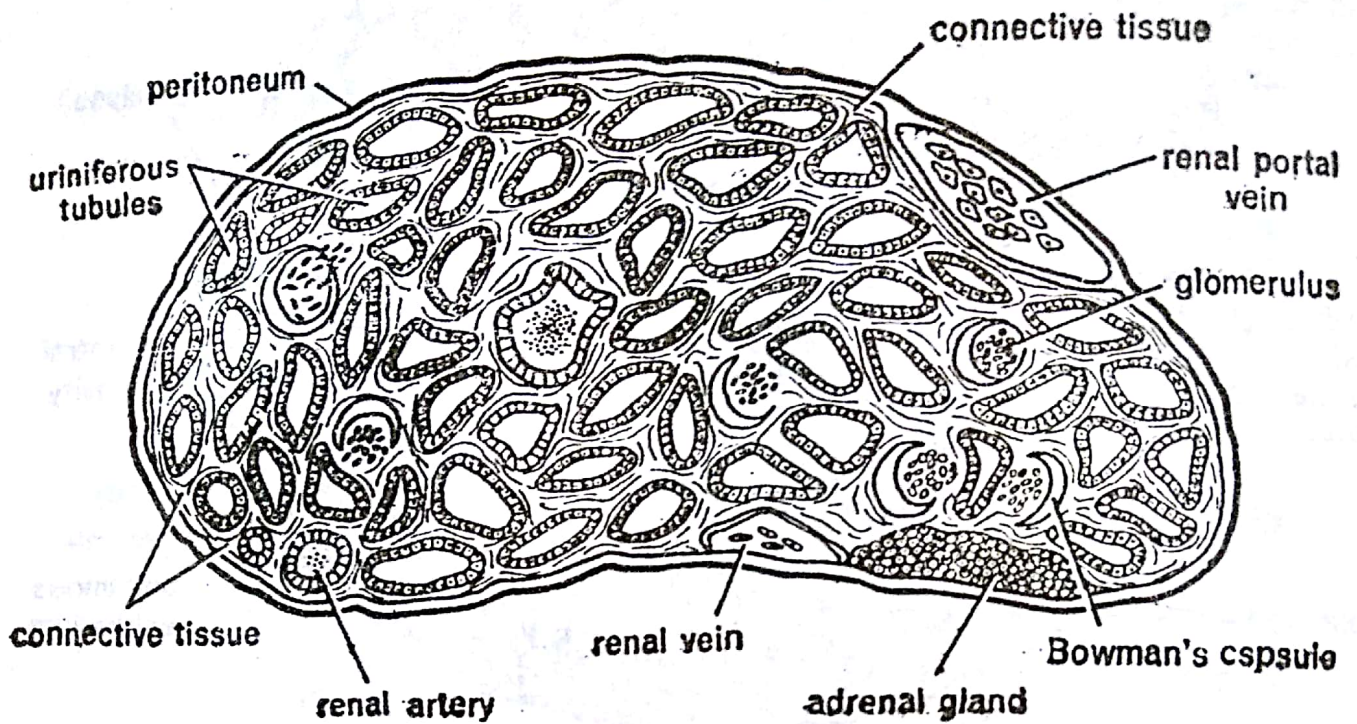


Fig. 301 T. S. of kidney of frog.

#### Comments :

Transverse section of kidney of frog shows the following histological details :

1. The outermost layer covering the kidney is **peritoneum**.
2. The **uriniferous tubules** are numerous and seen in various shapes and sizes.
3. The uriniferous tubules are lined by glandular and ciliated epithelium.
4. The **Bowman's capsules** are cup-shaped, double-walled structures.
5. There are afferent and efferent arterioles forming tufts or knots in the Bowman's capsules.
6. The tuft of blood vessels, formed within the Bowman's capsule, is known as **glomerulus**.
7. Several collecting tubules cut in various planes are seen scattered throughout the section.



8. The sections of renal artery, renal vein and renal portal vein are also seen.

9. The Bowman's capsule leads into a uriniferous tubule which is much convoluted and ultimately opens into a collecting tubule.

10. The chief function of kidney is to remove certain non-gaseous waste matter like urea, uric acid, and certain salts (phosphates and sulphates) that are brought to them from different parts of the body.

### 50. T. S. of testis of frog

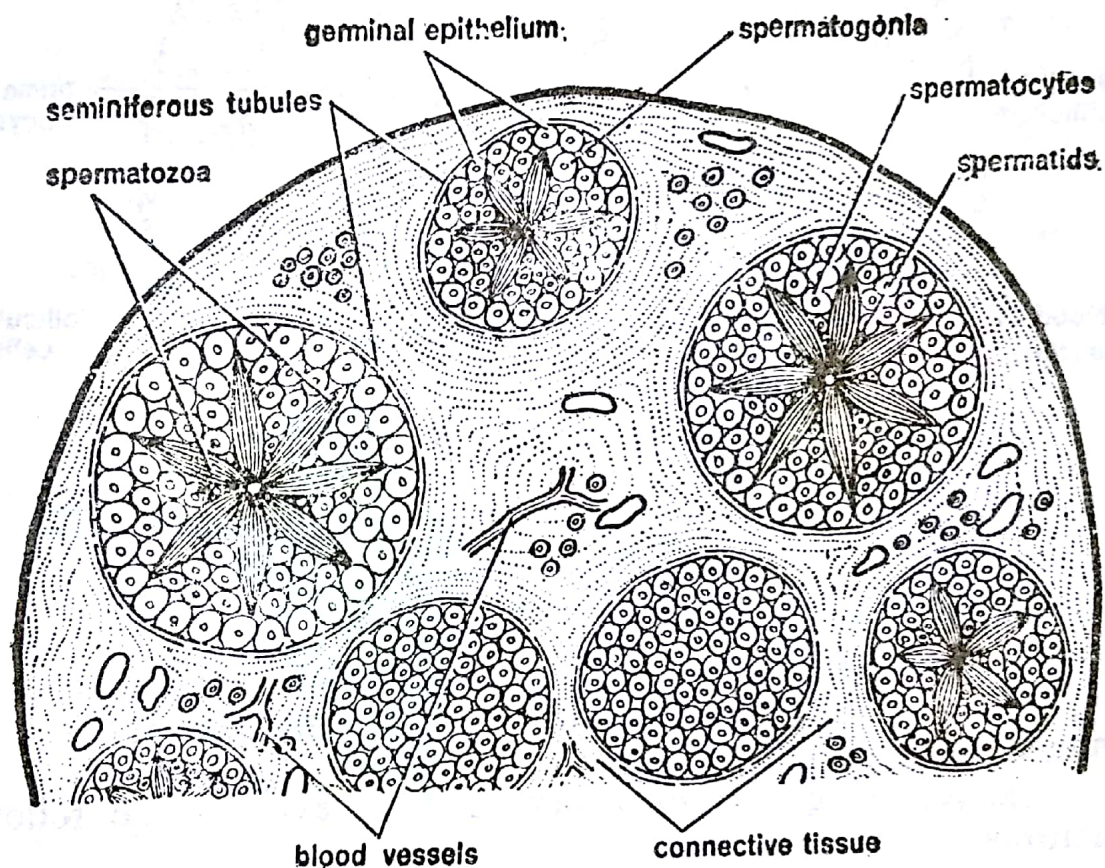


Fig. 302. T. S. of testis of frog.

#### Comments :

Transverse section of testis of frog shows the following structures :

1. The outer covering is the peritoneal epithelium or peritoneum.
2. Numerous seminiferous tubules are held together by the inter-tubular connective tissue.
3. Each seminiferous tubule is lined with germinal epithelium whose cells undergo spermatogenesis to produce spermatozoa.
4. Bundles of spermatozoa are seen in the lumen of the mature seminiferous tubules.
5. Spermatogonia, spermatocytes and spermatids (stages of spermatogenesis) are also seen.

6. The connective tissue contains **interstitial cells** which secrete hormones responsible for the appearance of the secondary sexual characters.
7. Sections of blood vessels are also seen in the connective tissue.
8. Sertoli cells are absent.

51. T S