

BLOOD VASCULAR SYSTEM OF SCOLIODON

The circulatory system of scoliodon is well developed. The blood is redish in colour. RBC, WBC, platelete floate in plasma. The circulatory system consists of (i) Heart
(ii) Arteries + (iii) Veins

HEART

The heart is located beneath the pharynx. It is dorsoventrally bent muscular tube. It is enclosed in a two layered sac called Pericardium. The heart is made up of four parts (a) Sinus venosus (b) Ventricle + (c) Atrium or auricle (d) Conus arteriosus

A) Sinus Venosus

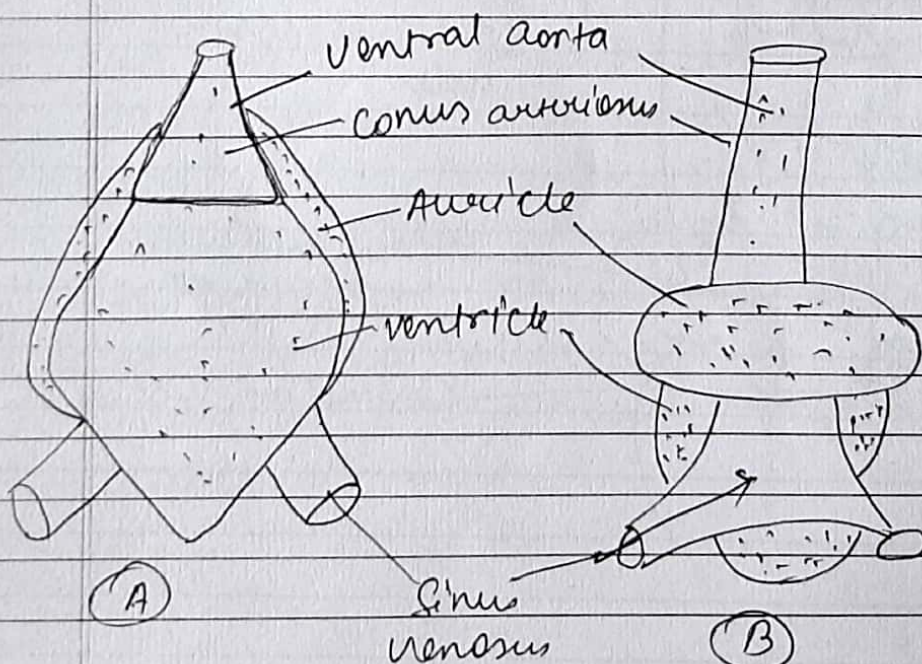
The sinus venosus is triangular, thin walled chamber lying along the base of pericardial cavity. It receive two large vein ducts currier laterally, one on each side, where two hepatic sinuses open into it in the postero-median line. Anteriorly, the sinus venosus open into the atrium through the sine-atrial aperture which is provided with a pair of membranous valve by which the backward flow of blood is checked.

B) Atrium

It lies anterior to the sinus venosus and dorsal to the ventricle. It is also triangular sac and its sides project as ear-like outgrowths on the side of the ventricle. The atrium opens ventrally into the ventricle by the atrio-ventricular aperture which is guarded by a bi-labiate valve preventing back flow of blood.

C) VENTRICLE

The ventricle is thick walled, muscular chamber on the ventral side of atrium which continues anteriorly into the conus arteriosus. Its walls are spongy being produced into numerous muscular strands, the chordae tendinae.



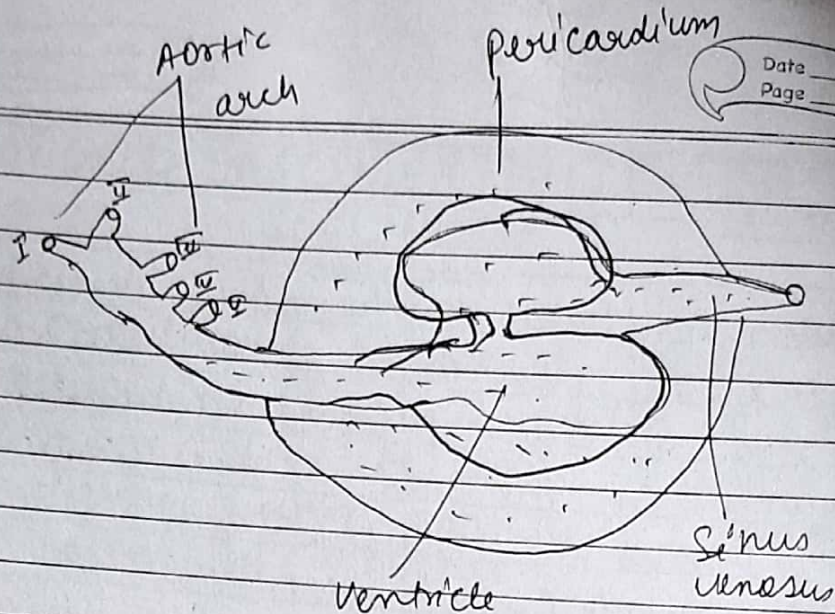


Fig - Heart of Scoliodon (A) Ventral view (B) Dorsal view (C) Lateral view

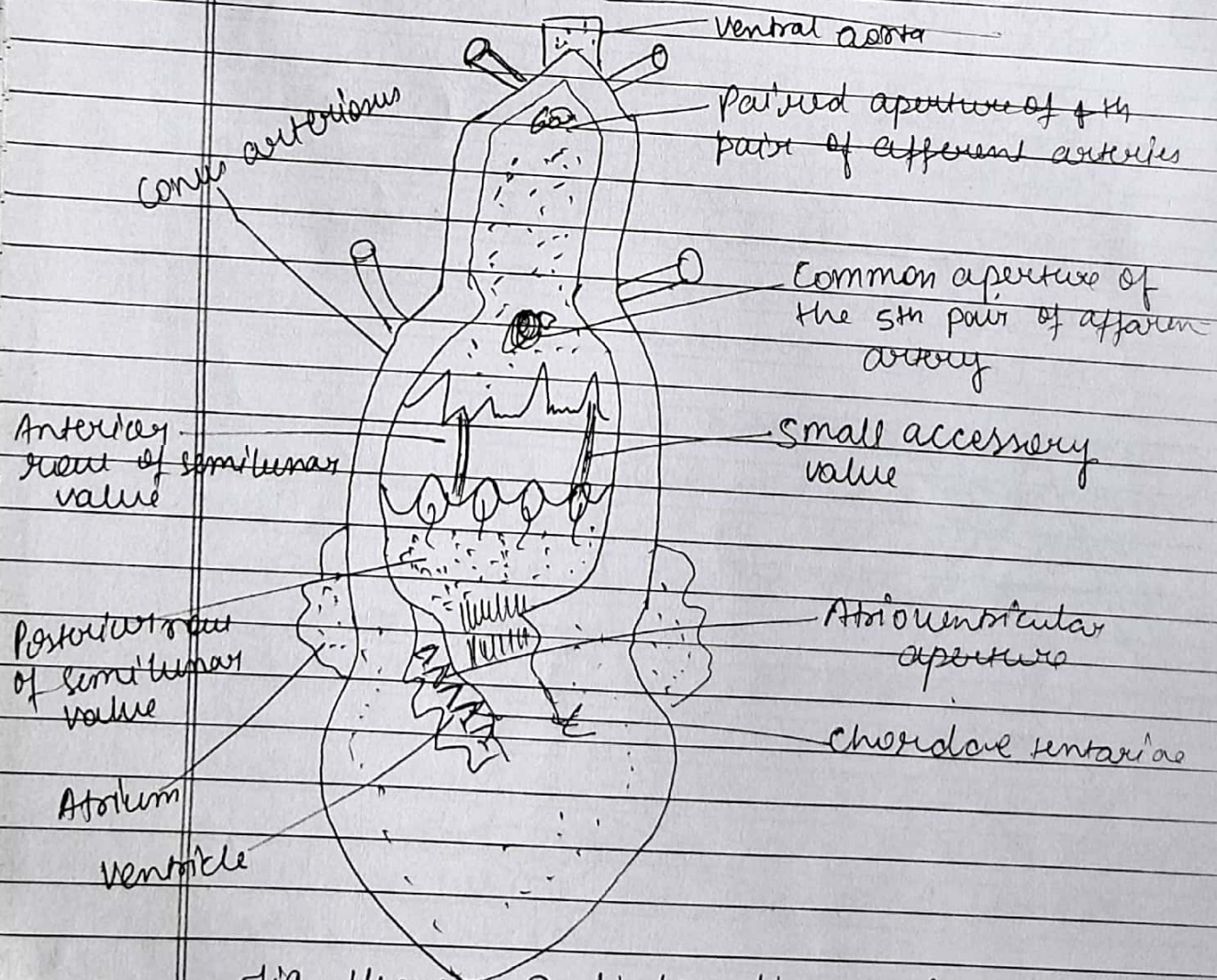


Fig - Heart of Scoliodon dissected from ventral surface

Conus arteriosus

It is a thick walled muscular tube arising from the ventricle and extend up to the anterior boundary of the pericardial cavity. Its inner wall is provided with two transverse rows of valves. Each row consists of three valves, one median-dorsal and two ventro-lateral. A accessory valve. Fine thread arise from the valves for attachment to the ventricular wall both anteriorly and posteriorly to keep them in position. The conus leads forward into the ventral aorta.

Venous Heart

The heart of scoliodon is called 'venous heart' or 'branchial heart' because it contain only deoxygenated blood collected from different parts of the body. From the heart, blood is sent to the gills for oxygenated blood passes on to all part of the body. Thus the heart contains only 'venous blood' which passes through it only once in its complete circuit and so such a heart is its complete circuit and so such a heart is its known as the venous or branchial heart.