STUDIES ON THE VISCERAL VENOUS SYSTEM OF SOME TELEOSTS

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ABSTRACT

1. The morphology of the visceral venous system of two Teleostean fishes has been described.

2. In *Clarias batrachus*, the posterior cardinals are paired—the right larger than the left and both open into the ducti cuveri after receiving subclavian veins of their respective side.

3. The caudal vein proceeds anteriorly receiving veins from body wall, segmental muscles, kidney and gonads and finally merges into the rectal vein.

4. The hepatic portal system collects the blood from digestive tract and associated glands, mesentery, air-bladder pectoral girdles and posterior mesenteric system and pours it into the liver. From the liver a median hepatic vein joins the sinus venosus.

5. In *Tor tor*, a single posterior cardinal vein pours the blood into the ductus cuveri. The caudal vein proceeds anteriorly, supplies to the kidney and merges into it.

6. The hepatic portal system collects the blood from entire digestive system and associated glands, reproductive organs, mesentery and air-bladder and pours it into the liver. From the liver paired hepatic veins join the ducti cuveri.

INTRODUCTION

Das and Narain (1929), for the first time, worked out in detail the venous system of some Teleosts without any evolutionary bias. Later on Goodrich (1930), Awati and Bal (1934), Mott (1950), Das and Saxena (1954),

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Studies on the Visceral Venous System of Some Teleosts

Karandikar and Thakur (1954), Nawar (1958) and Singh (1960) have contributed a little on the subject. The present study was undertaken to elucidate some notable features and structural variations, in the visceral venous system if any, in two species of Teleosts.

MATERIAL AND METHODS

The live specimens were procured and were brought to the laboratory. They were maintained in the departmental fish-aquarium. Before the dissection, the live fishes were anaesthetised with chloroform and made senseless. The body cavity was cut open to expose vessels and each fish was given an injection of India ink dissolved in gelatin solution (1 gm. gelatin + 20 c.c. of water) in the hepatic and caudal veins. The injected specimens were preserved in 10% formalin solution for a few days and subsequently used for dissections. During the dissection the finer vessels were exposed under the binocular microscope.

The species examined are Clarias batrachus (Linn.) (family Siluridae) and Tor tor (Ham.) (family Cyprinidae).

OBSERVATIONS

Morphology of the Visceral Vascular System (Clarias batrachus) (Figs. 1, 2, 3, 4 and 5)

The venous blood from the visceral region is poured into sinus venosus by three main vessels—a single median hepatic vein and two laterally placed left and right posterior cardinal veins. The right posterior cardinal, comparatively wider in diameter, is initiated by the union of smaller veins