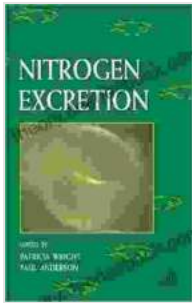


Fish Physiology: Nitrogen Excretion



Fish Physiology: Nitrogen Excretion (ISSN Book 20)

by Dobi Daniels

★★★★☆ 4.5 out of 5

Language : English

File size : 5218 KB

Text-to-Speech: Enabled

Screen Reader: Supported

Print length : 358 pages



Nitrogen excretion is an important process in fish physiology. It is essential for maintaining the acid-base balance of the body and for removing nitrogenous waste products. Nitrogenous waste products are produced as a result of protein metabolism. These waste products can be toxic to the body if they are not excreted.

Nitrogenous Waste Products

The main nitrogenous waste products in fish are ammonia, urea, and uric acid. Ammonia is the most toxic of these waste products. It is produced as a byproduct of protein metabolism. Urea is less toxic than ammonia. It is produced in the liver as a result of the breakdown of amino acids. Uric acid is the least toxic of the nitrogenous waste products. It is produced in the kidneys as a result of the breakdown of purines.

Nitrogen Excretion Organs

The main nitrogen excretion organs in fish are the gills, kidneys, and liver. The gills are responsible for excreting ammonia. The kidneys are responsible for excreting urea. The liver is responsible for excreting uric acid.

Ammonia Excretion

Ammonia is excreted across the gills. The gills are thin, vascularized filaments that are located on the sides of the head. Ammonia diffuses across the gills from the blood into the surrounding water. The rate of ammonia excretion is dependent on the concentration of ammonia in the blood.

Urea Excretion

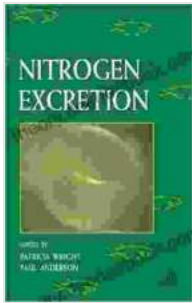
Urea is excreted by the kidneys. The kidneys are located in the abdominal cavity. Urea is filtered out of the blood by the kidneys and then excreted into the urine. The urine is then transported to the bladder and expelled from the body. The rate of urea excretion is dependent on the concentration of urea in the blood.

Uric Acid Excretion

Uric acid is excreted by the liver. The liver is located in the abdominal cavity. Uric acid is filtered out of the blood by the liver and then excreted into the bile. The bile is then transported to the gallbladder and expelled from the body. The rate of uric acid excretion is dependent on the concentration of uric acid in the blood.

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