



Original Article

Histomorphological, histochemical, and ultrastructural studies on the stomach of the adult African catfish (*Clarias gariepinus*)



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ABSTRACT

This study investigated the morphology, histochemistry, and ultrastructure of the adult African catfish (*Clarias gariepinus*) stomach in order to detect the functional aspects involved in gross and histological studies to get detailed information about the precise cellular structures of different cells lining the stomach. Forty fishes were used in this study. The stomach is a J-shaped sac divided into three regions: (1) cardiac; (2) fundic; and (3) pyloric. Histologically, its wall is composed of four tunics: (1) mucosa; (2) submucosa; (3) muscularis externa; and (4) serosa. The mucosa of the three portions showed thick longitudinal folds lined with simple high columnar cells containing oval basally located nuclei. These cells contained apically located mucosubstances that reacted positively with Periodic–acid Schiff and negatively with Alcian blue stains. Many gastric pits were formed by invaginations of the mucosal layer into the underlying lamina propria and continuous with the openings of the gastric glands. Only the cardiac and fundic regions contained mucosal glands. The fundic glands were lined with oxynticopeptic cells. Enteroendocrine cells were distributed in the gastric wall within the epithelial cells of the gastric mucosa and gland. The lamina propria composed of extensive collagen fibers, many blood vessels, and nerves. Strands of smooth muscle fibers situated between the lamina propria and the submucosa forming lamina muscularis mucosa. Loose connective tissue was the main component of the tunica submucosa. The pyloric portion had the thickest musciosa and the serosal coat of the stomach was formed of loose connective tissue containing blood vessels.