Abstract:
Animal production systems are a terrific tool for conservation and utilization of neo-tropical wildlife. The neo-tropical, black-eared opossum (*Didelphis marsupialis*) is a terrific model species for animal production. Prior to establishing a semi-intensive production system, it is important that the digestive system be understood. However, a paucity of information exists on the digestive anatomy of this species. The goal of the present study was to describe both the macro and micro-anatomy of the gastrointestinal tract i.e. oesophagus, stomach, small intestine (SI), and large intestine (LI) of the neo-tropical opossum. Twelve (n=12) adult opossums were trapped in Trinidad, euthanized and examined. Gross anatomy results found the length of the SI (94.33±13.05 cm) to be slightly smaller than what has been reported for omnivores and the stomach possessed a small, lesser curvature with the two sphincters (cardiac and pyloric) in very close proximity. Microscopically the epithelium lining of the oesophagus was found to be slightly keratinized and there were notable variations in gland location and number along the length of the oesophagus. The jejunum was dominated by long and thin villi and the caecum in the LI possessed circular folds, a feature usually restricted to the SI. In conclusion, this study is one of the first to describe, in detail, the digestive tract of the neo-tropical species of opossum in Trinidad and illustrates the gross and histological features that enable this marsupial to have adapted a wide, omnivorous diet.