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HISTOCHEMICAL OBSERVATIONS ON THE ALIMENTARY TRACT OF THE KALUTARA SNAIL — *ACHATINA FULICA*

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Achatina fulica, a voracious herbivore, is a common garden pest in Sri Lanka, and a knowledge of the functional organisation of its alimentary tract is of importance.

The alimentary tract consists of the following regions: buccal mass, oesophagus, crop, stomach, typhlosolar and post-typhlosolar intestine and rectum. Associated with the tract are the paired salivary glands and a single digestive gland.

In this study attention has been focussed primarily on the detection and distribution of

(1) mucosubstances, using the periodic acid-schiff (PAS) procedure and staining with Alcian blue, and

(2) Alkaline and Acid Phosphatases, using the Gomorj Calcium and the Gomori Lead methods respectively.

Periodate reactive and alcianophilic mucous glands are found throughout the alimentary tract. Histochemically identifiable mucous cells are also present in the salivary glands.

Acid phosphatase activity was demonstrated in the digestive gland, salivary glands and throughout the tract, and the distributon of this enzyme in the digestive tract appears

to be confined to the above mucous glands Alkaline phosphatase activity, on the contrary, is shown only by the typhlosolar and post-typhlosolar intestine and by the digestive gland.

Mucus produced in the tract and salivary glands would help in the movement of food, in the consolidation of the faecal string and the passage of this string through the gut to the exterior. The acid phosphatases could function in digestion, and in the secretory process of mucous glands. The alkaline phosphatases, with their limited distribution, are probably involved in the absorption of nutrients and secretion processes as well.