

Gastric mucous membrane of the one-horned Indian rhinoceros (*Rhinoceros unicornis*)

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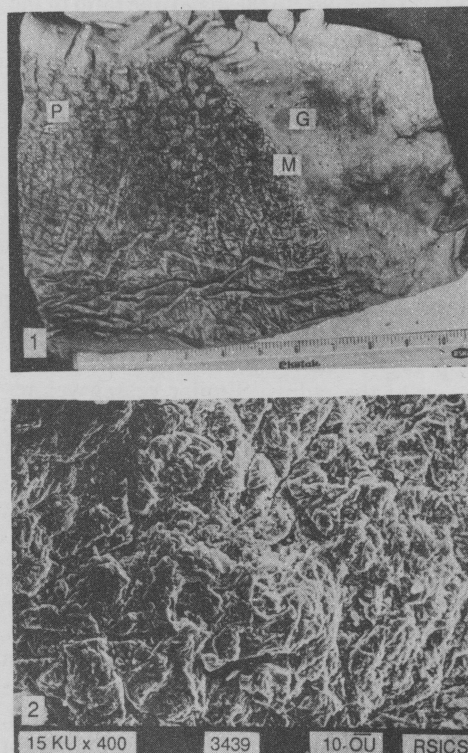
Received: 14 August 1992

The present study was undertaken to elucidate the gastric mucous membrane of One-horned rhinoceros to reveal the species-specific peculiarity of this simple stomach animal.

Stomach samples of 2 one-horned rhinoceroses belonging to State Zoo of Assam were collected immediately after death. The stomach was opened out, cleaned and gross characteristics of its mucous membrane studied. Pieces of tissues from stomach were fixed in 10% formol-saline solution and processed for routine haematoxylin and eosin staining. Subsequently, pieces of tissues from the stomach, were fixed in 5% glutaraldehyde in 0.1M cacodylate buffer at pH 7.2, processed for scanning electron microscopy (SEM) according to Dey *et al.* (1989), and observed by a scanning electron microscope (JEOL).

The mucous membrane lining of the stomach of rhinoceros was divided into two parts depending upon its surface characteristics (Fig. 1). The part which was the continuation of the oesophageal mucous membrane was termed as proventricular or oesophageal part. It was brownish and certain longitudinal folds were marked at the cardiac orifice. This part was lined by stratified squamous epithelium and lacked gastric glands. The proventricular part was separated from the glandular

part by an irregular ridge termed as margo plicatus. The glandular part was yellowish grey. The surface of the glandular part was smooth. However, SEM study revealed the groups of



Figs. 1-2. 1. Photograph showing gastric mucous membrane of rhinoceros. P proventricular Part; M margo-plicatus; G glandular part. 2. Scanning electron micrograph showing the fundic stomach. x 400.

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epithelial cells of animals cells being separated by gastric pits (Fig. 2).

The gastric mucous membrane of the rhinoceros as detailed in the present study resembled that of horse (Sisson 1975). This structural similarity to gastric mucous membrane of these two different species of animals indicated their resemblance in feeding habit and life style.

ACKNOWLEDGEMENTS

We are grateful to DFO, State Zoo,

Assam, Guwahati, for the material, and to Dr Sudip Dey, RSIC, Shillong, for his help in SEM study.

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