

DIGESTION OF PROTEIN IN MAMMALS

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Digestion is a process that involves physical and chemical breakdown of insoluble complex food materials into soluble simple food materials by the action of enzymes that may be absorbed.

Most animals ~~engulf~~ engulf large piece of food and are macrophagous. The food is converted into slimy ball or bolus in the buccal cavity by the combined action of mastication and mucus of saliva.

In mammals teeth on jaws, tongue, saliva, cheek pouch and jaw muscles help in mastication.

No digestion of protein takes place in mouth.

The food in buccal cavity is called bolus is swallowed.

Swallowing in mammals has three phases

① Buccal swallowing movements are caused by upward and backward movement of tongue.

② The pharyngeal and ③ Oesophageal phase of swallowing are involuntary forcing the food into stomach through oesophagus.

Stomach of mammals are variously modified with their feeding habit.

The stomach of ruminant (eg. cow, goat) are very massive and made up of four chambers - Rumen, Reticulum, Omasum and abomasum.

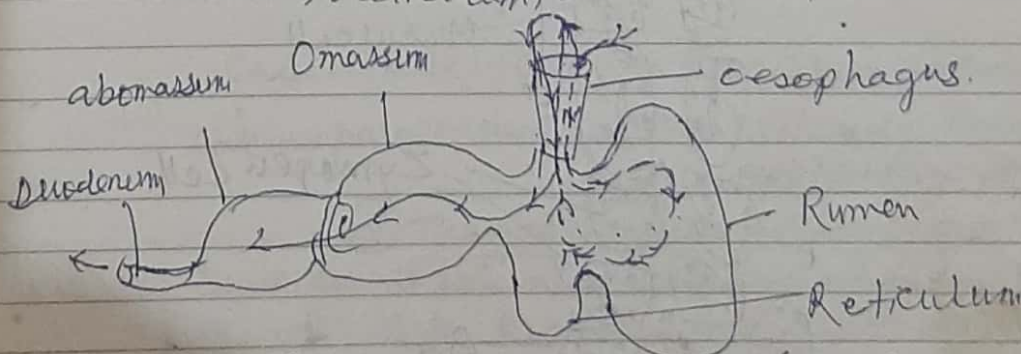


Fig. Stomach of a ruminant (cow)

(2)

The stomach of non-ruminant consists of cardiac, body, fundic and pyloric part. The fundic part has gastric glands which secrete digestive juice.

A typical gastric gland is basically an infolding of gastric mucosa deep into the sub-mucosa.

A gastric gland is mainly consists of:
 (i) a pit open into the stomach lumen, (ii) an isthmus (iii) a neck containing oxyntic or parietal cell secreting HCl and mucous cells producing mucus and (iv) A base containing zymogen or chief cells secreting pepsinogen, and prorennin.

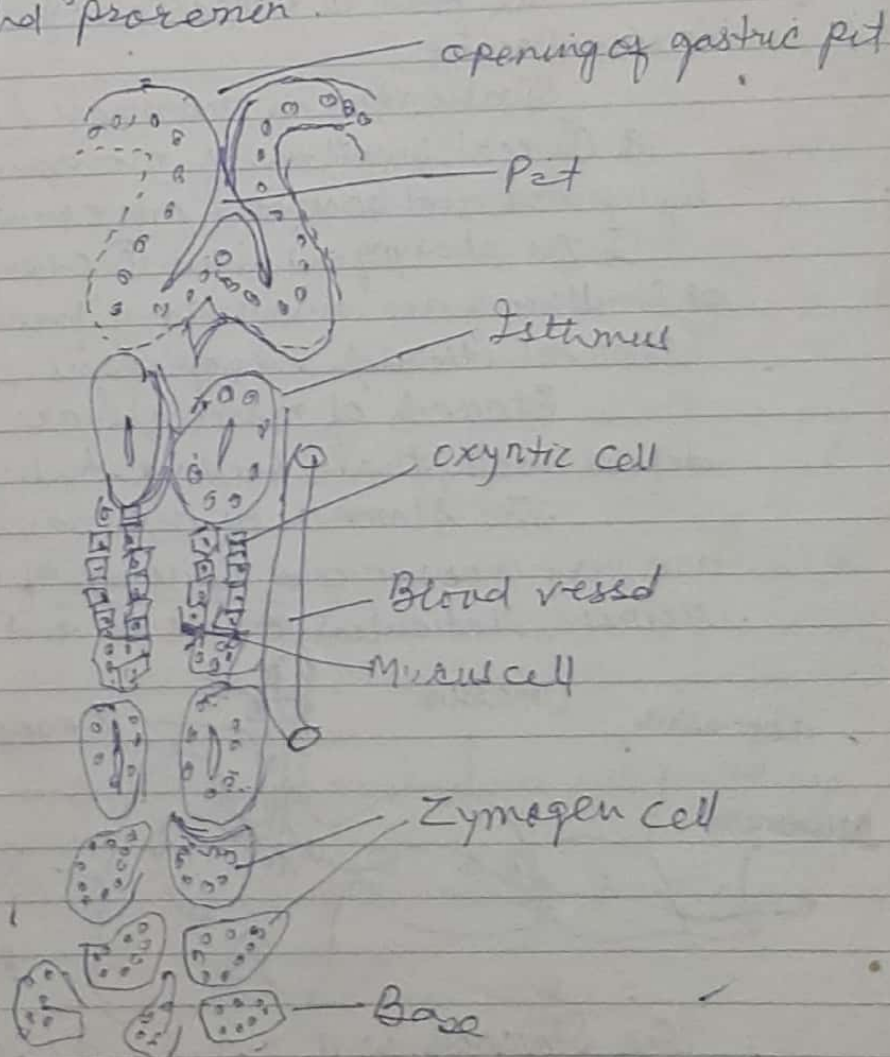


Fig - V.S. gastric gland of Monkey.