

THE Digestive system

- **Digestive system:** It a long hollow tube or tract that starts at the oral cavity and terminate at the anus, and it's consists of digestive tract and several accessory glands.

1-The digestive tract include:

a-Oral cavity or mouth-(lips, tongue, teeth and salivary glands).

b-Pharynx.

c-Alimentary canal can be divided into

1-Esophagus.

2-Stomach.

3-Small intestine- (duodenum, jejunum and ileum).

4-Large intestine- {caecum, colon (ascending colon, transverse colon , descending colon)and Rectum }.

5-Anus or anal canal.

2- Accessory glands include:-

a-Salivary glands.

b-Liver.

c-Pancreas.

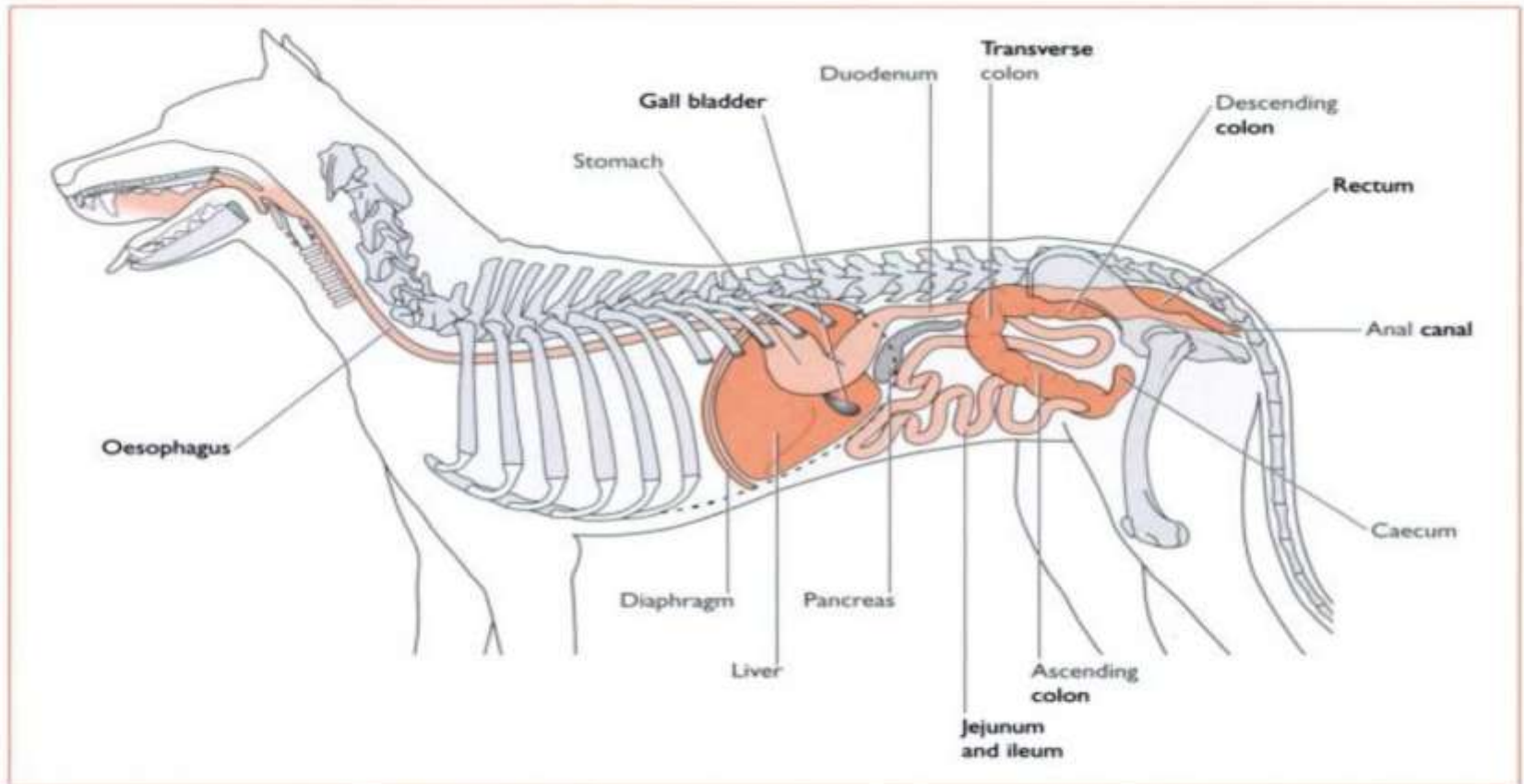


Fig. 9.1 Organs of the digestive system of the dog, left lateral view.

Function of the digestive system.

1-Ingestion.

2-Mastication.

3-digestion.

4-Absorption of food.

5-Expulsion of un absorbed part of food.

The oral cavity (mouth):-

- Is the first part of the digestive system. Which is bounded
 - *Cranially- by the lips.
 - *Caudally- by the soft palate and pharynx.
 - *Laterally- by the cheek (buccae).
 - *Dorsally- by the hard palate.
 - *Ventrally- by the body of the mandibule and mylohyoid muscle.

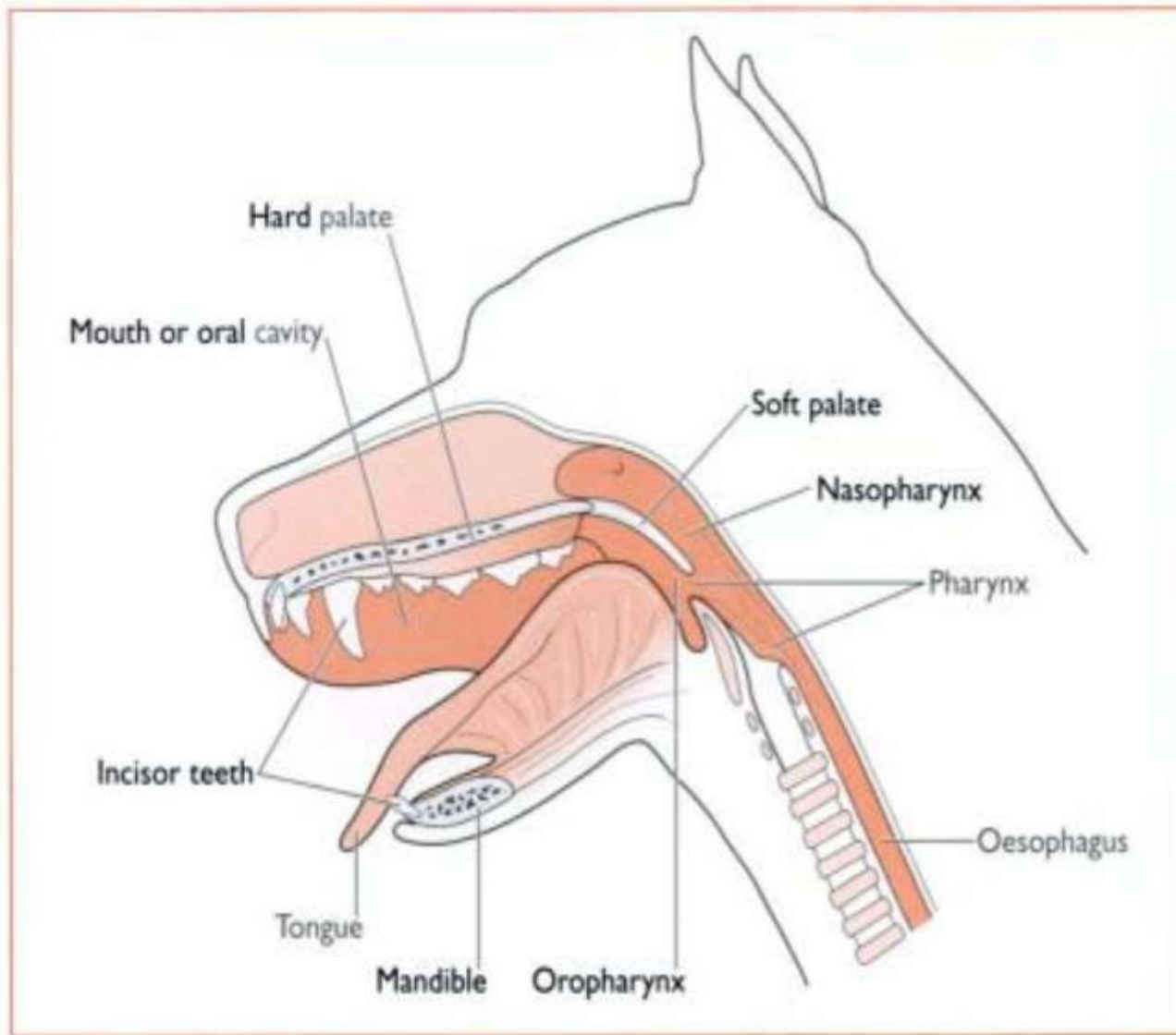


Fig. 9.3 Lateral view of the dog's head to show the oral cavity/digestive system.

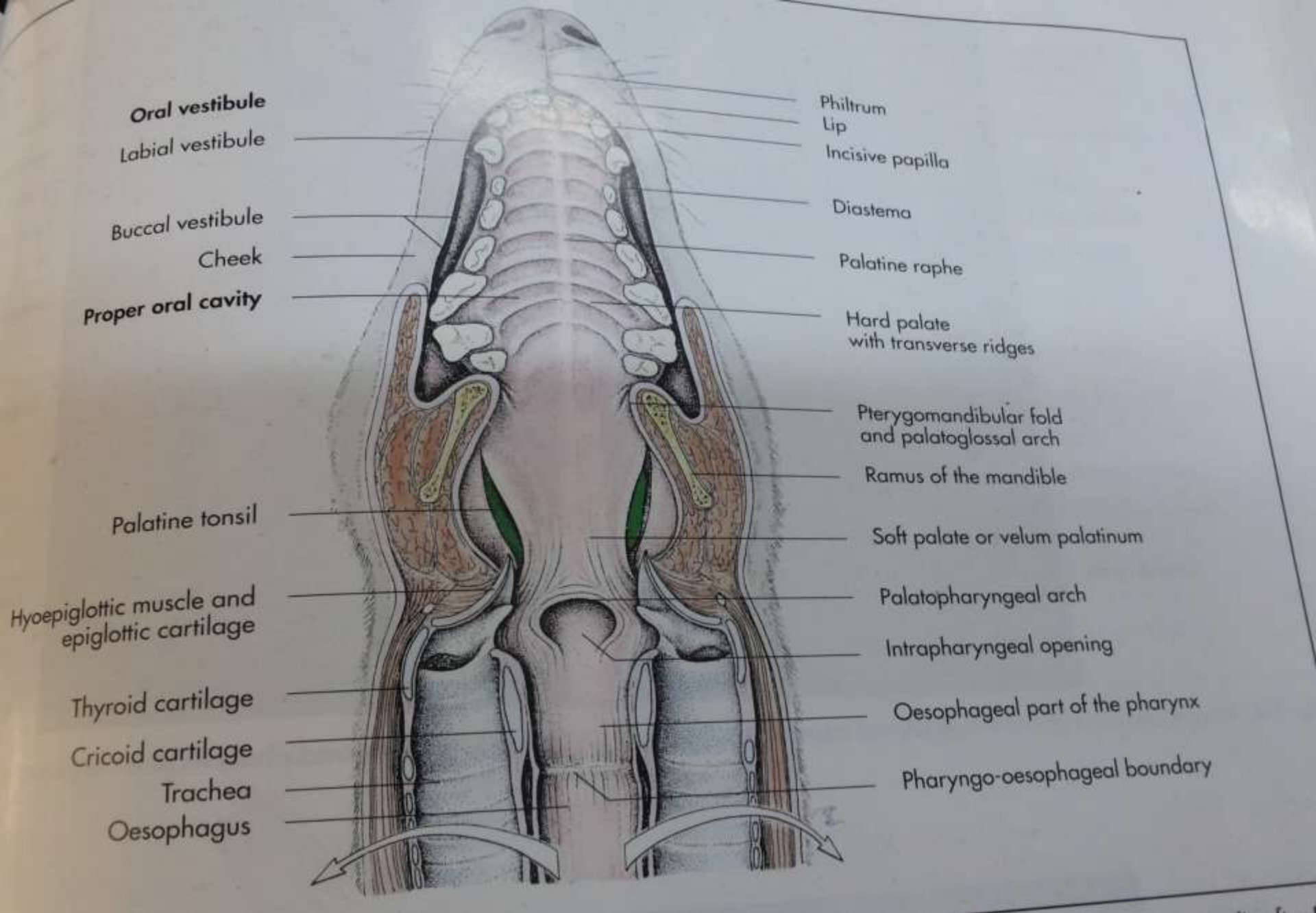
- The mouth cavity is divided by the teeth and alveolar processes into:

1-Mouth cavity proper: the space within the teeth and alveolar processes.

2-Vestibule of the mouth: is the space external to the teeth and alveolar processes and closed by the lips and cheek. So it's divided into:

a-Labial vestibule: the space between the lips and incisor.

b-buccal vestibule: the space between cheek (buccae) and premolar and molar teeth.



Oral vestibule

Labial vestibule

Buccal vestibule

Cheek

Proper oral cavity

Palatine tonsil

Hyoepiglottic muscle and epiglottic cartilage

Thyroid cartilage

Cricoid cartilage

Trachea

Oesophagus

Philtrum

Lip

Incisive papilla

Diastema

Palatine raphe

Hard palate with transverse ridges

Pterygomandibular fold and palatoglossal arch

Ramus of the mandible

Soft palate or velum palatinum

Palatopharyngeal arch

Intraplaryngeal opening

Oesophageal part of the pharynx

Pharyngo-oesophageal boundary

Lips (Labia oris):-

- Are two musculo-membranous folds which are surrounded the orifice of the mouth. Each lips have two surface:-
 - a-The external surface: covered by skin which have different number of tactile hairs.
 - b-The internal surface: is lined by mucous membrane which is more or less pigmented.
- The upper lip:- in small ruminant (sheep, goat)+ dog and cat, have median furrow called philtrum.
 - in large ruminant (ox, cow), have naso labial plate.
- The lower lip:-in all animals have round project called chin (mentum).

- **Cheek (buccae):**-it is musculo-membrane wall formed the side wall of the mouth cavity and continuous cranially with the lips. It is formed from:-

1-Skin of the face.

2-The muscular and glandular layers.

3-Mucous membrane.

Palate (palatum).

- The palate is divided two part, osseous palate and soft palate.

Hard palate

- The bony hard palate lies rostral to the membranous soft palate.

- the hard palate is formed by the palatine processes of the maxillary and incisive bone.
- The oral side of the hard palate is covered by a thick, cornified mucosa, which is crossed by series of transverse ridge (rugae palatinae).
- In ruminants these ridges carry the papillae, is located just caudal to the incisors these lead to incisive duct.
- These duct branch and lead to the nasal cavity and to the vomeronasal organ.
- In ruminants the dental pad replaced the upper incisors of the other domestic species.

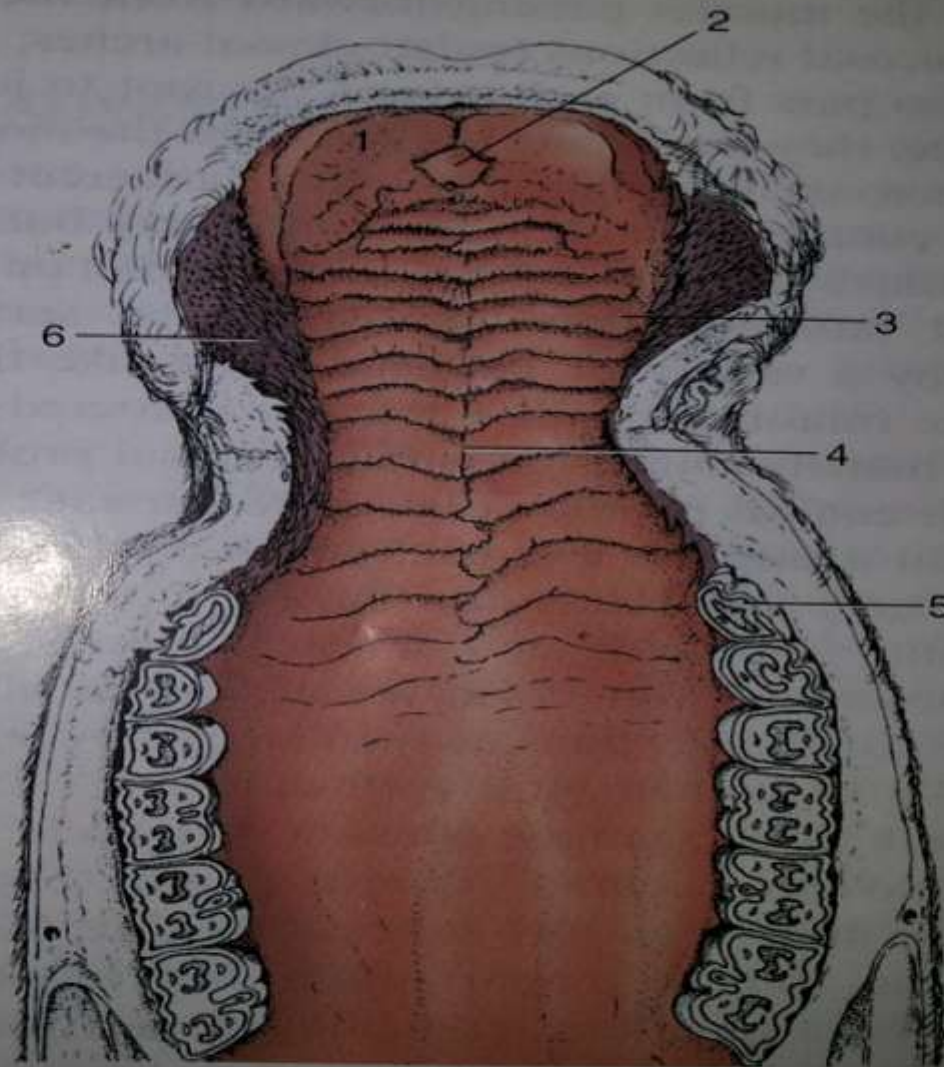


Figure 3–7 The hard palate of a cow. 1, Dental pad; 2, incisive papilla; 3, rugae of hard palate; 4, palatine raphe; 5, P2; 6, buccal papillae.

Soft palate:

- The soft palate Separates the digestive and respiratory passage of head.
- Continues caudally from the hard palate to the intrapharyngeal opening .
- The rostral border of which is form by the caudal rim of soft palate.
- The ventral surface of the soft palate is covered by oral mucosa, which forms many longitudinal and a few larger transverse folds.
- The dorsal surface is covered by respiratory mucosa.
- The intermediate layer consists of closely packed salivary glands and muscles and their aponeuroses.

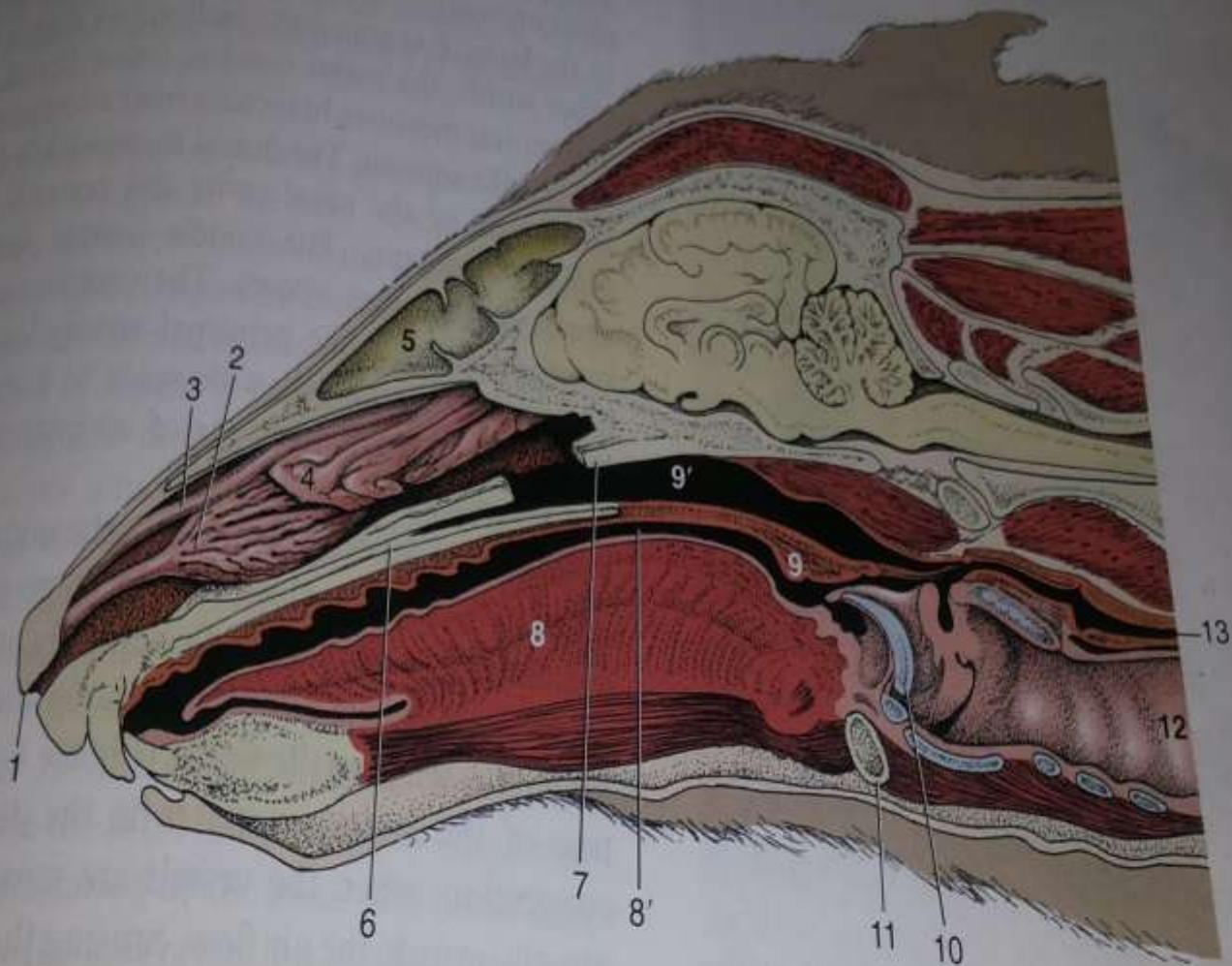


Figure 4-2 Paramedian section of the canine head; the nasal septum has been removed. 1, Right nostril; 2, ventral nasal concha; 3, dorsal nasal concha; 4, ethmoidal conchae; 5, frontal sinus; 6, hard palate; 7, vomer, resected; 8, tongue; 8', oropharynx; 9, soft palate; 9', nasopharynx; 10, epiglottis; 11, basihyoid; 12, trachea; 13, esophagus.