Digestive system

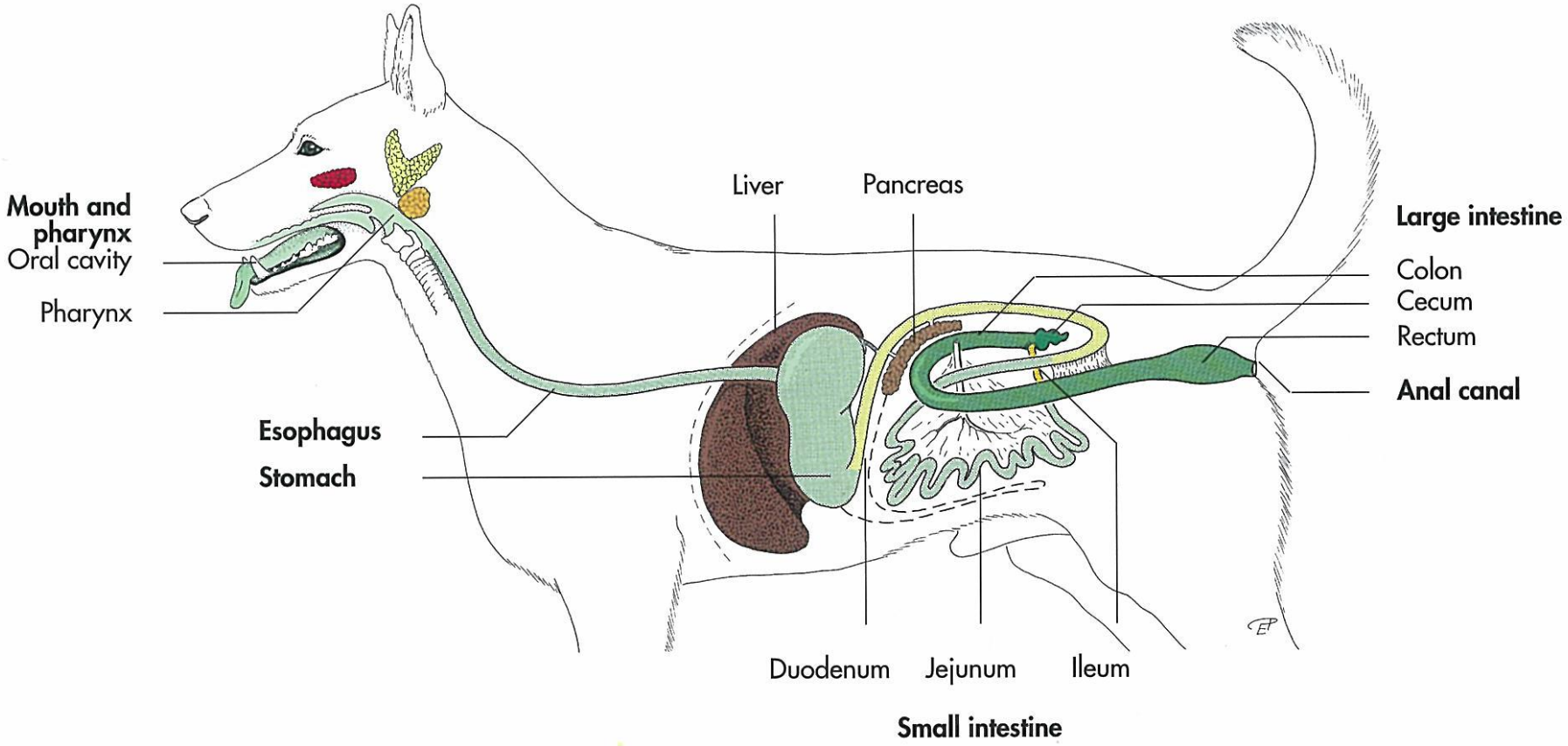
Reception – Digestion – Absorbtion -Expulsion.

Organs:

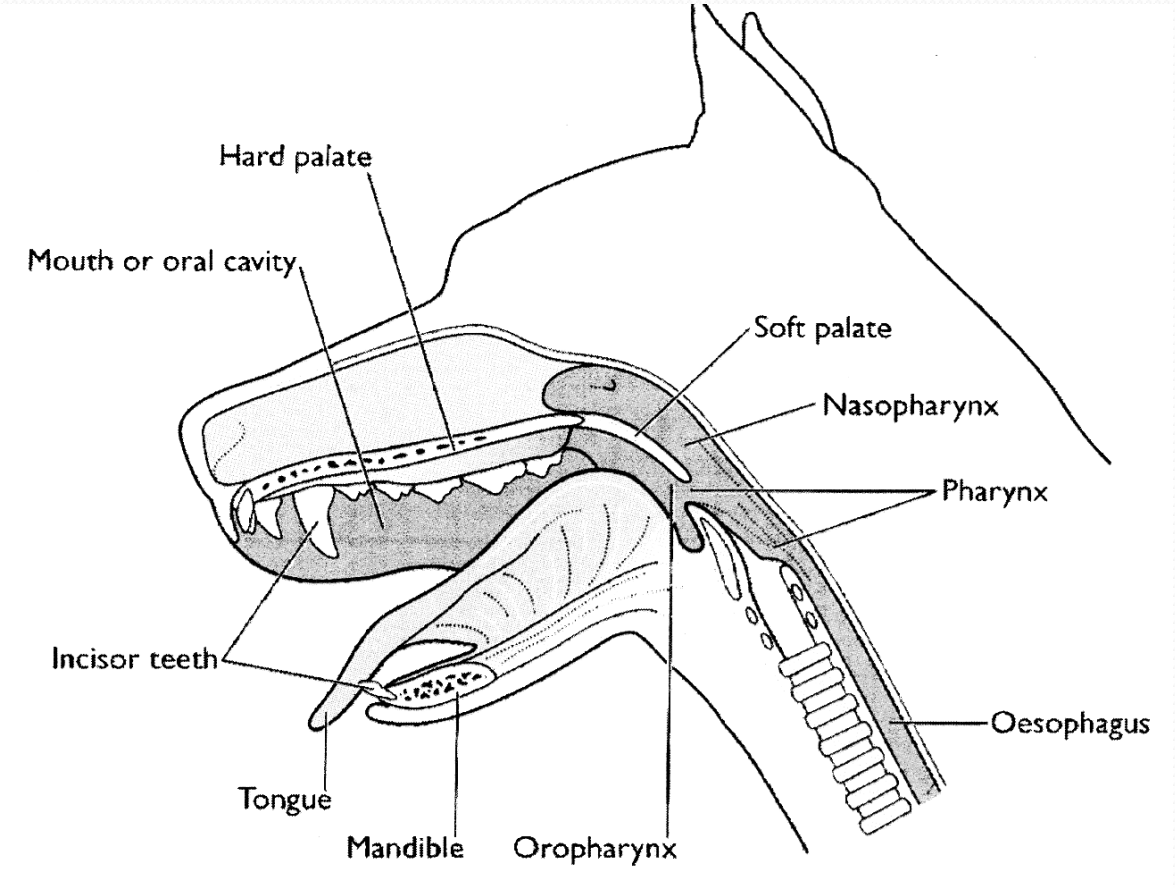
- Mouth
- Pharynx
- Alimentary canal : (Esophagus - stomach

Intestines (small- large)

- accessory (associated) organs; (teeth- tongue- salivary glands- panceras – liver)


Mouth and pharynx
Oral cavity
Pharynx
Esophagus
Stomach
Liver
Pancreas
Large intestine
Colon
Cecum
Rectum
Anal canal
Duodenum
Jejunum
Ileum
Small intestine

Mouth


Hard palate
Mouth or oral cavity
Soft palate
Nasopharynx
Pharynx
Incisor teeth
Oesophagus
Tongue
Mandible
Oropharynx


Labial Vestibule
Mouth Proper cavity
Buccal Vestibul

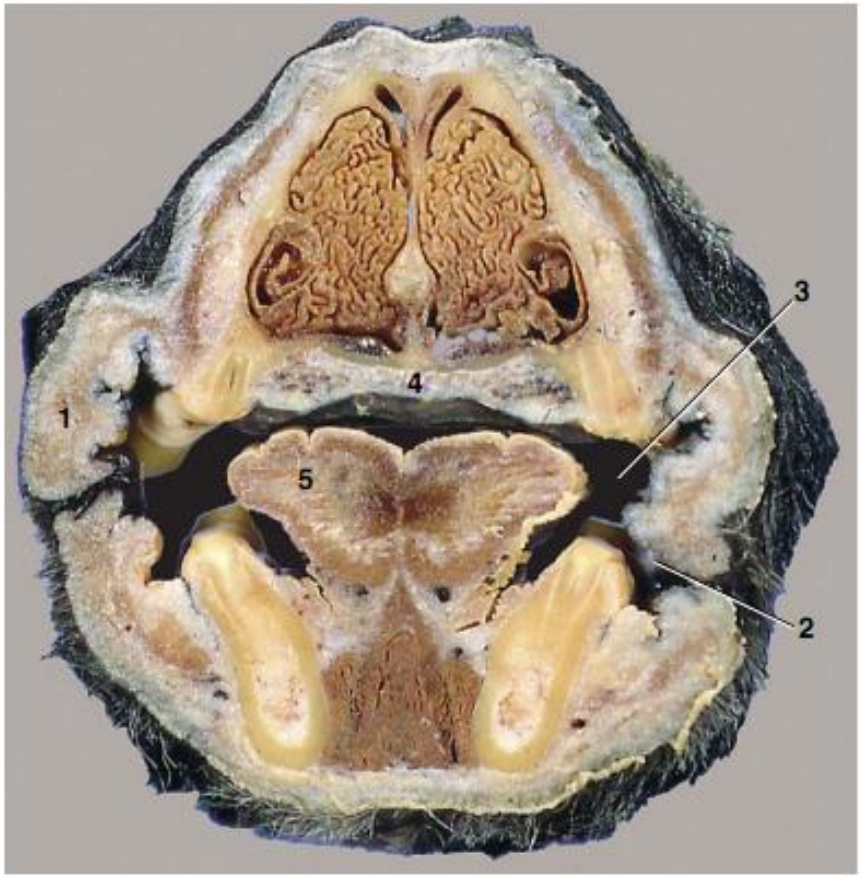


Figure 3–4 Transverse section of the head of the dog at the level of P^2. *1,* Cheek (with buccal folds); *2,* vestibule; *3,* oral cavity proper; *4,* hard palate (with venous plexus); *5,* tongue.

Oral cavity
Cow

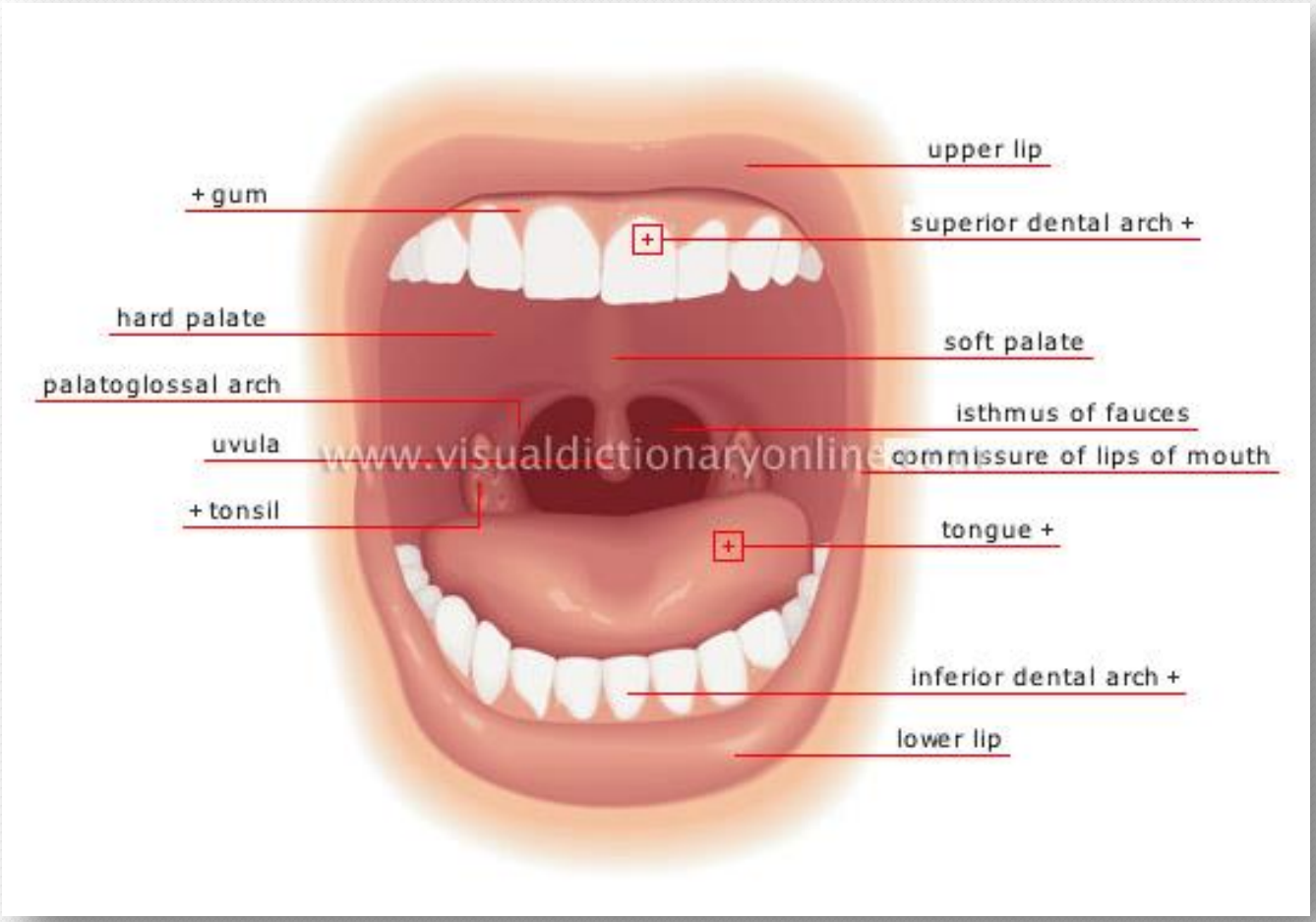
Oral cavity
Horse

Oral cavity
Dog

Lips :

- Upper or maxillary lip
- Lower or mandibular lip
- Left and right commisure
- Rimaoris
- Frenulum labiae

Diet and feeding habits also determine the form of
the lips (labia oris). In some species, such as the horse, the lips are employed in collecting food and introducing it to the mouth; for this purpose they must be both sensitive and mobile.


upper lip
+ gum
superior dental arch +
hard palate
soft palate
palatoglossal arch
isthmus of fauces
uvula
commissure of lips of mouth
+ tonsil
tongue +
inferior dental arch +
lower lip
www.visualdictionaryonline.com

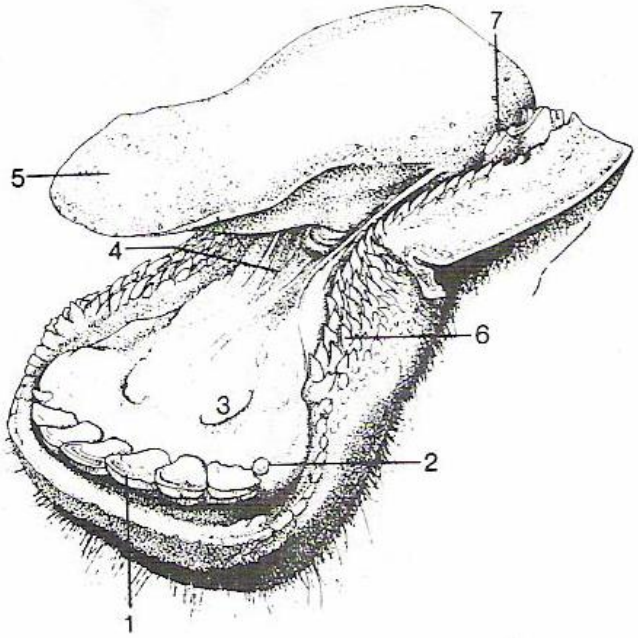
Philtrum

Mentum

Cheeks :

- The cheeks (buccae), which tend to be most capacious in herbivores, have a similar structure. The principal support is the buccinator muscle, which has the important function of returning to the central cavity any food that has escaped into the vestibule.

Conical Papilla of th cheek



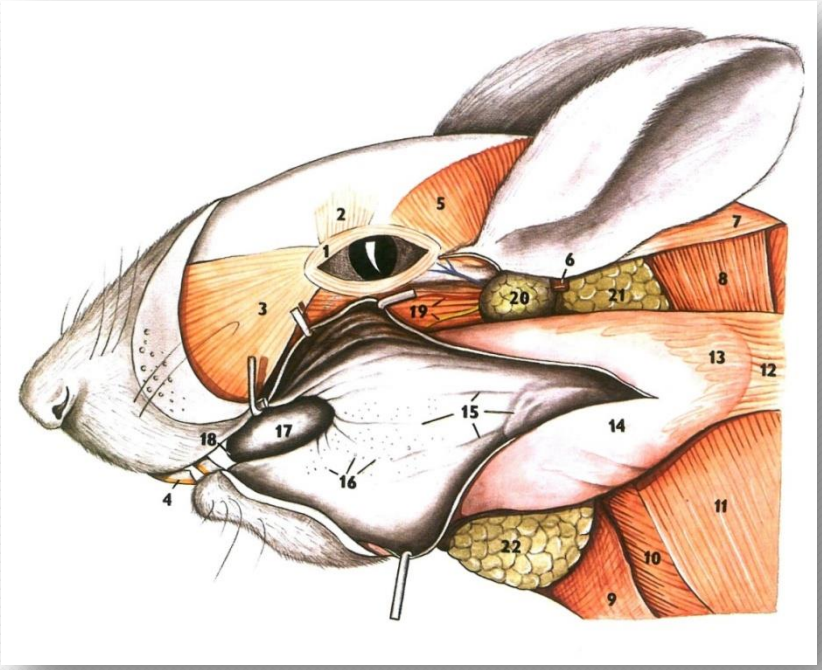
Floor of the mouth and tongue.

1, Central incisor; 2, remnant of worn fourth deciduous incisor (i_4); 3, sublingual caruncle; 4, frenulum; 5, apex of tongue; 6, buccal papillae; 7, first cheek tooth (P_2).

Conical Papilla of th cheek camel

Parotid papilla

Buccal pouch



Hard Palate

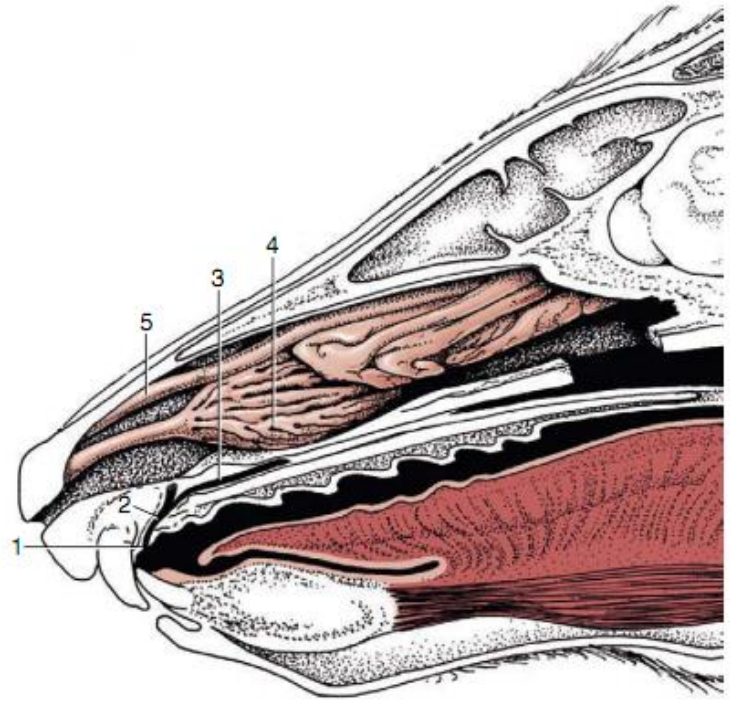
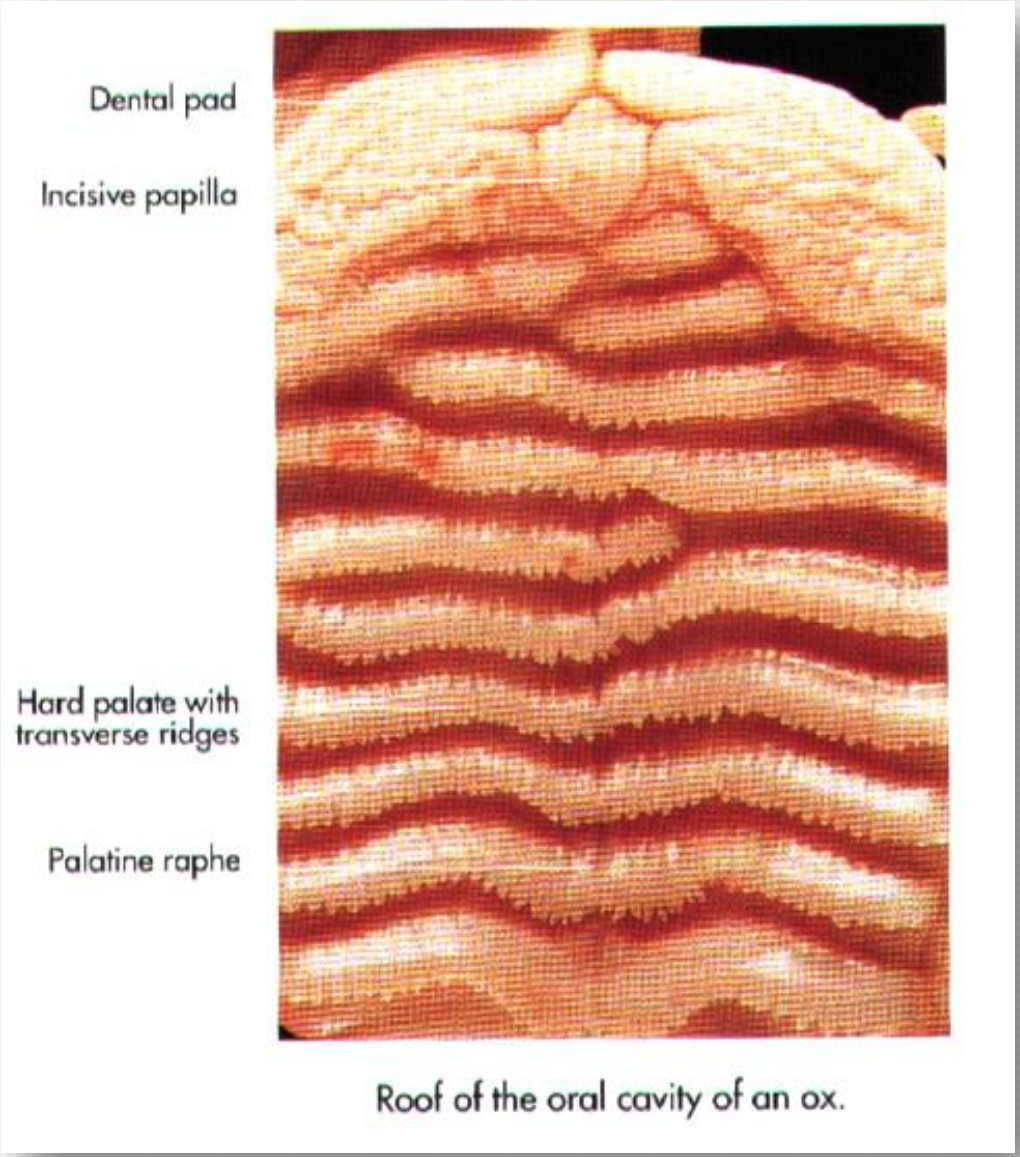


Figure 3–6 Paramedian section of the rostral part of the head of the dog. The plane of section fails to demonstrate the opening of the incisive duct into the nasal cavity. *1,* Incisive papilla; *2,* incisive duct; *3,* vomeronasal organ; *4,* ventral nasal concha; *5,* dorsal nasal concha.



Roof of the oral cavity of an ox.

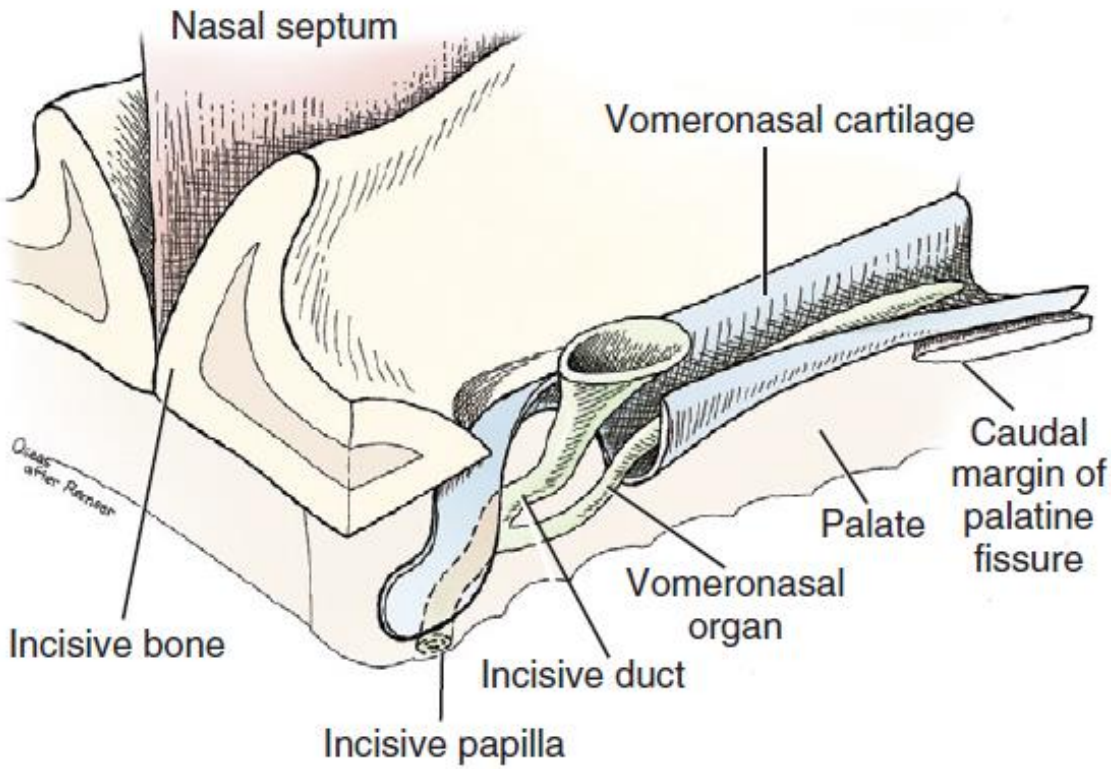


FIGURE 8-3 Schematic view of the incisive duct and the vomeronasal organ. (From Ramser R: Zur Anatomie des Jakobsonschen Organs beim Hunde, Dissertation, Berlin, 1935, Friedrich Wilhelms University.)

Cleft palate

Fig. 19-21: Cleft palate in a calf. Cleft palate usually results from incomplete or absent apposition and fusion of the lateral palatine processes resulting in an open connection between oral and nasal cavities. Courtesy Sinowatz and Rüsse (2007).

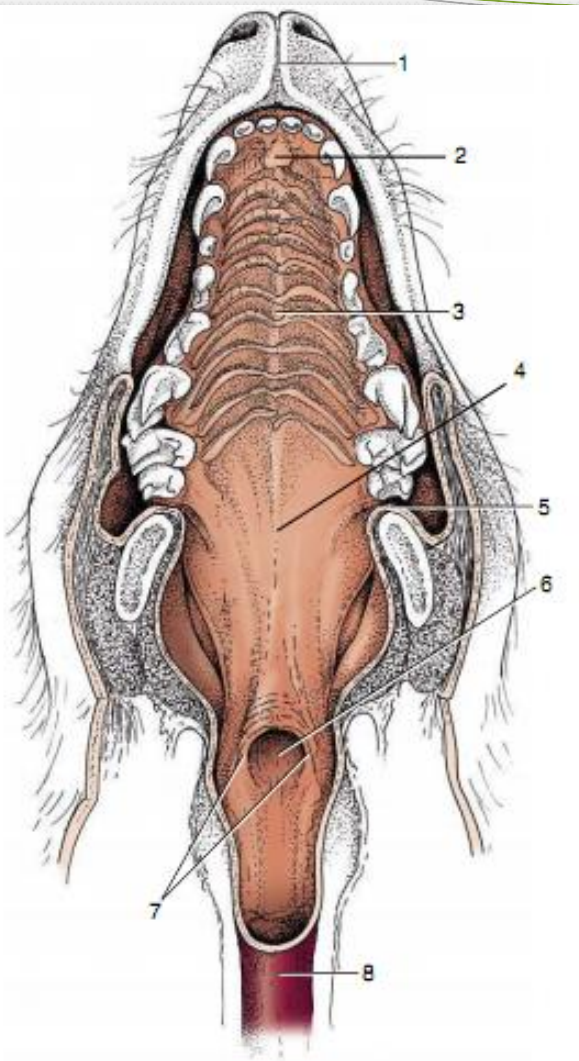
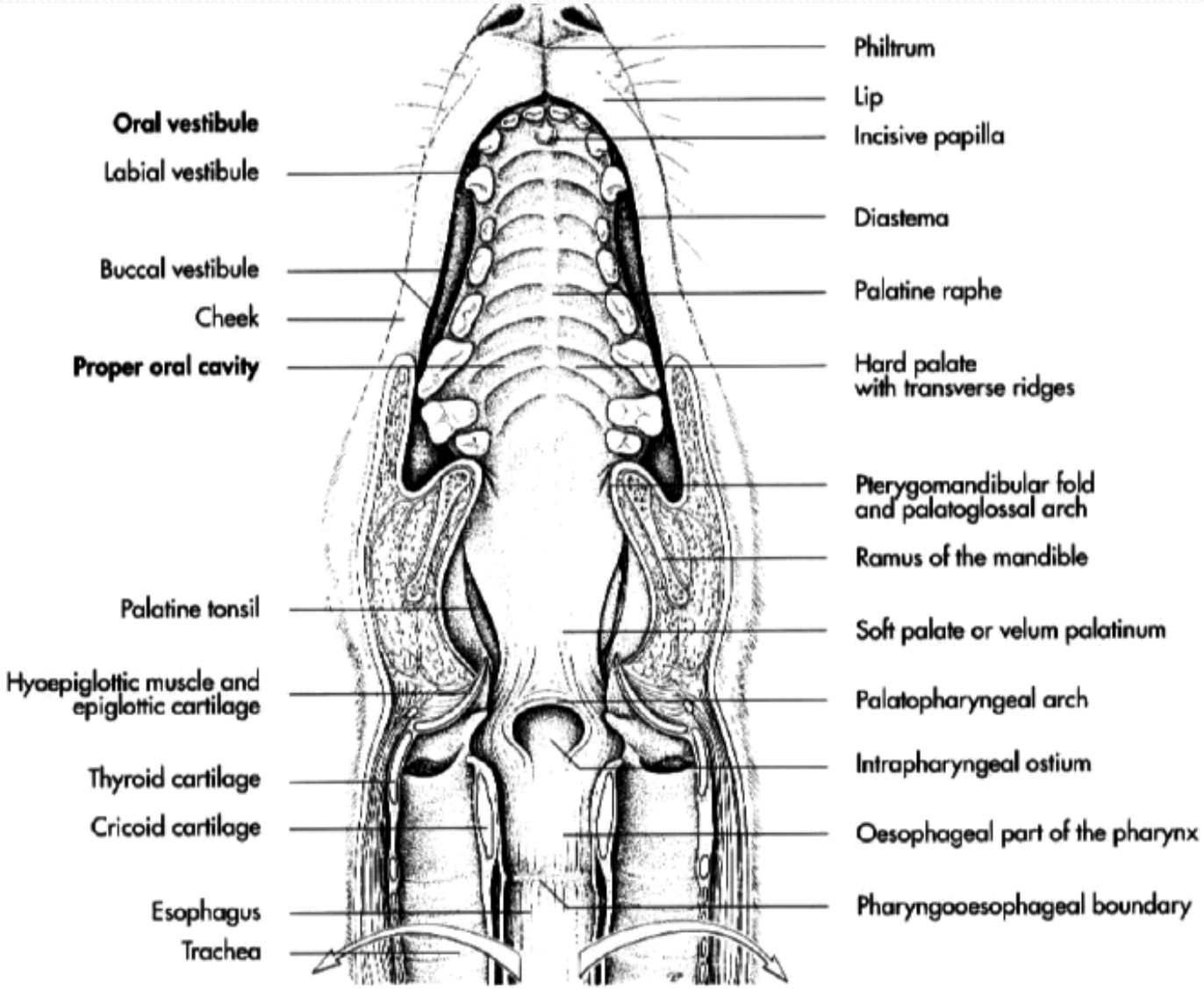
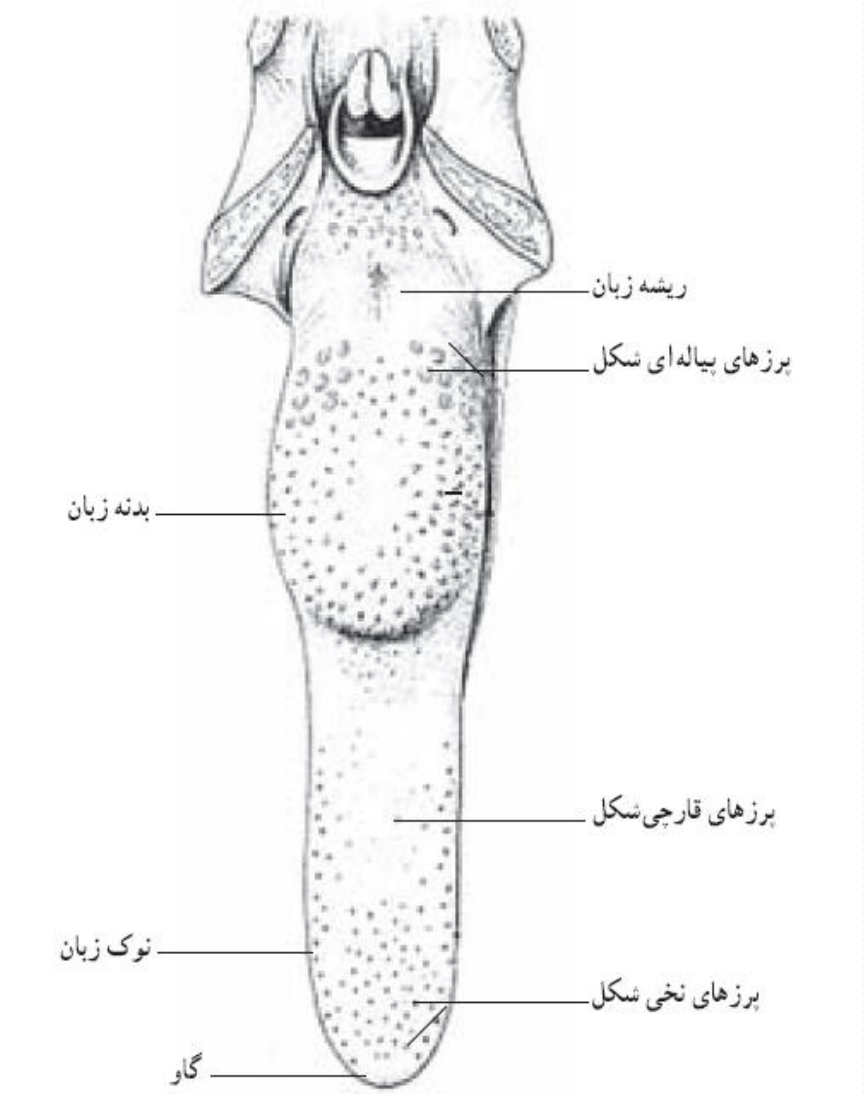
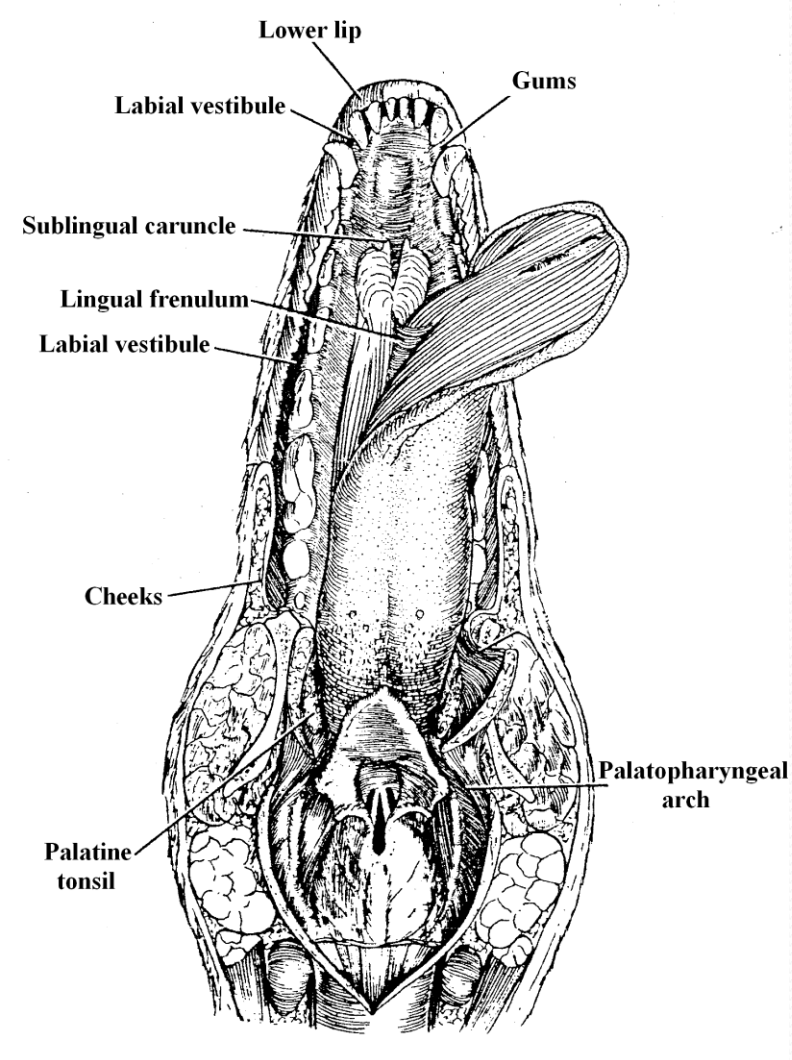


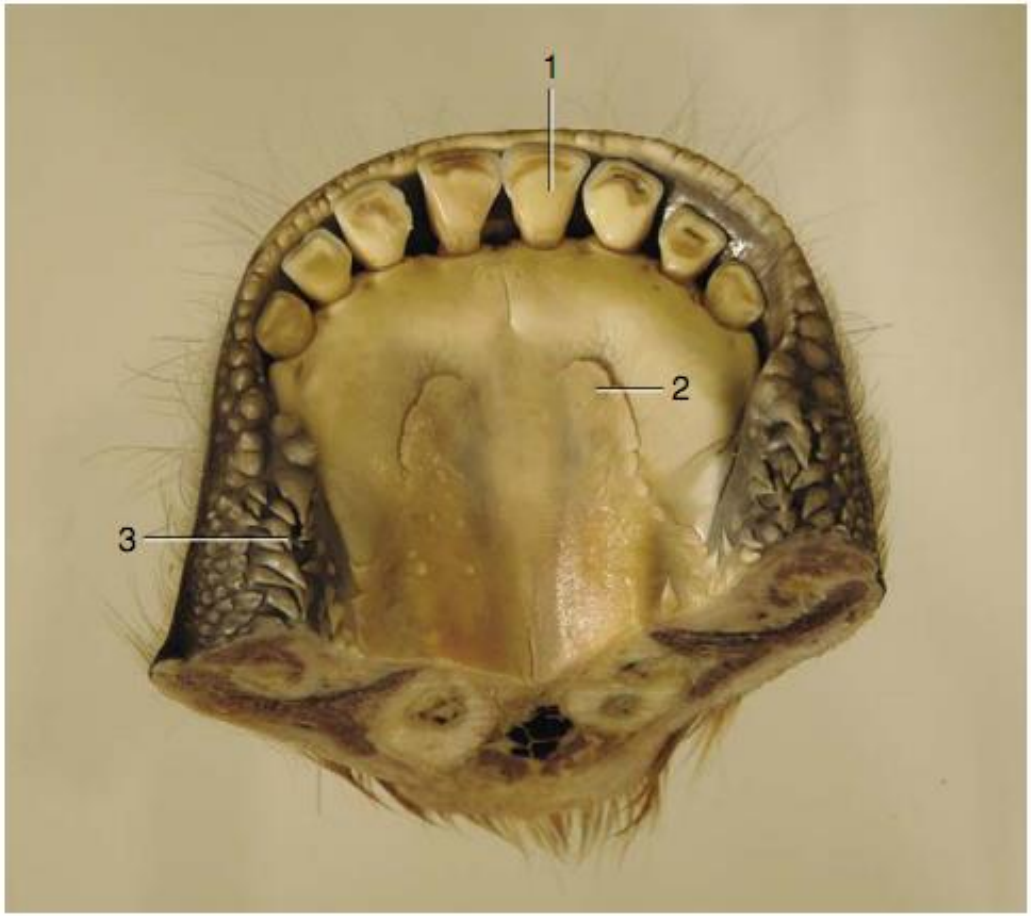
Figure 3–5 The hard and soft palate of the dog. *1,* Philtrum; *2,* incisive papilla; *3,* hard palate with rugae; *4,* soft palate; *5,* palatoglossal arch; *6,* intrapharyngeal ostium; *7,* palatopharyngeal arches; *8,* esophagus.


Oral vestibule
Labial vestibule
Buccal vestibule
Cheek
Proper oral cavity
Palatine tonsil
Hyoepiglottic muscle and epiglottic cartilage
Thyroid cartilage
Cricoid cartilage
Esophagus
Trachea
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
Intrapharyngeal ostium
Oesophageal part of the pharynx
Pharyngooesophageal boundary

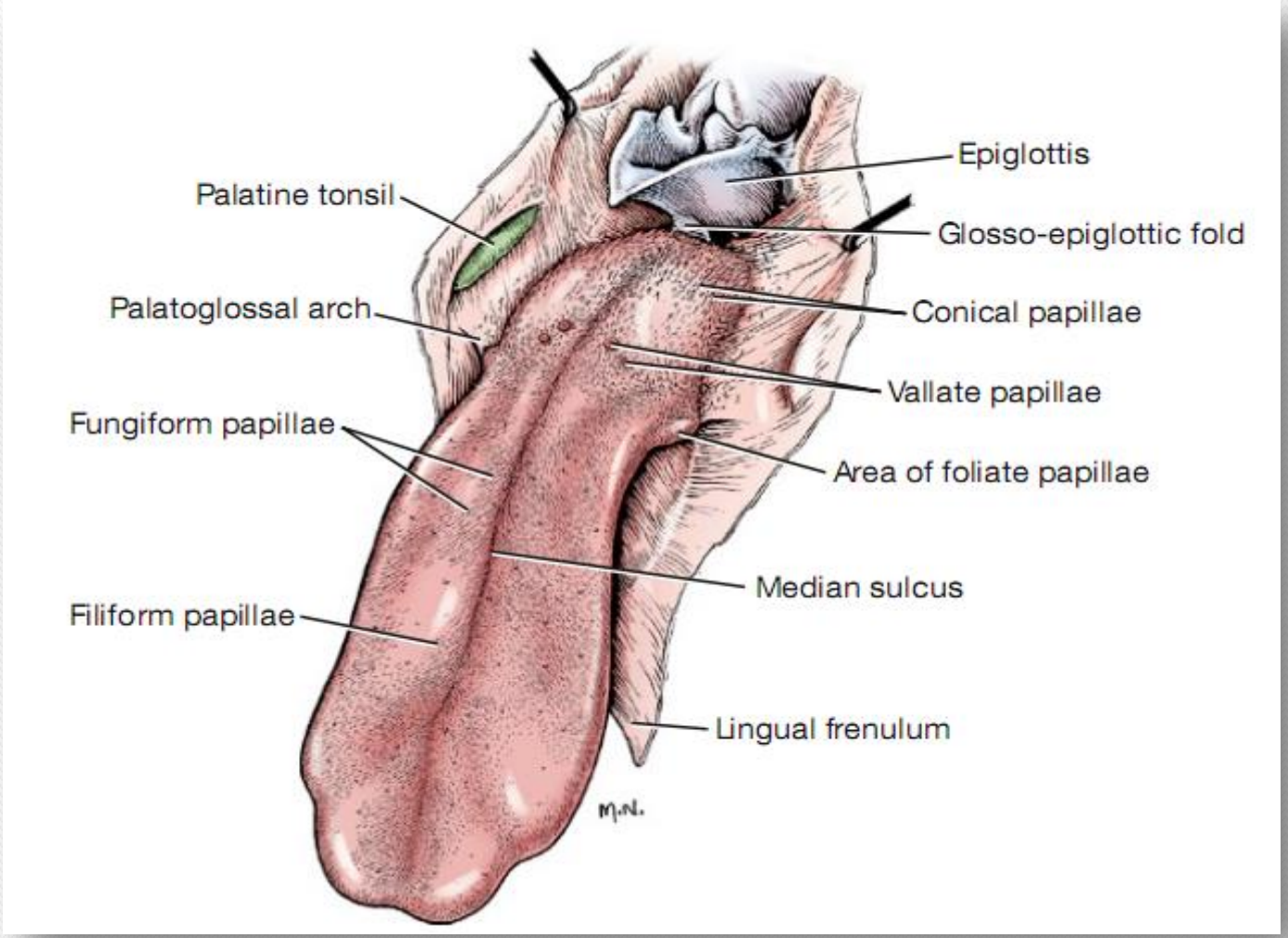
Tongue

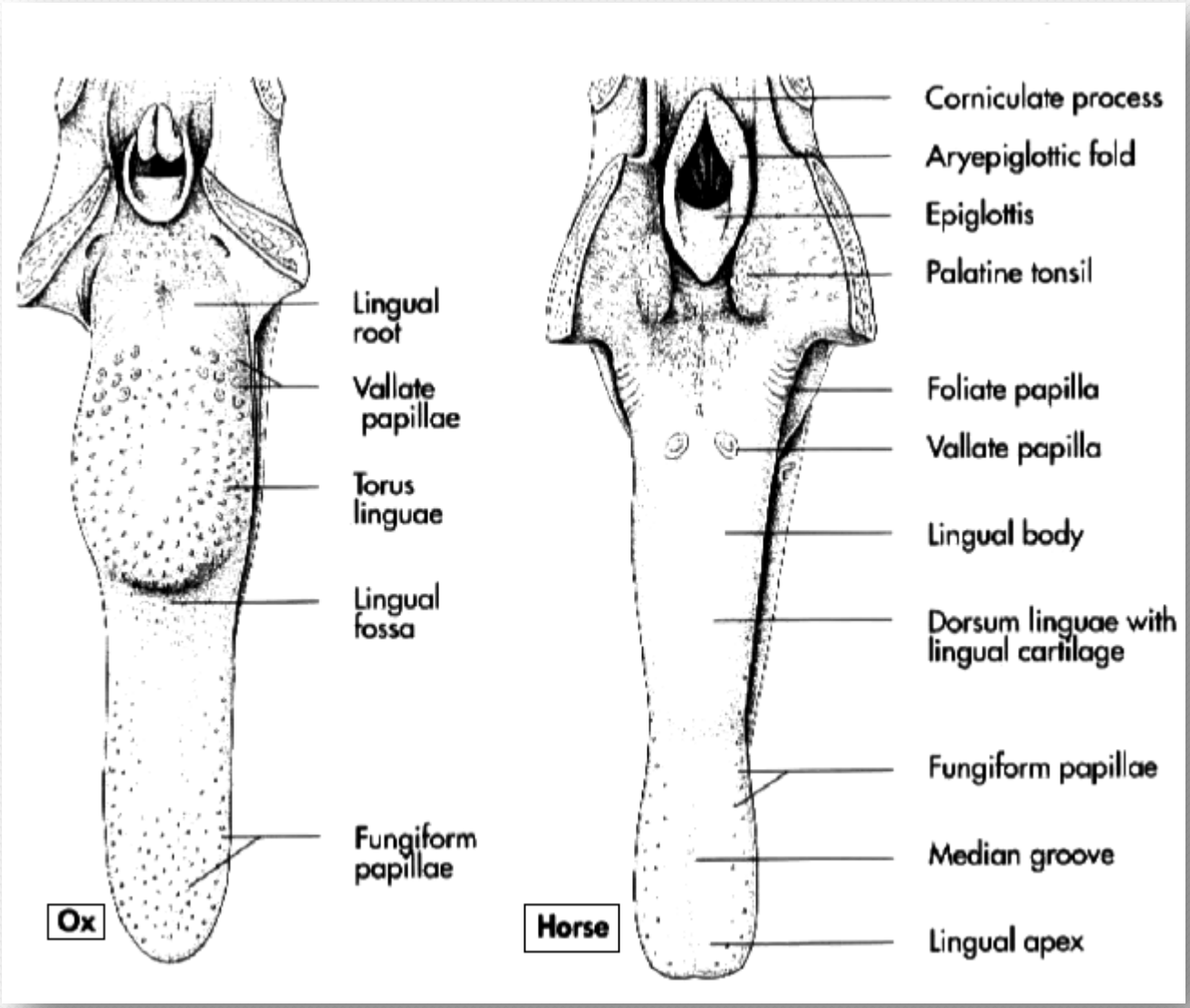

ریشه زبان
برزهای پیاله‌ای شکل
بدنه زبان
برزهای قارچی‌شکل
نوک زبان
برزهای نخی شکل
گاو


Lower lip
Gums
Labial vestibule
Sublingual caruncle
Lingual frenulum
Labial vestibule
Cheeks
Palatopharyngeal arch
Palatine tonsil



Floor of the bovine mouth. *1,* Central incisor; *2,* sublingual caruncle; *3,* buccal papillae.


Epiglottis
Palatine tonsil
Glosso-epiglottic fold
Palatoglossal arch
Conical papillae
Vallate papillae
Fungiform papillae
Area of foliate papillae
Median sulcus
Filiform papillae
Lingual frenulum


Lingual root
Vallate papillae
Torus linguae
Lingual fossa
Fungiform papillae
Ox
Corniculate process
Aryepiglottic fold
Epiglottis
Palatine tonsil
Foliate papilla
Vallate papilla
Lingual body
Dorsum linguae with lingual cartilage
Fungiform papillae
Median groove
Lingual apex
Horse

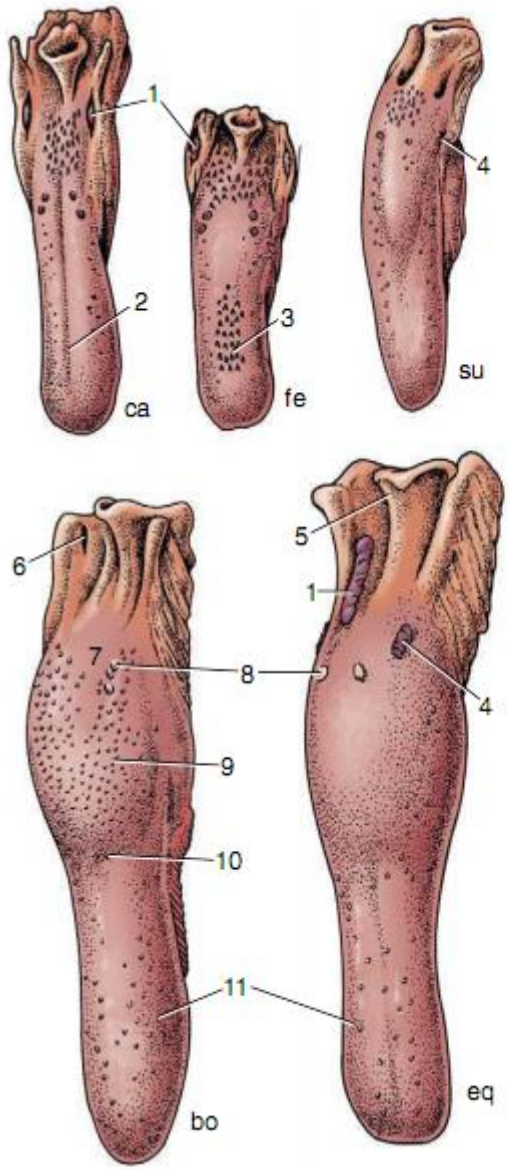
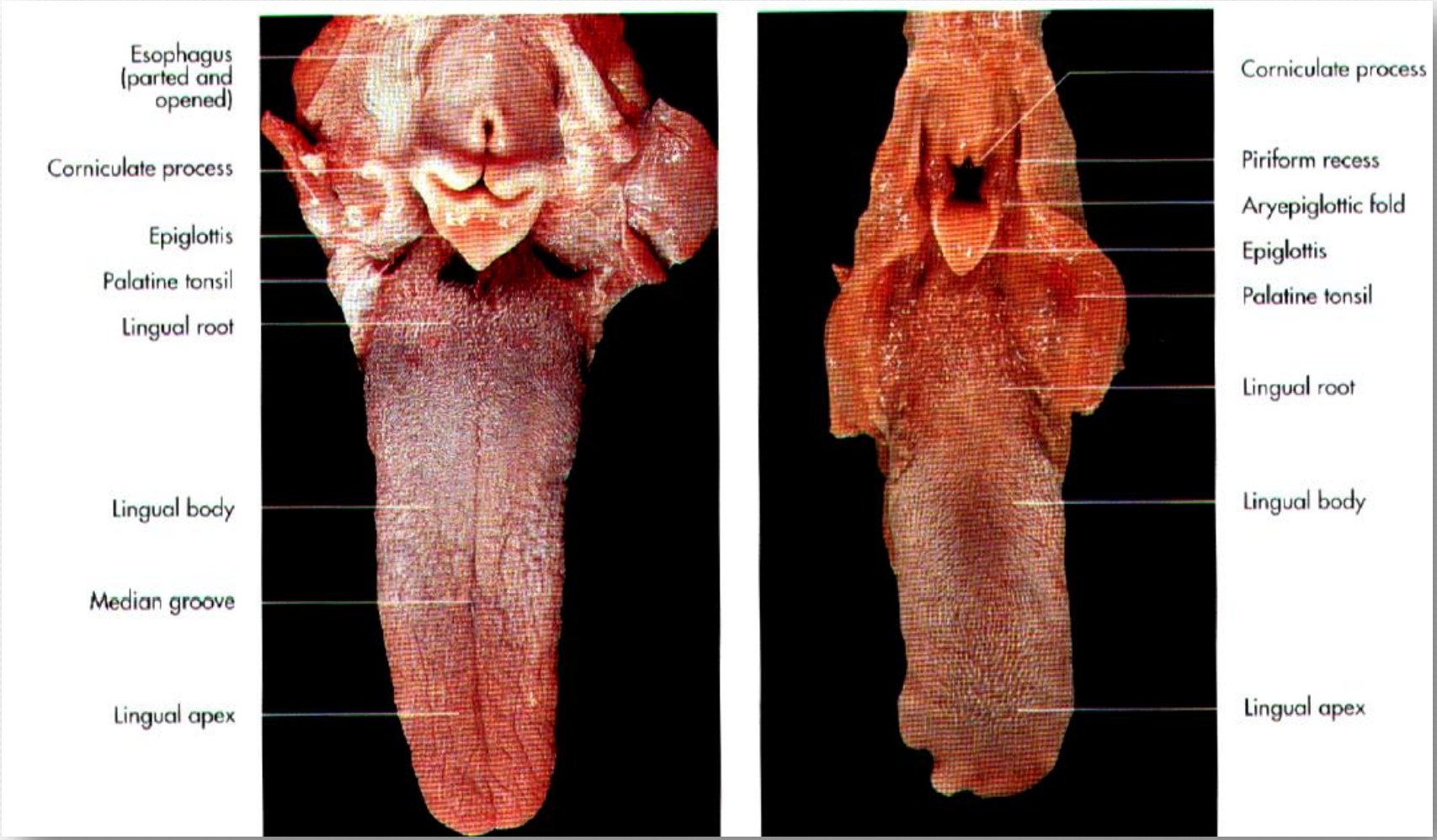


Figure 3–9 Dorsal view of the tongue and epiglottis of the dog (ca), cat (fe), pig (su), cattle (bo), and horse (eq). 1, Palatine tonsil; 2, median groove; 3, filiform papillae; 4, foliate papillae; 5, epiglottis; 6, tonsillar sinus; 7, root of tongue; 8, vallate papillae; 9, torus linguae; 10, fossa linguae; 11, fungiform papillae


Esophagus (parted and opened)
Corniculate process
Epiglottis
Palatine tonsil
Lingual root
Lingual body
Median groove
Lingual apex
Corniculate process
Piriform recess
Aryepiglottic fold
Epiglottis
Palatine tonsil
Lingual root
Lingual body
Lingual apex

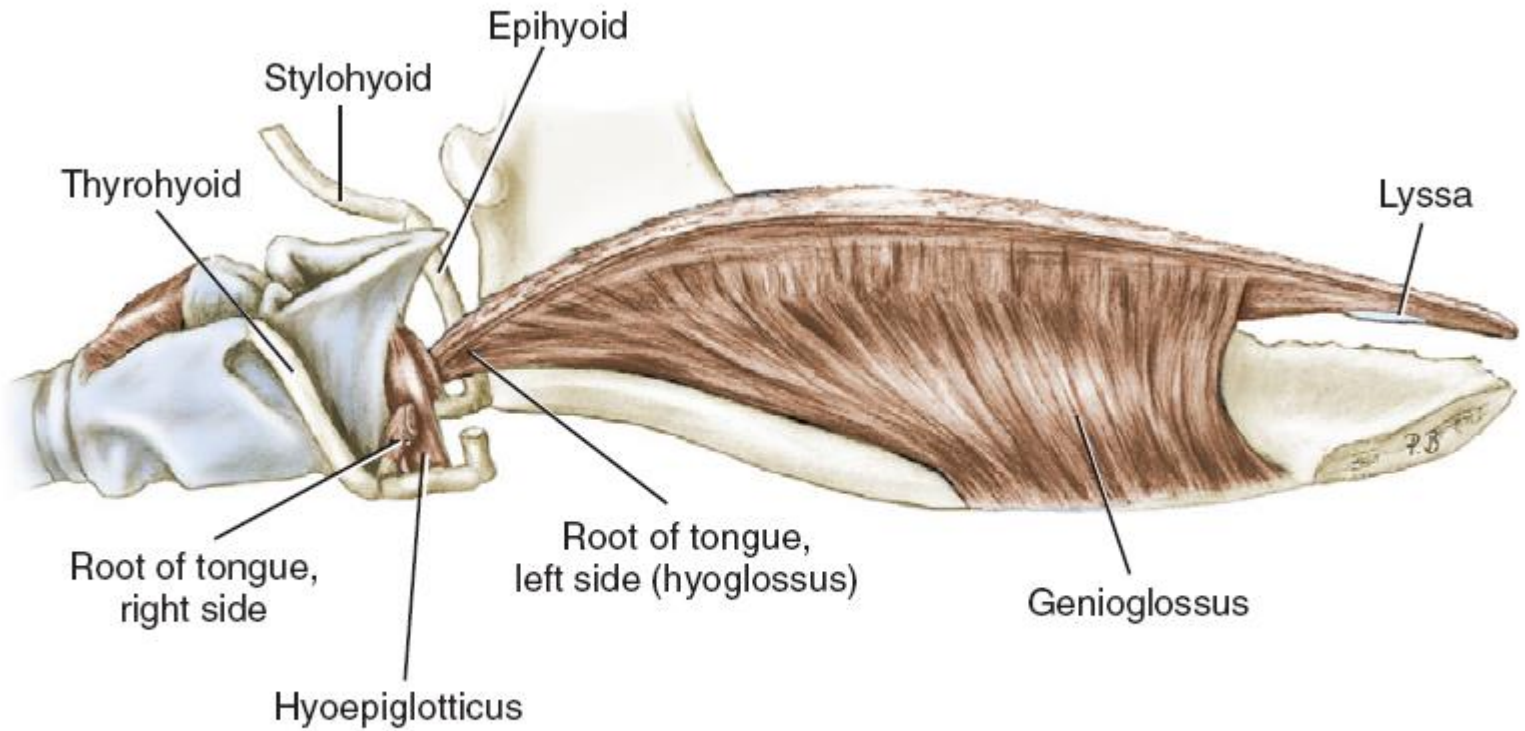


FIGURE 6-14 The larynx, hyoid apparatus, and left half of the tongue.

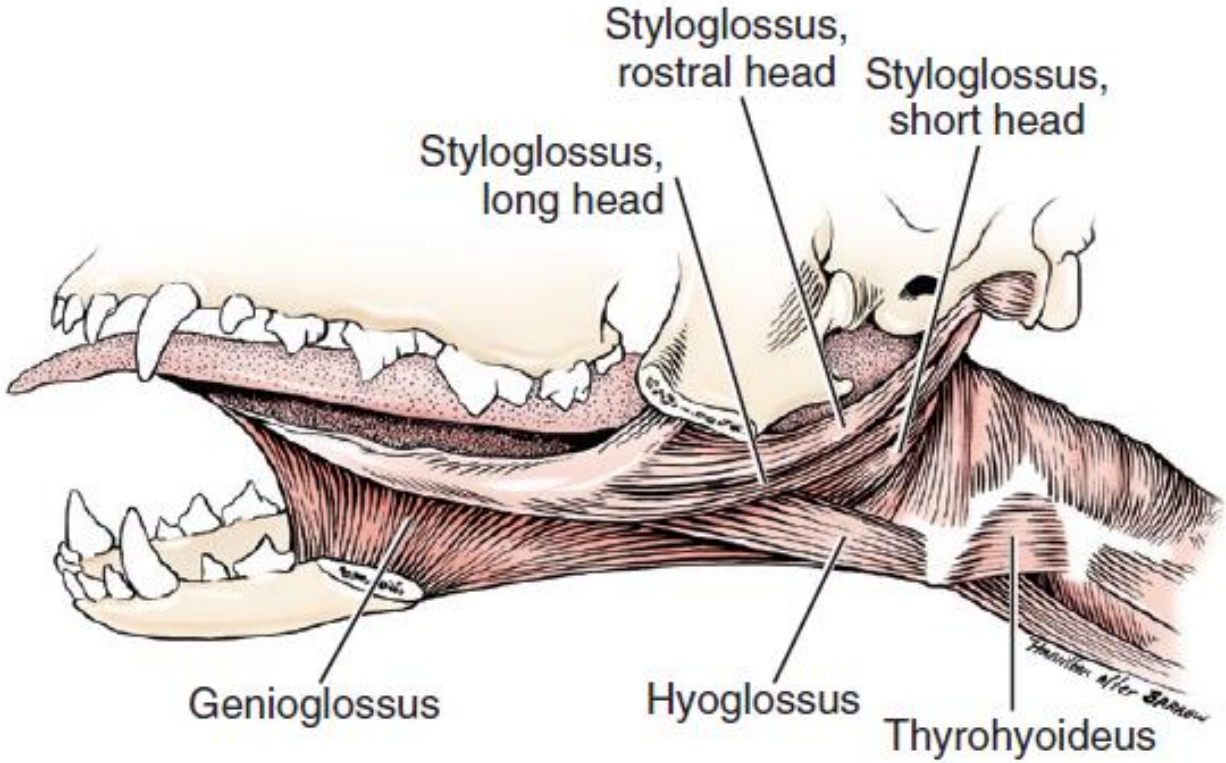


FIGURE 7-15 Muscles of the tongue, lateral aspect.

پرز های زبانی

پرزها (Papillae):

- نخی (Filiform): شبیه نخ، جلوی گودی زبان، رو به عقب، عمل مکانیکی
- قارچی (Fungiform): بیشتر در امتداد لبه های راس زبان، عمل چشایی
- مخروطی (Conical): روی برجستگی پشتی زبان، عمل مکانیکی
- عدسی (Lenticular): روی برجستگی پشتی زبان، عمل مکانیکی
- جامی (Vallate): در هر طرف ۱۷ ـ ۸ عدد در انتهای Torus ، عمل چشایی

برگی : فقط گوشتخواران و تک سمیان / عمل چشایی

Lingual papilla

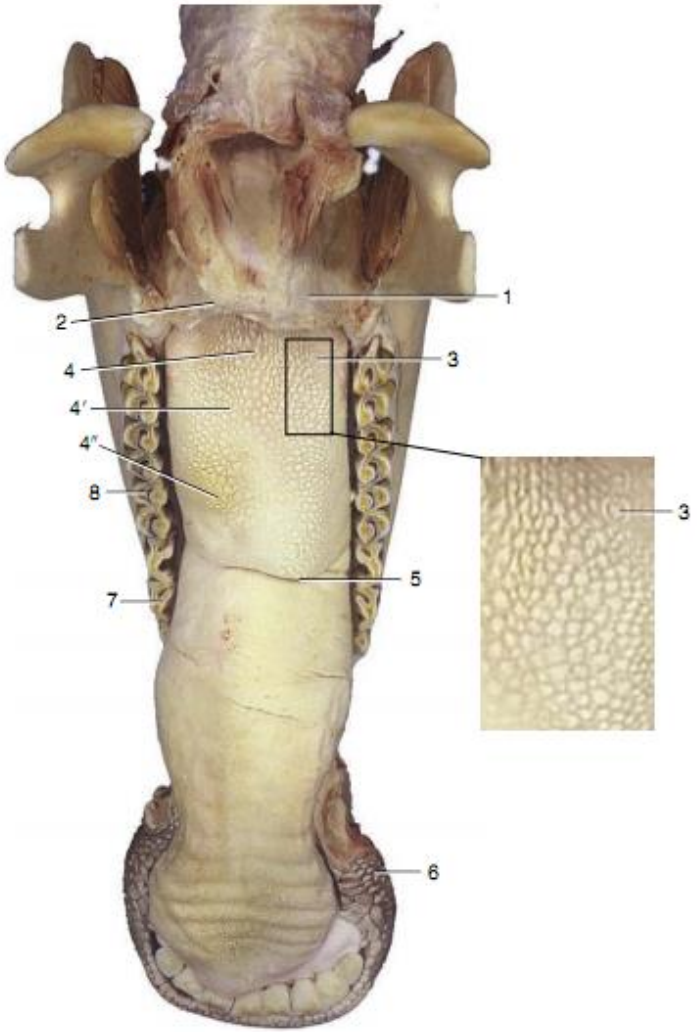
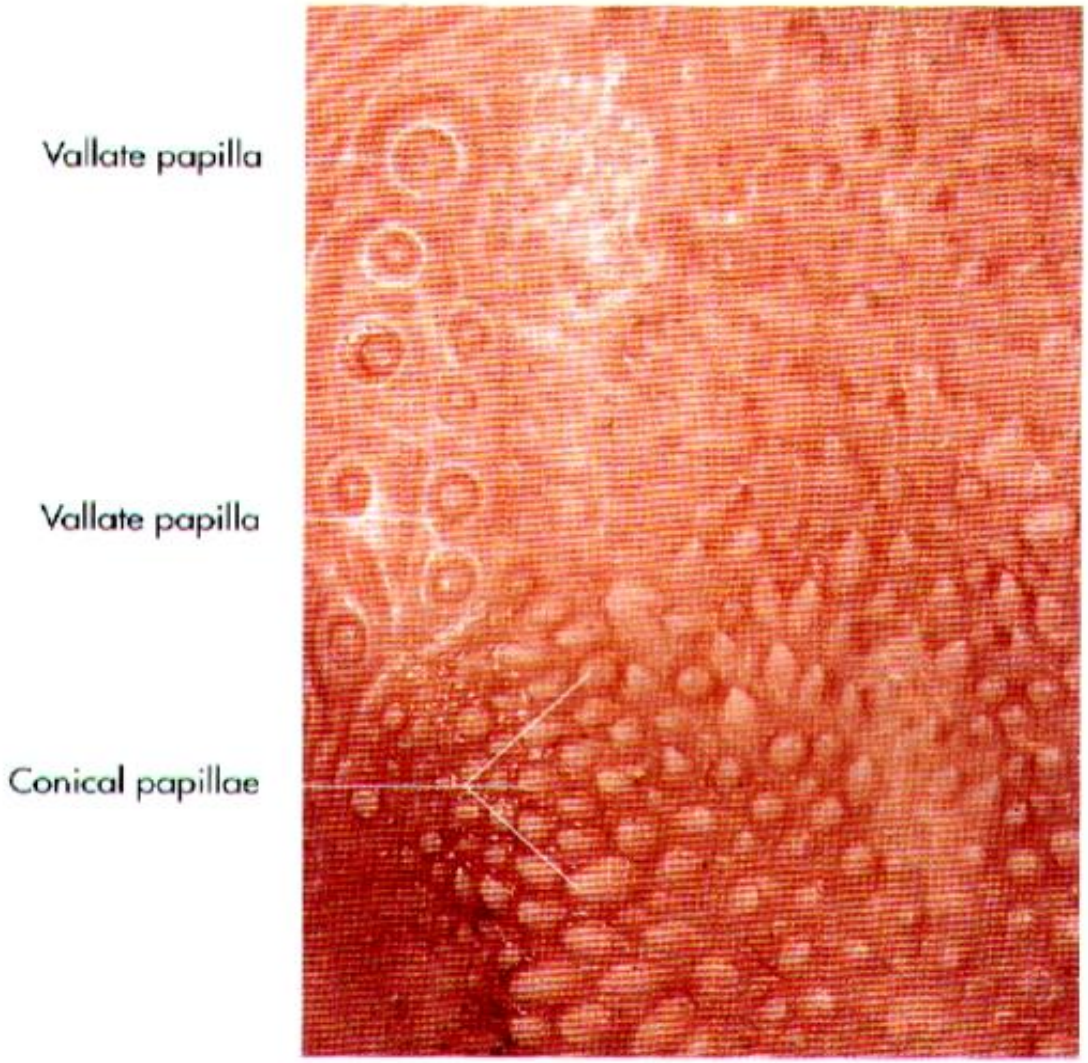
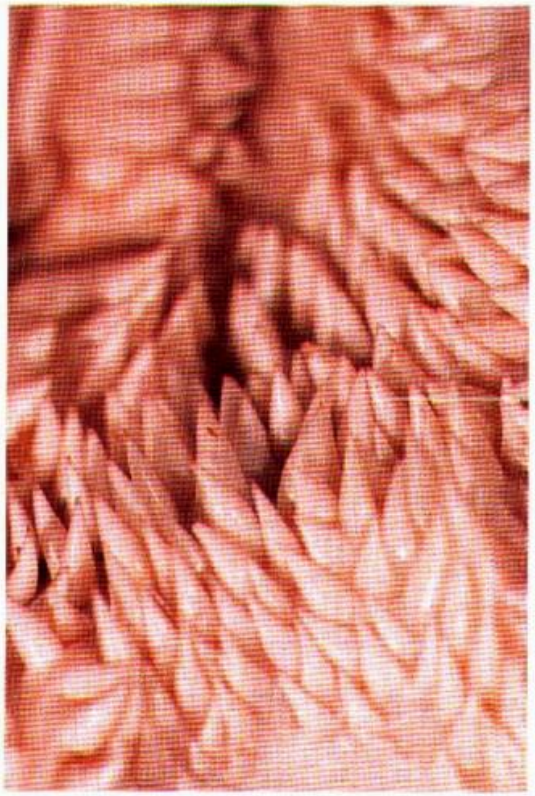


Figure 25–17 Bovine tongue and lower jaw. *1,* Soft palate, cut; *2,* palatoglossal arch; *3,* vallate papillae; *4,* filiform papillae; *4′*, lenticular; *4″*, conical; *5,* lingual fossa; *6,* buccal papillae; *7,* first lower cheek tooth (P_2); *8,* M_1.



Papillae at the base of the tongue in an ox.



Conical papillae

Conical papillae of an ox as an example for mechanical papillae.

Figure 11–19 Tongue (cat) with papillae.

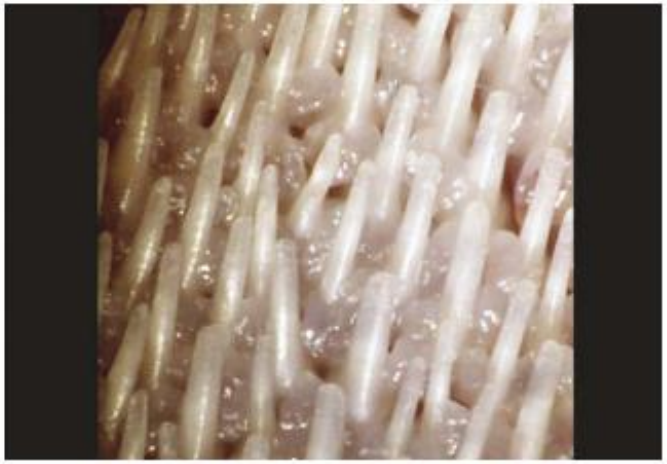
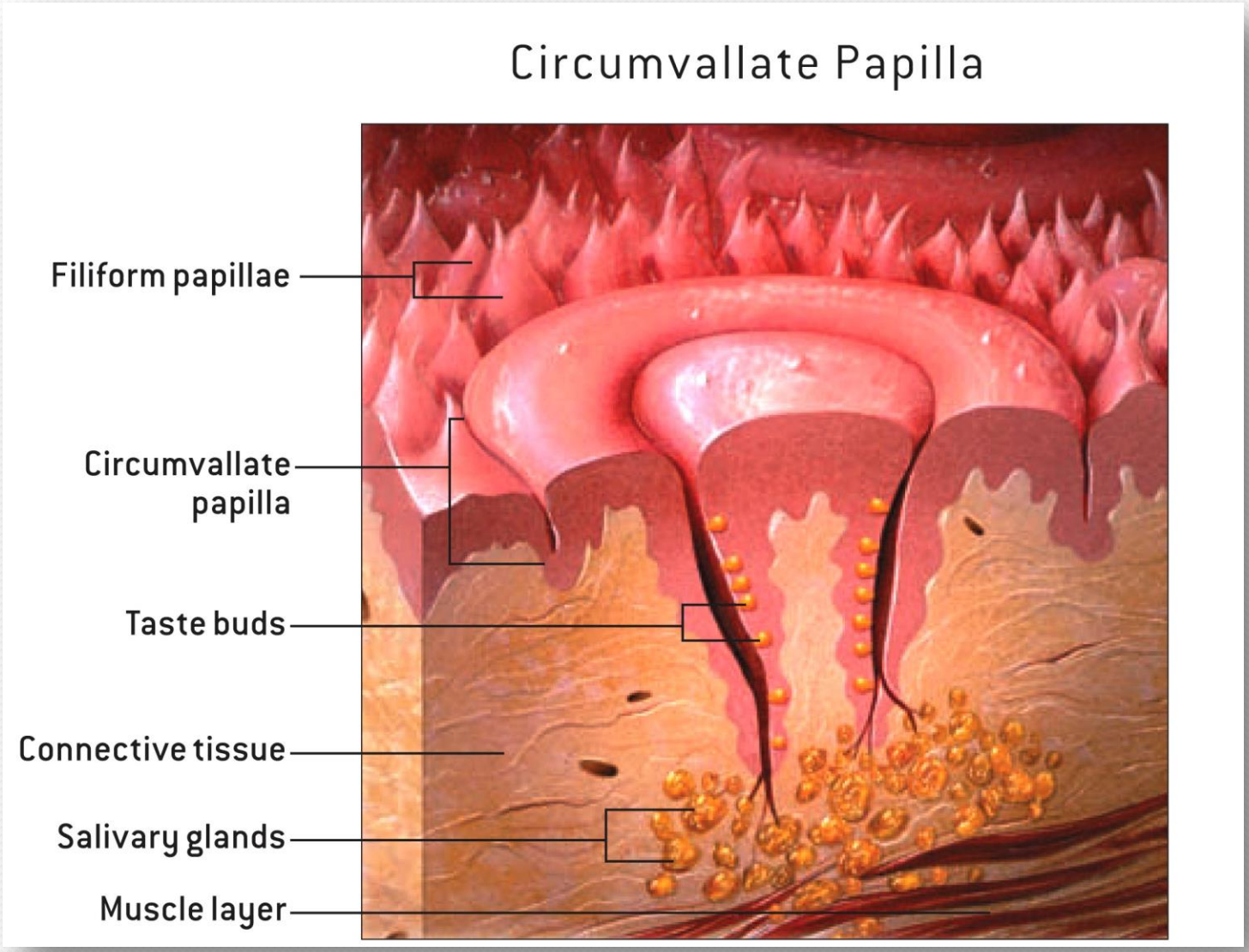
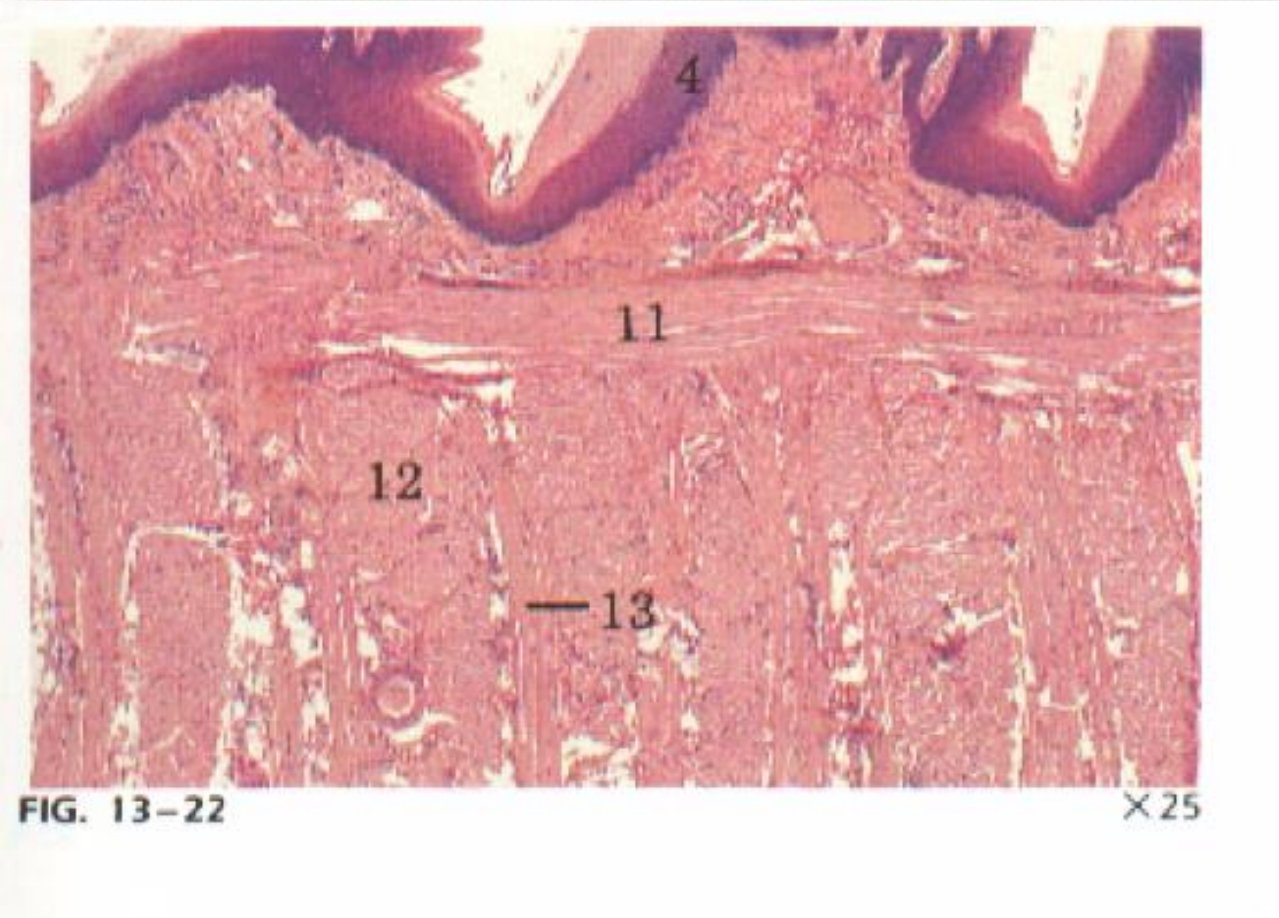


Figure 11–20 Enlargement showing caudally directed keratinized filiform papillae (cat).

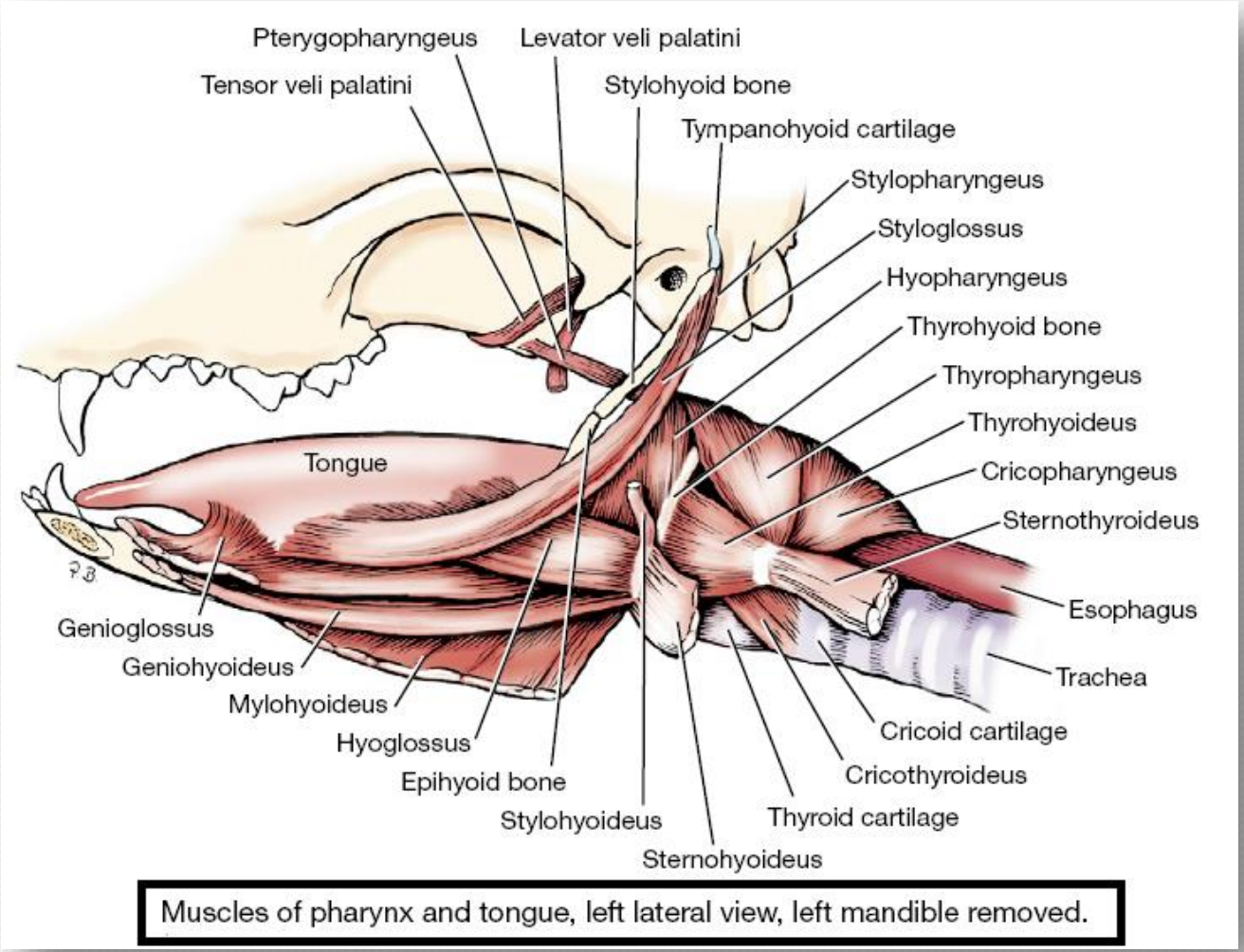

Circumvallate Papilla
Filiform papillae
Circumvallate papilla
Taste buds
Connective tissue
Salivary glands
Muscle layer

Lingual Muscles

Intrinsic Muscles



Extrinsic Muscles



Muscles of pharynx and tongue, left lateral view, left mandible removed.

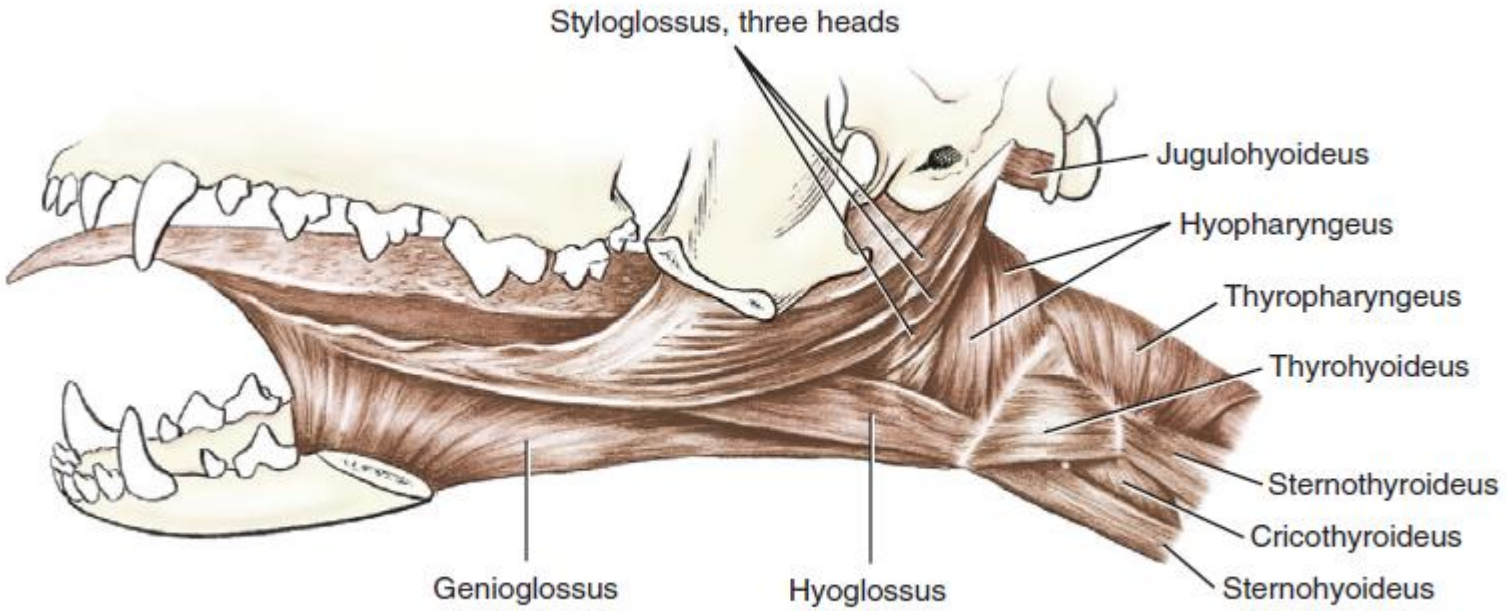
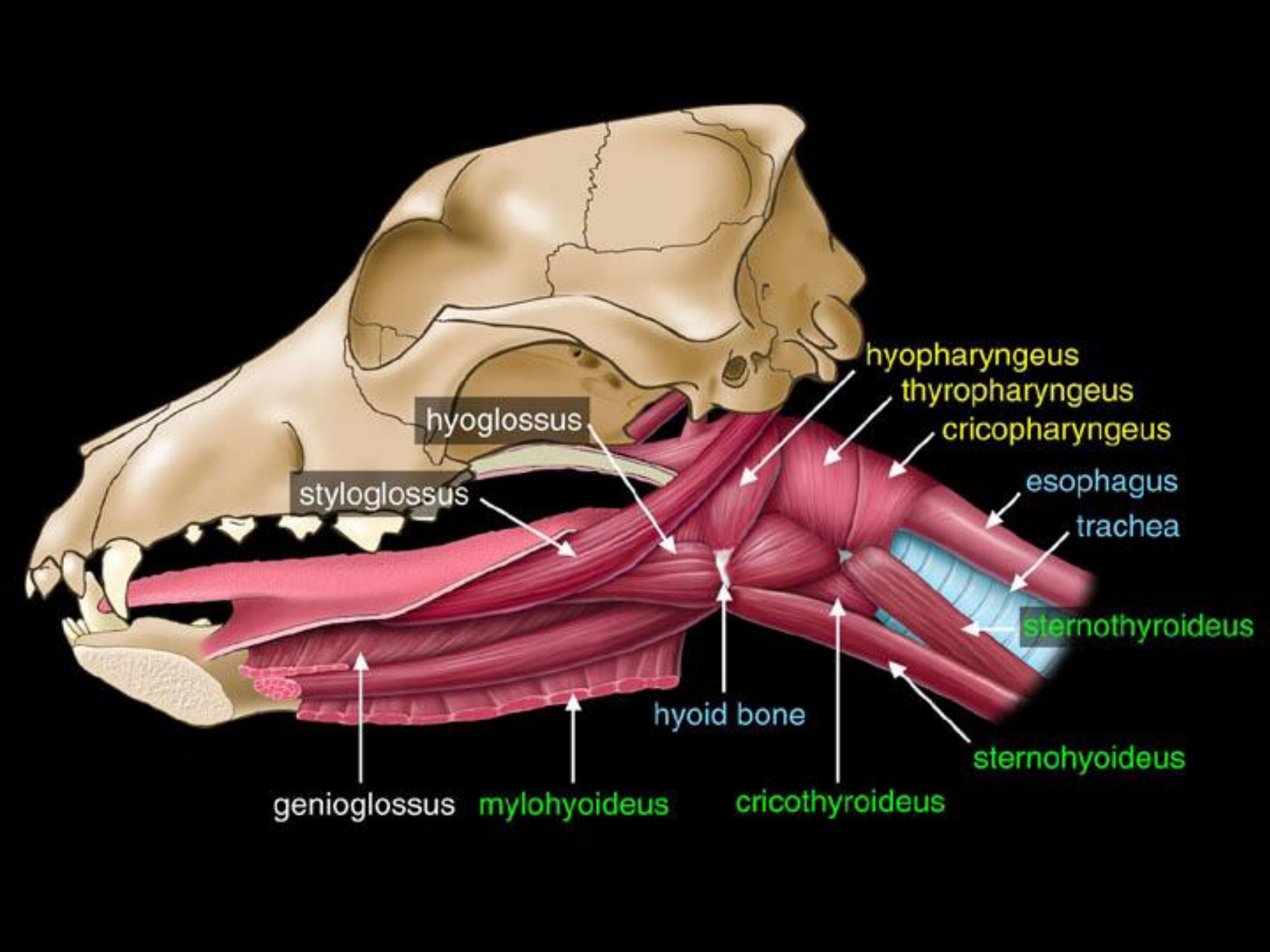
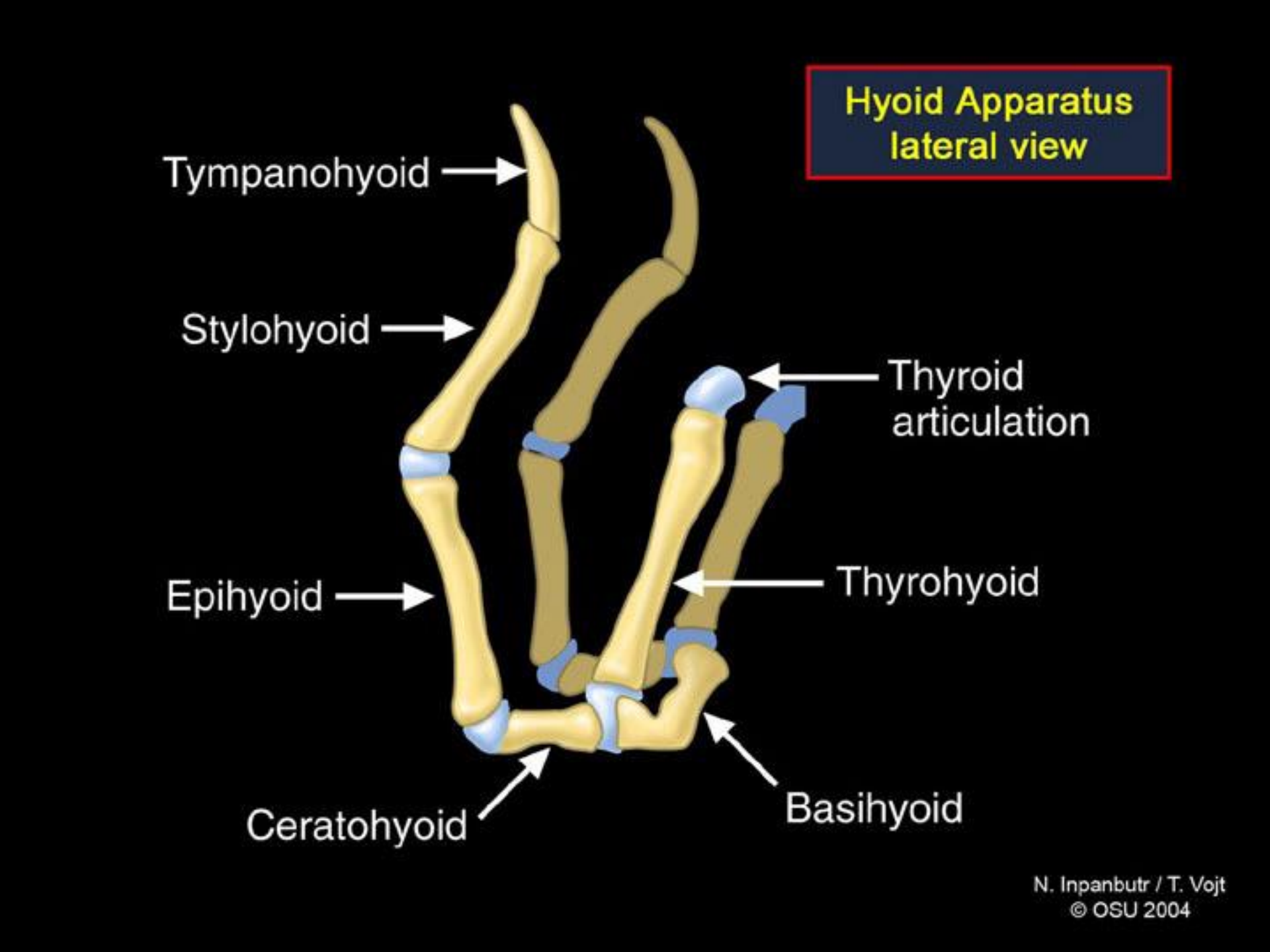
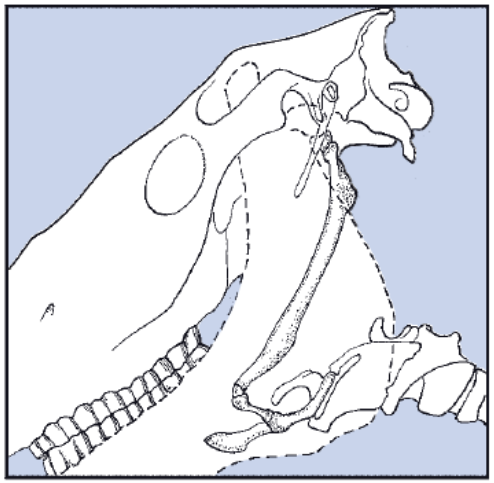
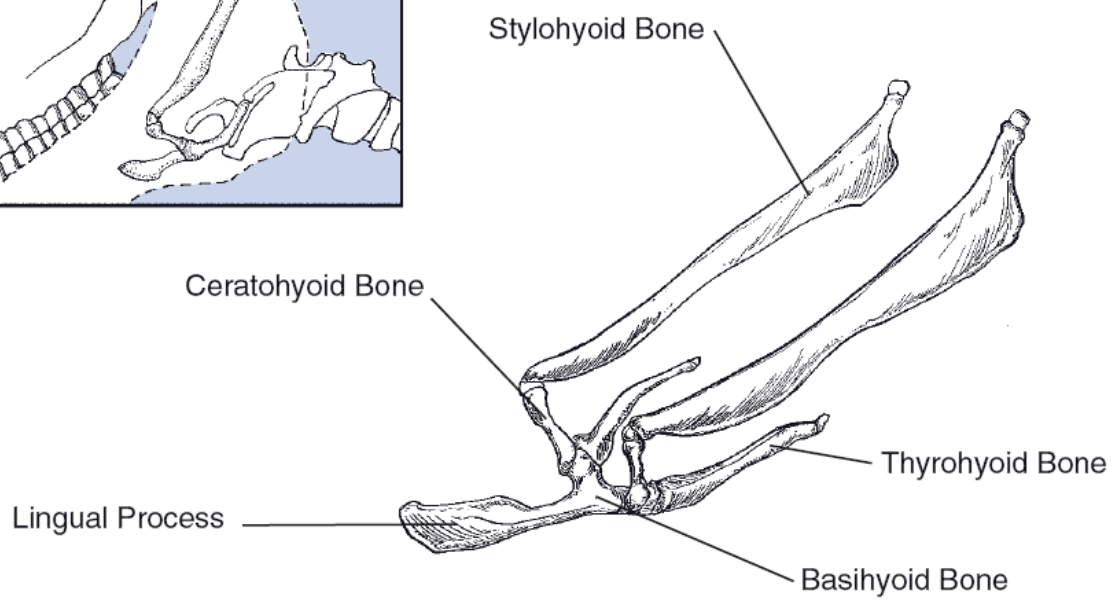


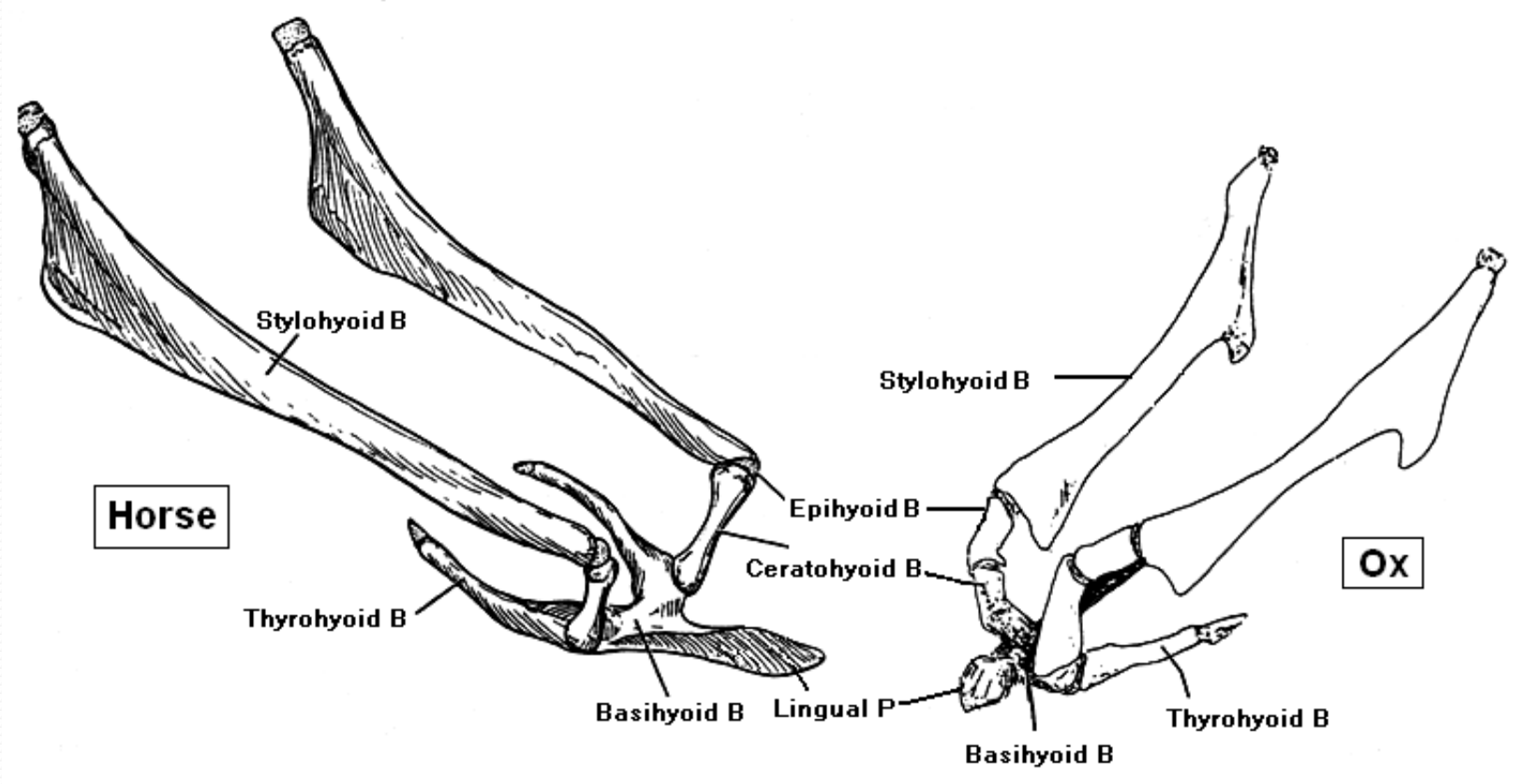
FIGURE 6-15 Muscles of the tongue and pharynx, lateral aspect.


hyopharyngeus
thyropharyngeus
cricopharyngeus
hyoglossus
esophagus
styloglossus
trachea
sternothyroideus
hyoid bone
sternohyoideus
genioglossus
mylohyoideus
cricothyroideus


Hyoid Apparatus
lateral view
Tympanohyoid
Stylohyoid
Epihyoid
Ceratohyoid
Thyroid
articulation
Thyrohyoid
Basihyoid
N. Inpanbutr / T. Vojt
© OSU 2004




Stylohyoid Bone
Ceratohyoid Bone
Thyrohyoid Bone
Lingual Process
Basihyoid Bone


Stylohyoid B
Horse
Epihyoid B
Ceratohyoid B
Thyrohyoid B
Basihyoid B
Lingual P
Stylohyoid B
Ox
Thyrohyoid B
Basihyoid B

Muscle of Hyoid

- **1- Extrinsic ;**
- Omohyoideus – Sternohyoideus – Myelohyoideus – Geniohyoideus – Thyrohyoideus – Hyoepiglotticus – Occipitohyoideus – Stylopharyngious(coudalis & rostralis)- Styloglossus –

Hyoglossus – Hyopharyngious

- **2- Intrinsic ;**
- Ceratohyoideus – Stylohyoideus – Transverse hyoideus

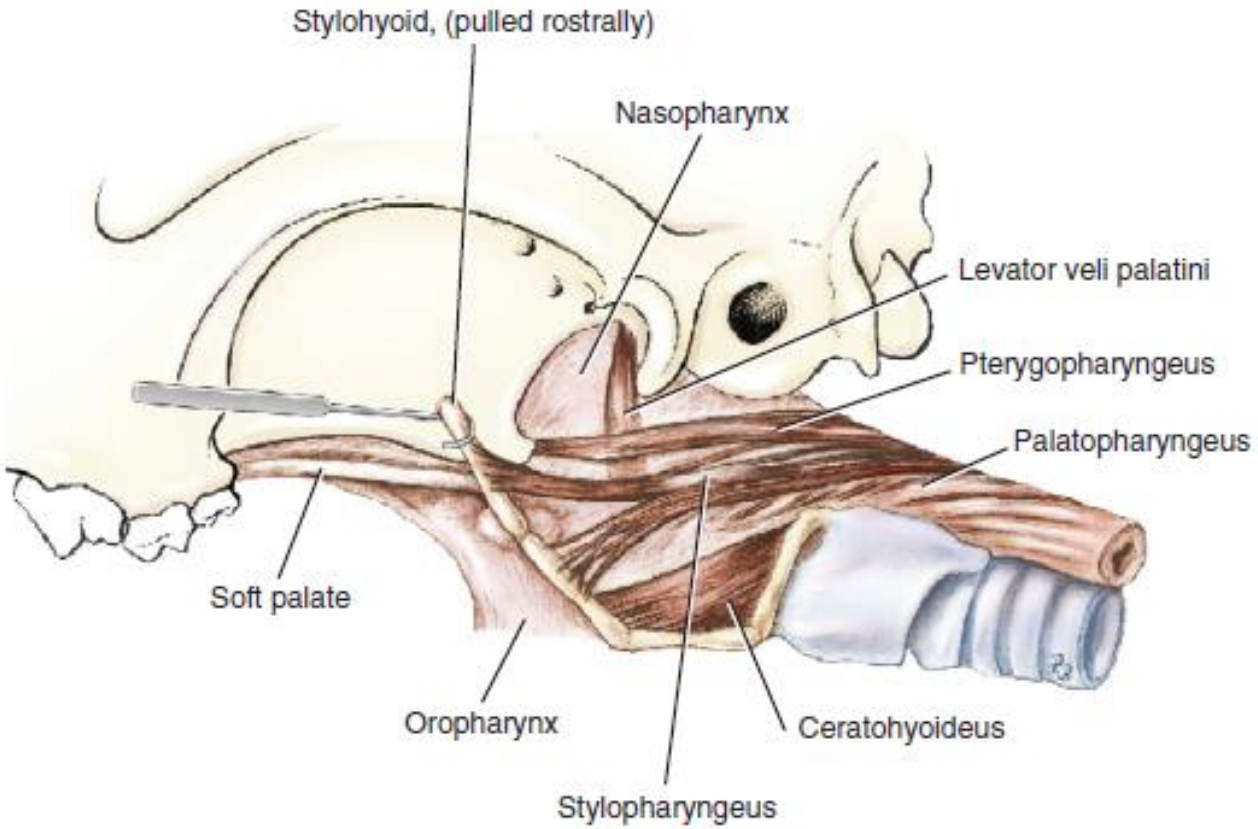
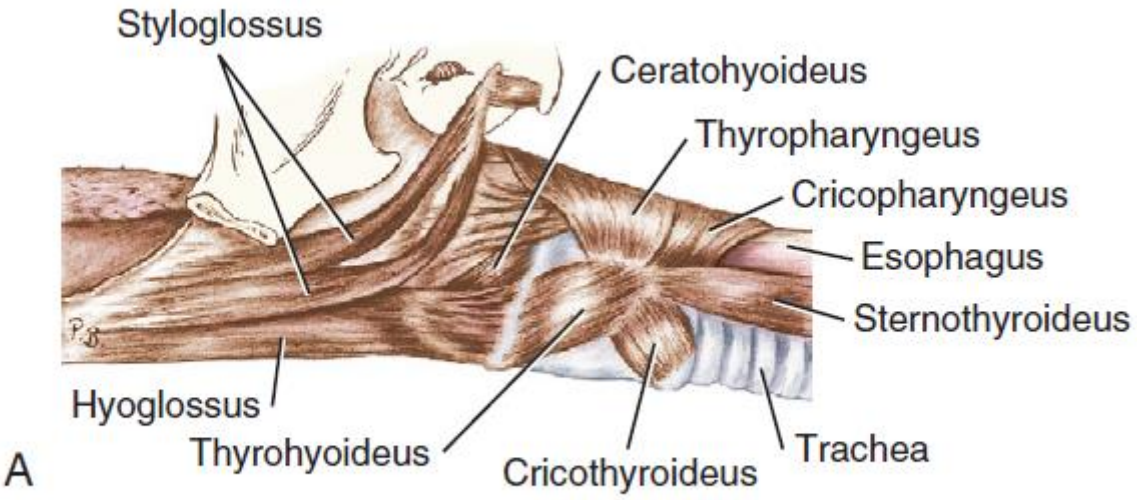
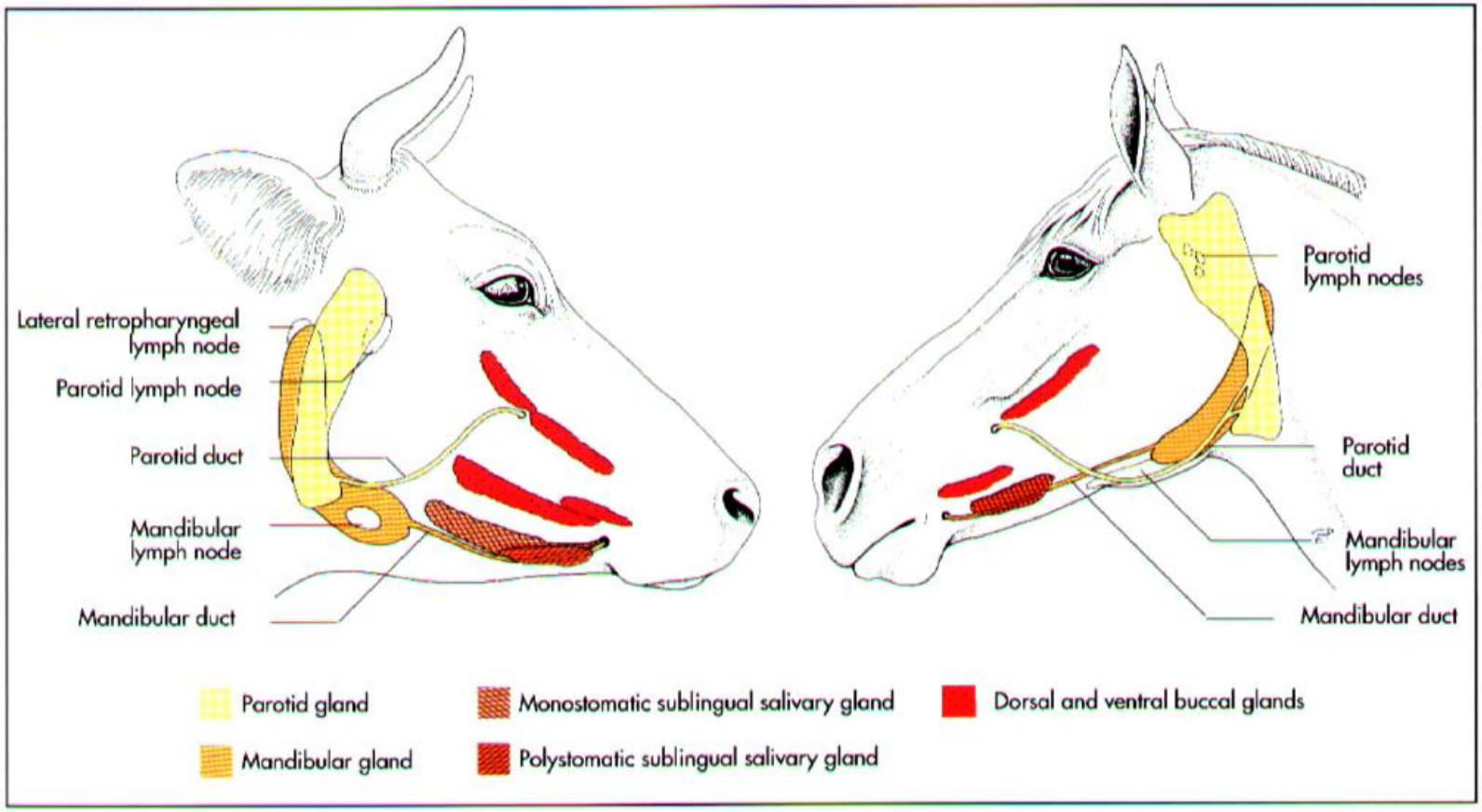


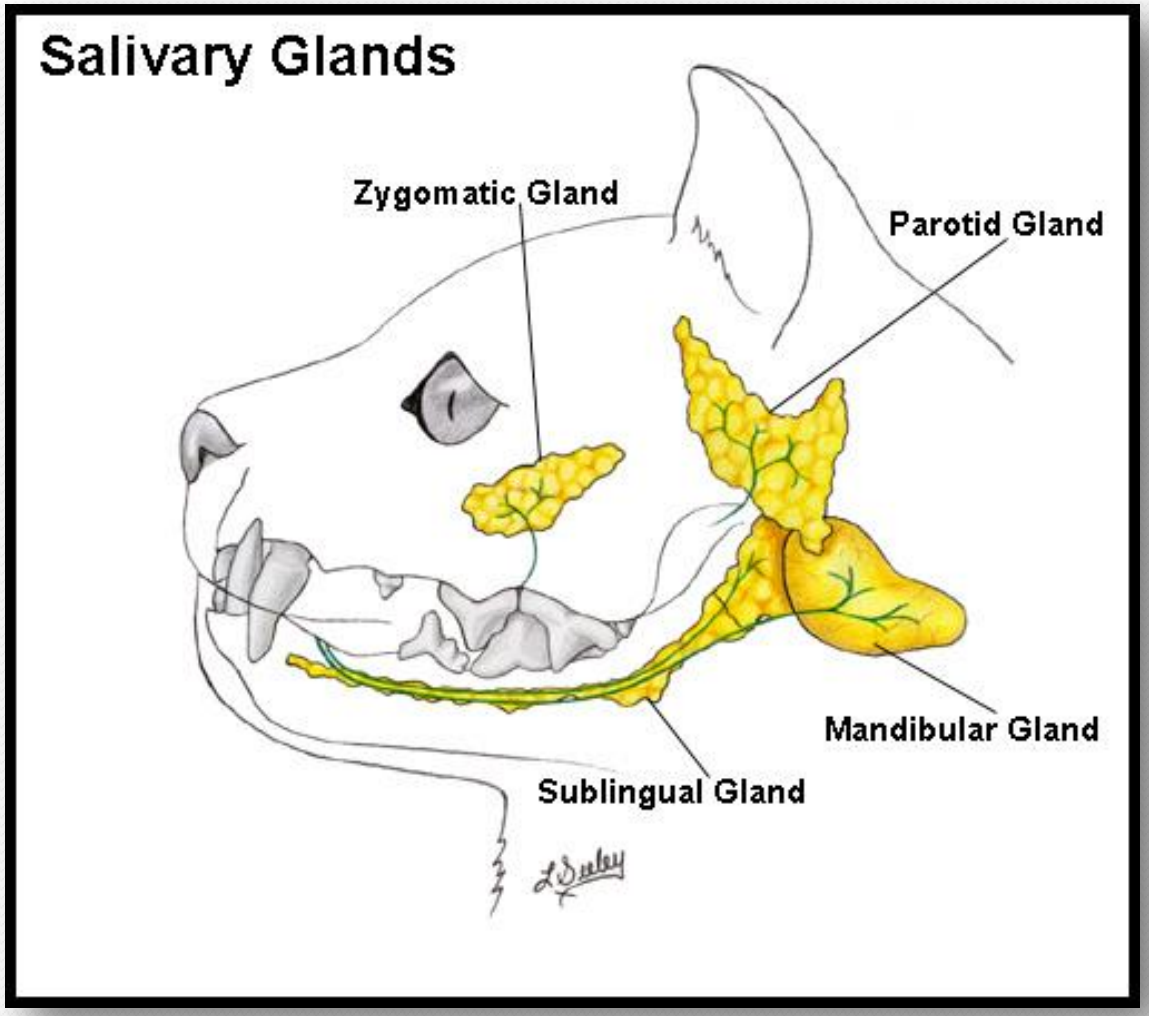
FIGURE 6-17 Muscles of the pharynx and palate, deep dissection, lateral aspect.

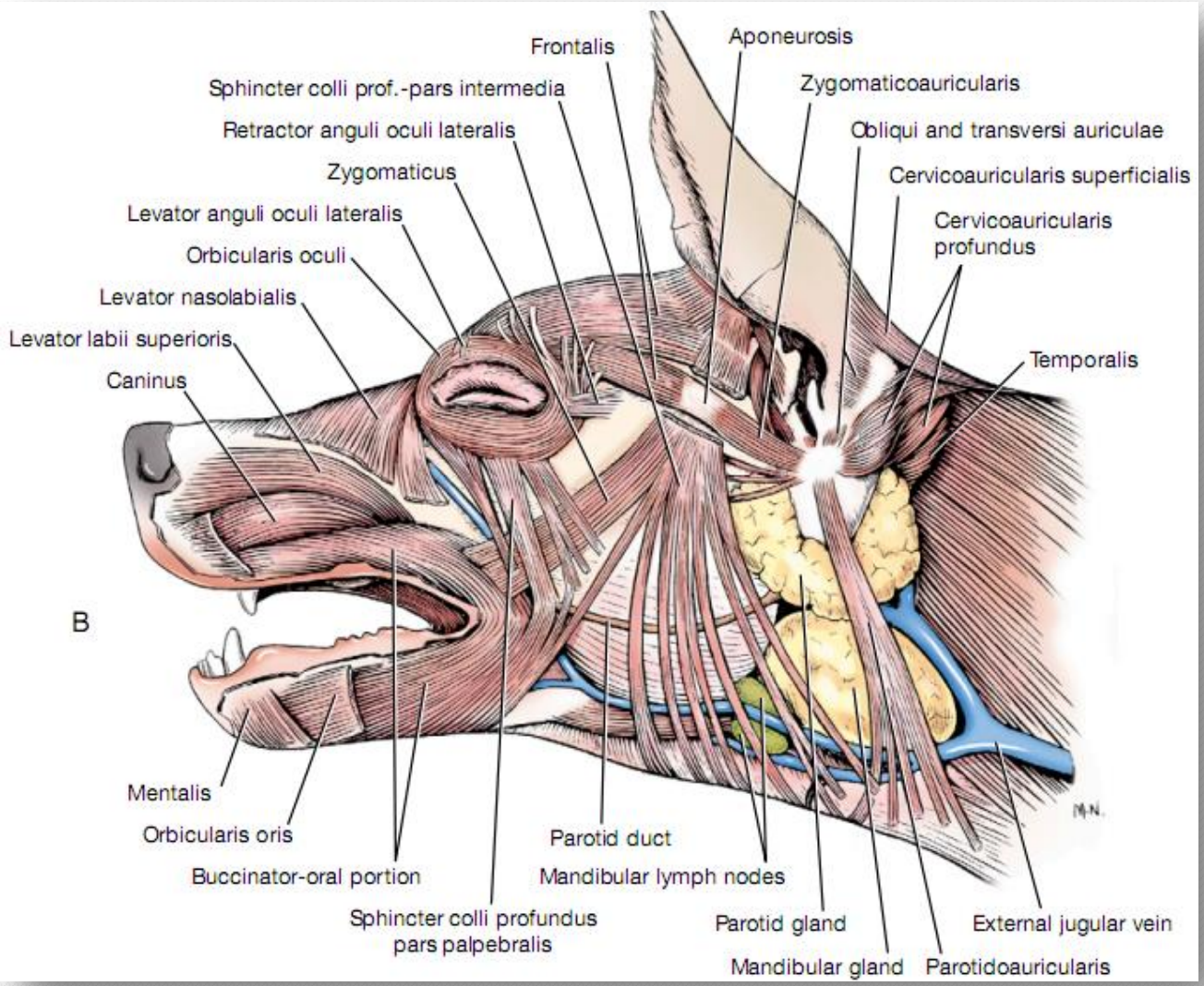

Styloglossus
Ceratohyoideus
Thyropharyngeus
Cricopharyngeus
Esophagus
Sternothyroideus
Hyoglossus
Thyrohyoideus
Cricothyroideus
Trachea
A

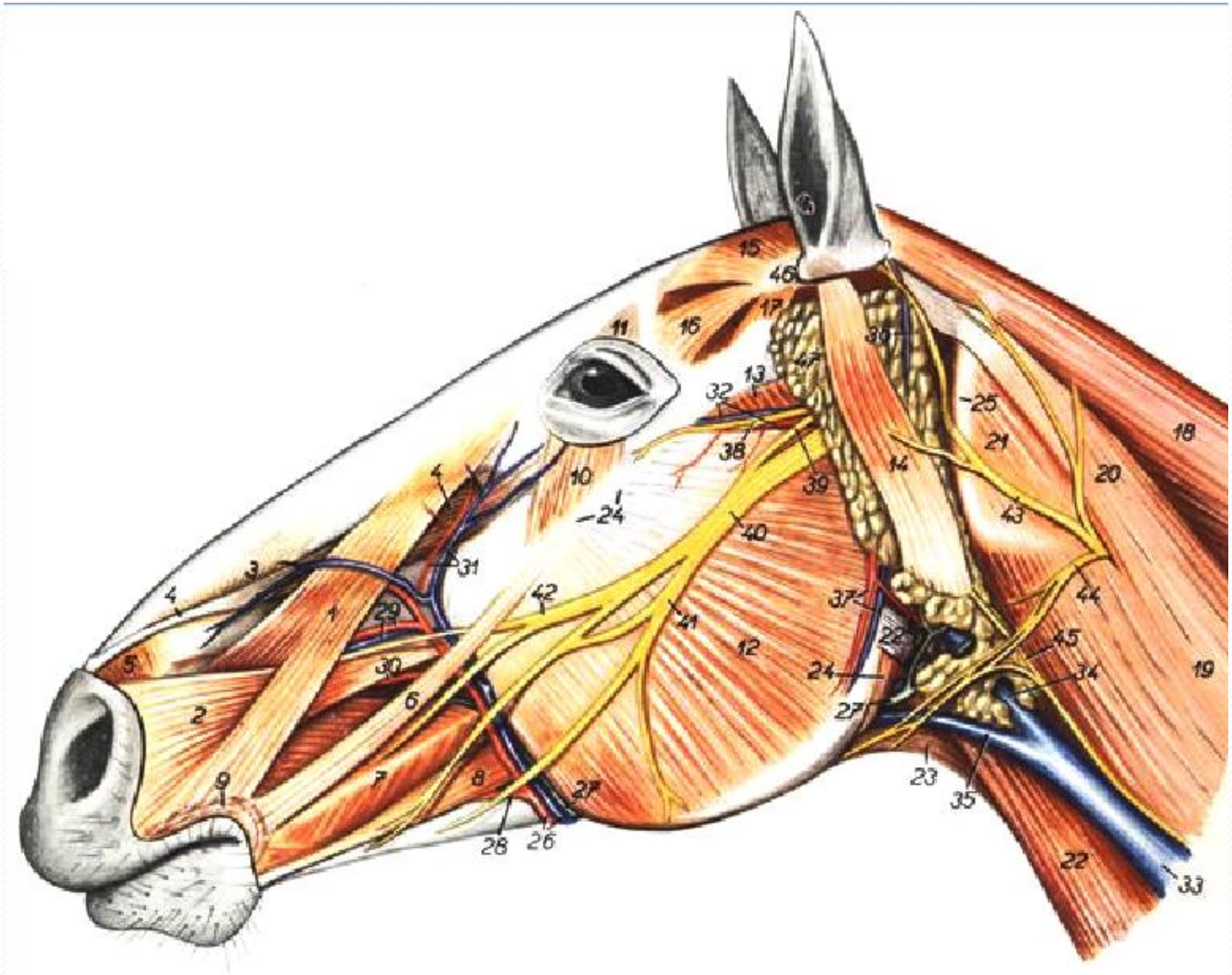
Salivary Glands



Salivary glands of the ox (left) and the horse (right), schematic (Dyce, Sack and Wensing, 1991).


Salivary Glands
Zygomatic Gland
Parotid Gland
Mandibular Gland
Sublingual Gland


Frontalis
Aponeurosis
Sphincter colli prof.-pars intermedia
Zygomaticoauricularis
Retractor anguli oculi lateralis
Obliqui and transversi auriculae
Zygomaticus
Cervicoauricularis superficialis
Levator anguli oculi lateralis
Cervicoauricularis profundus
Orbicularis oculi
Levator nasolabialis
Levator labii superioris
Temporalis
Caninus
B
Mentalis
Orbicularis oris
Buccinator-oral portion
Parotid duct
Mandibular lymph nodes
Sphincter colli profundus pars palpebralis
Parotid gland
External jugular vein
Mandibular gland
Parotidoauricularis


15
46
17
16
11
39
47
13
32
25
18
21
38
14
20
10
39
24
43
40
4
3
31
42
44
37
1
29
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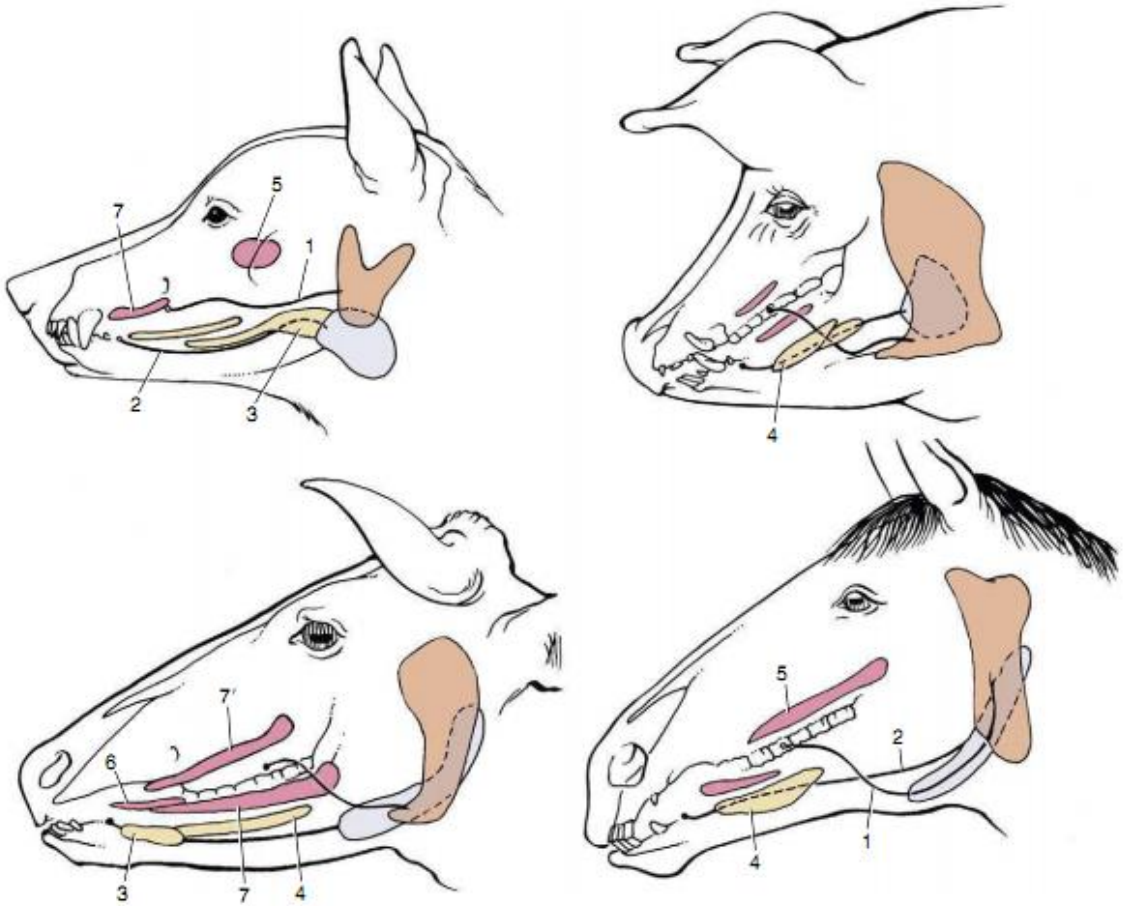
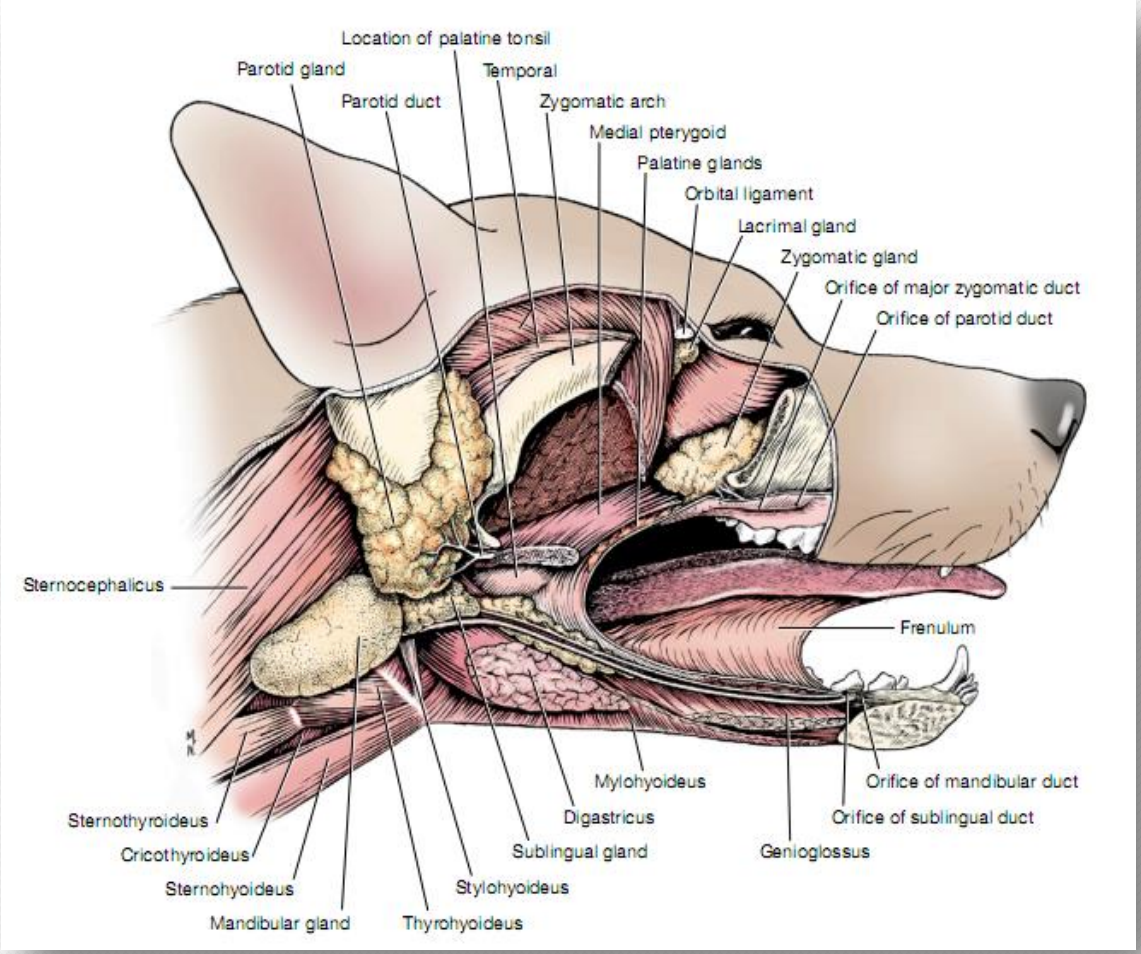


Figure 3–11 The major salivary glands of the dog, pig, cattle, and horse. *Orange:* parotid gland; *white:* mandibular gland; *yellow:* sublingual glands; *red:* buccal glands. *1,* Parotid duct; *2,* mandibular duct; *3,* compact (monostomatic) part of sublingual gland; *4,* diffuse (polystomatic) part of sublingual gland; *5,* dorsal buccal glands (zygomatic gland in the dog); *6,* middle buccal glands; *7,* ventral buccal glands; *7'*, middle buccal gland.

Mandibular Gland



Sublingual Gland

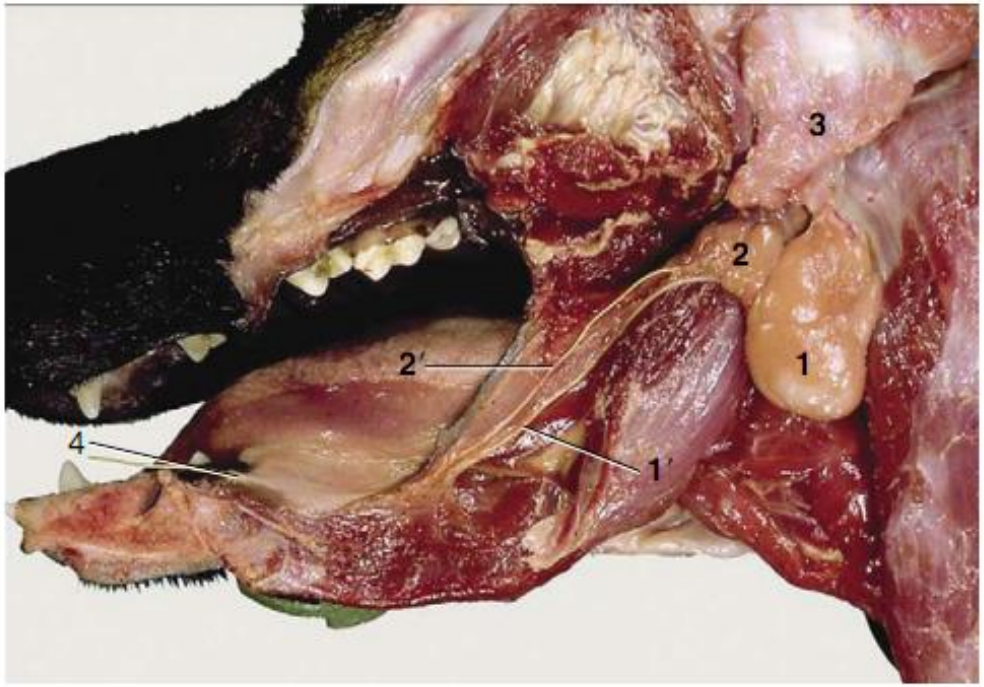


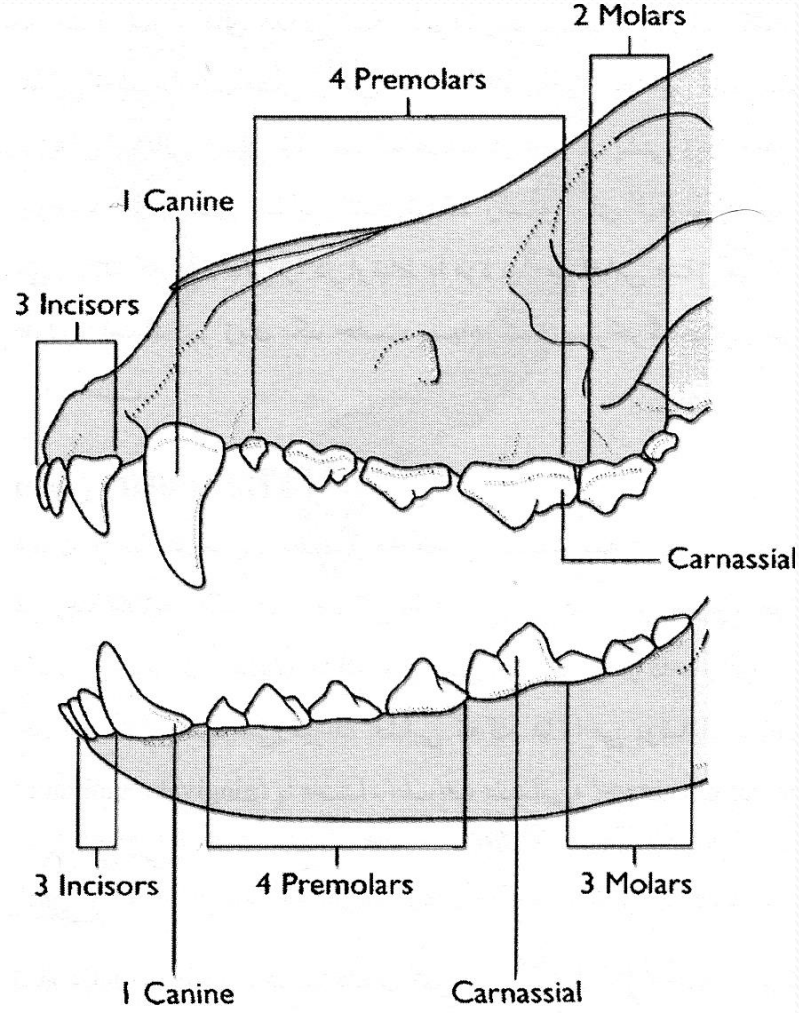
Figure 11–14 Salivary glands. *1,* Mandibular gland; *1′,* mandibular duct; *2,* sublingual gland, monostomatic part; *2′,* its duct; *3,* parotid gland; *4,* sublingual caruncle.

Teeth

- Dental arch (upper-lower)
- Mouth (vestibule-m.proper cavity)
- Labial Buccal
- Teeth
  polyphyodont
  diphyodont
  monodont
- Hypsodont Brachyodont

- Teeth Permanent
- Decidous

- Homodont Heterodont


2 Molars
4 Premolars
1 Canine
3 Incisors
Carnassial
3 Incisors
4 Premolars
3 Molars
1 Canine
Carnassial

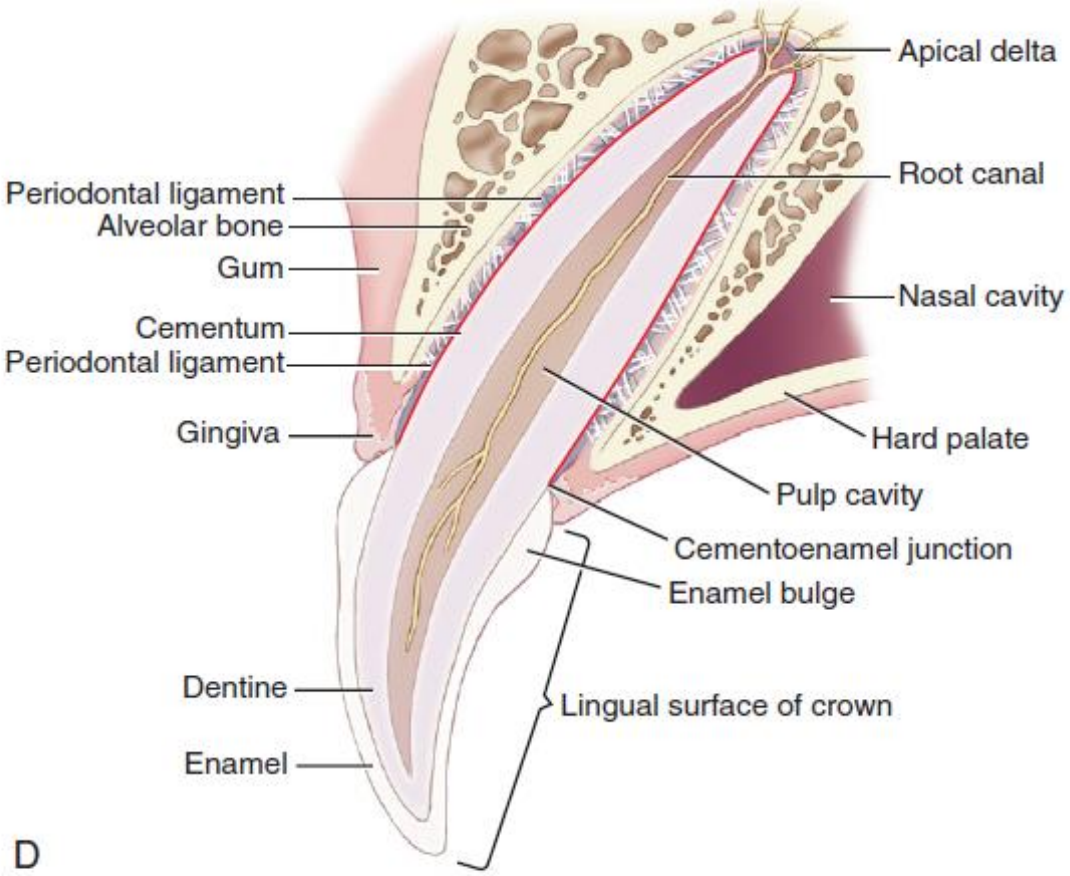
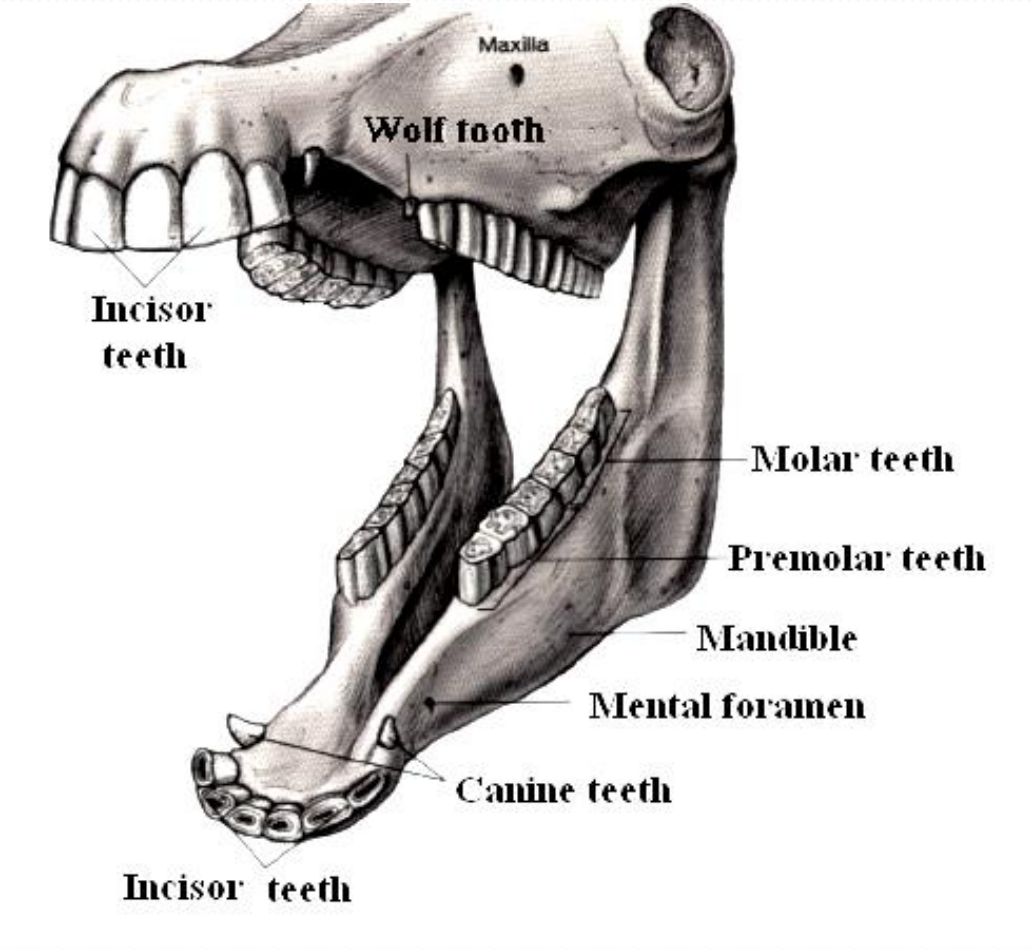


FIGURE 7-7 **A**, Superimposition of superior and inferior dental arches. (Superior teeth in light pink bite lateral to the inferior teeth.) **B**, Bite of the incisor and canine teeth; note that the inferior canine tooth bites rostral to the superior canine. **C**, Bite of the shearing teeth. Medial view, right dentition. **D**, Diagrammatic section through a superior canine of an adult dog.


Maxilla
Wolf tooth
Incisor teeth
Molar teeth
Premolar teeth
Mandible
Mental foramen
Canine teeth
Incisor teeth

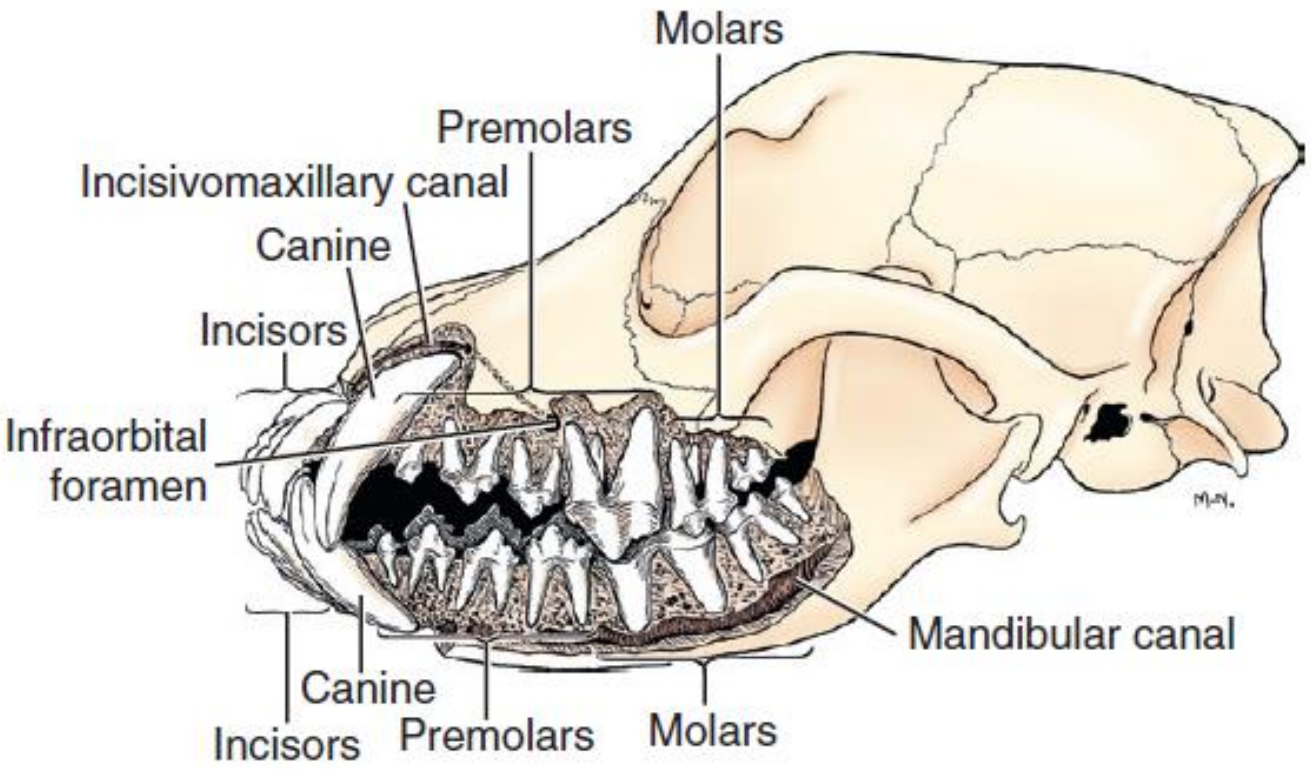
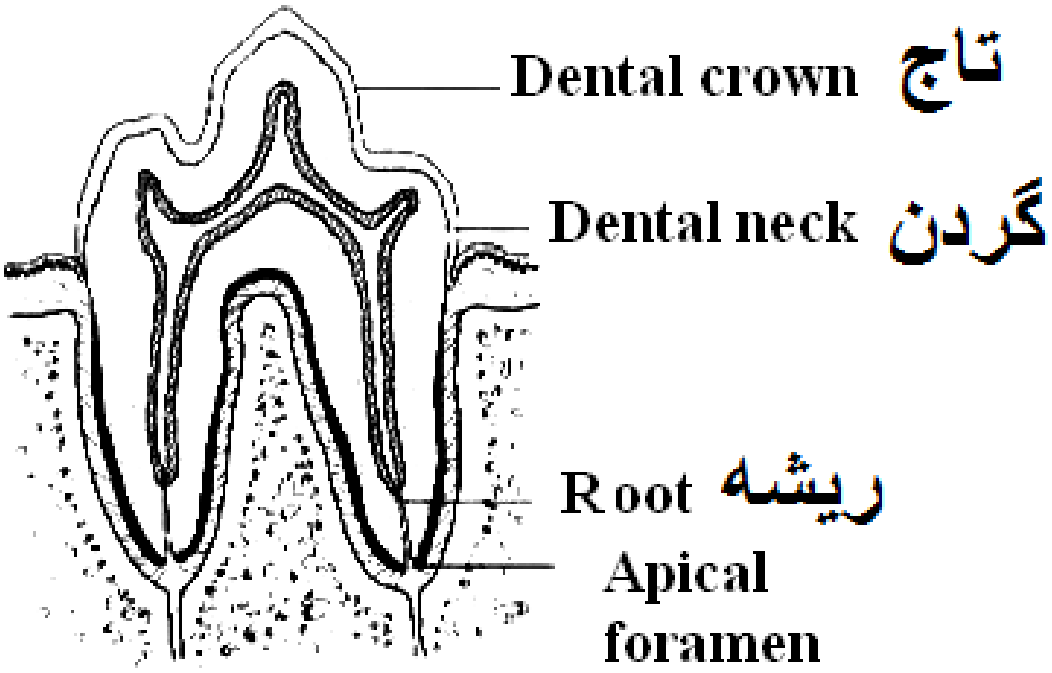
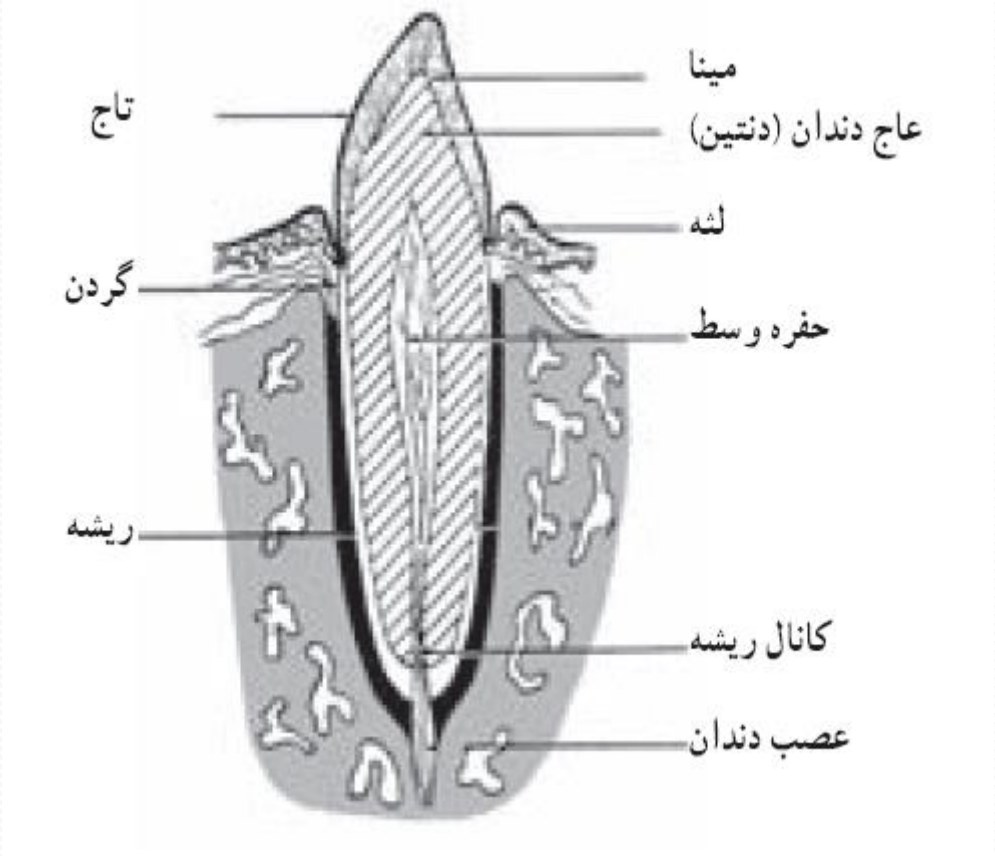


FIGURE 7-4 Jaws and teeth of an adult dog. Lateral view of jaws, sculpted to show tooth roots.



Canine M1


مینا
تاج
عاج دندان (دنتین)
لثه
گردن
حفره وسط
ریشه
کانال ریشه
عصب دندان

Teeth surfaces

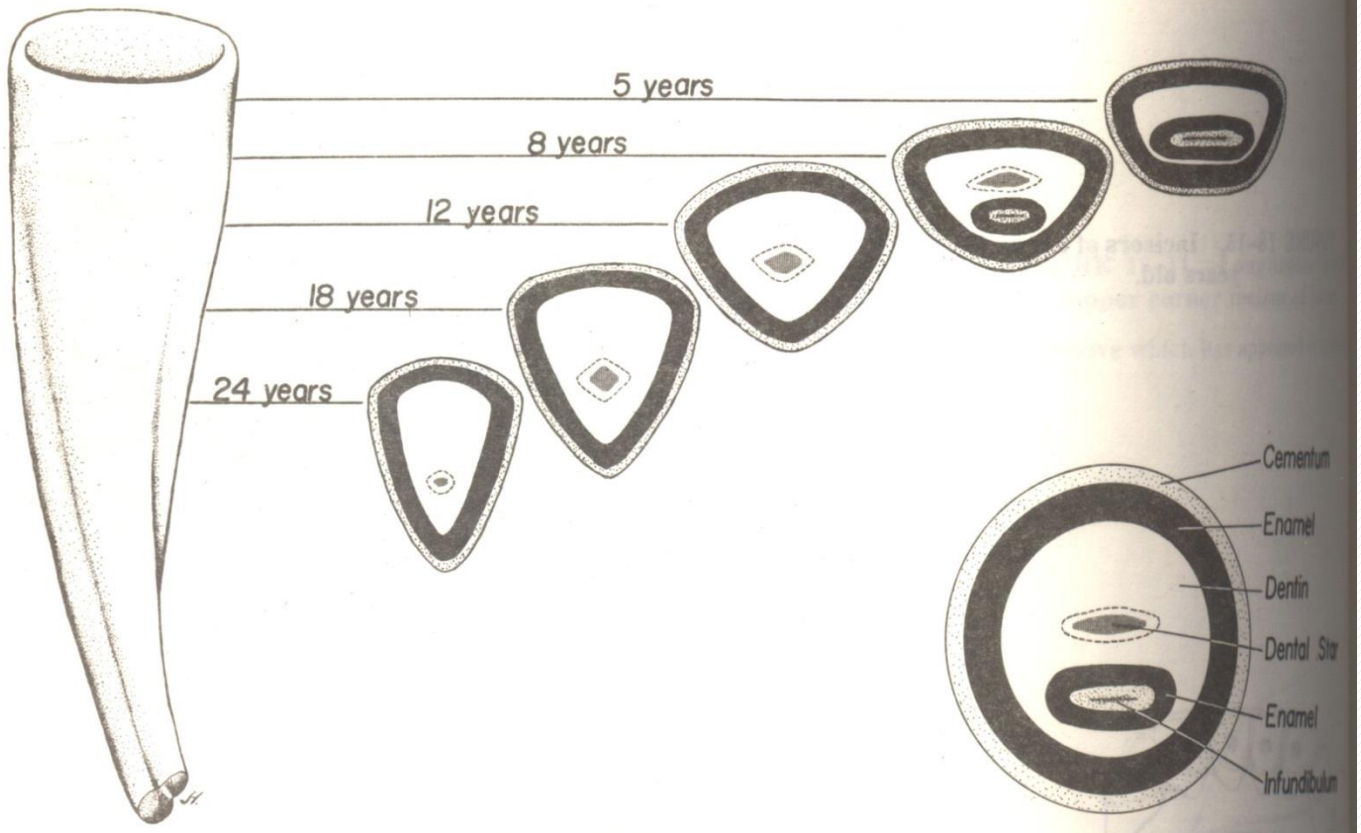
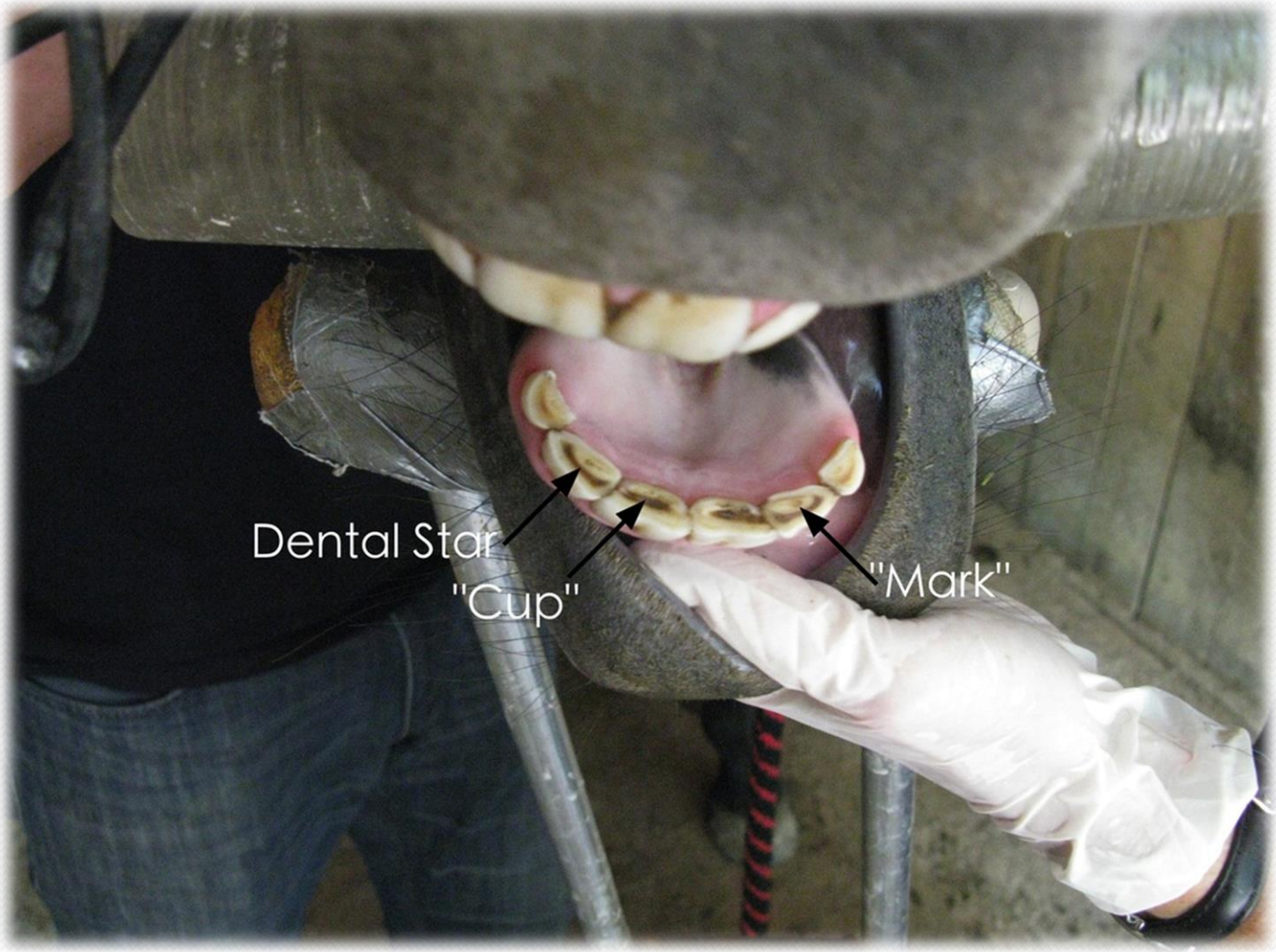
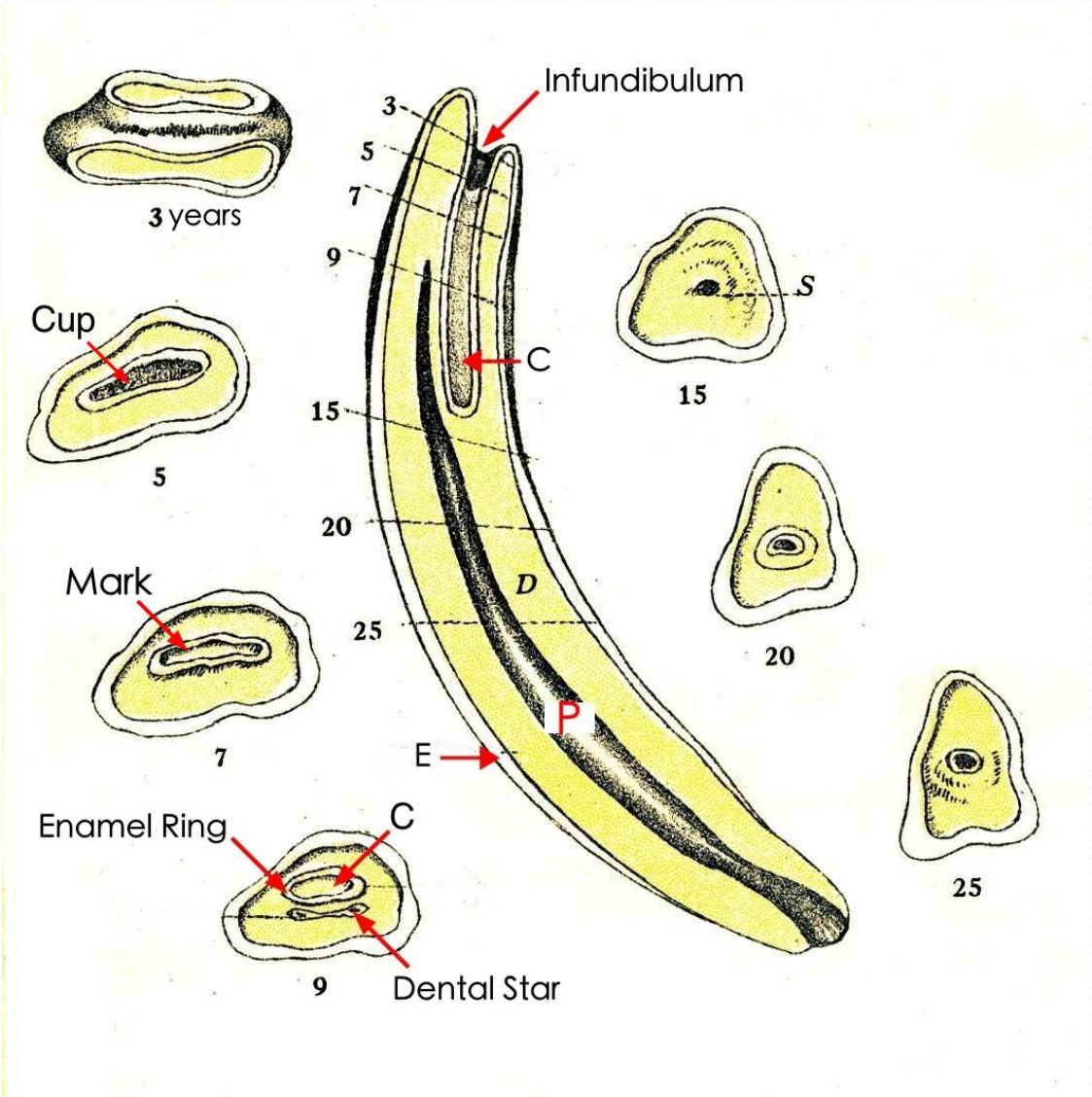
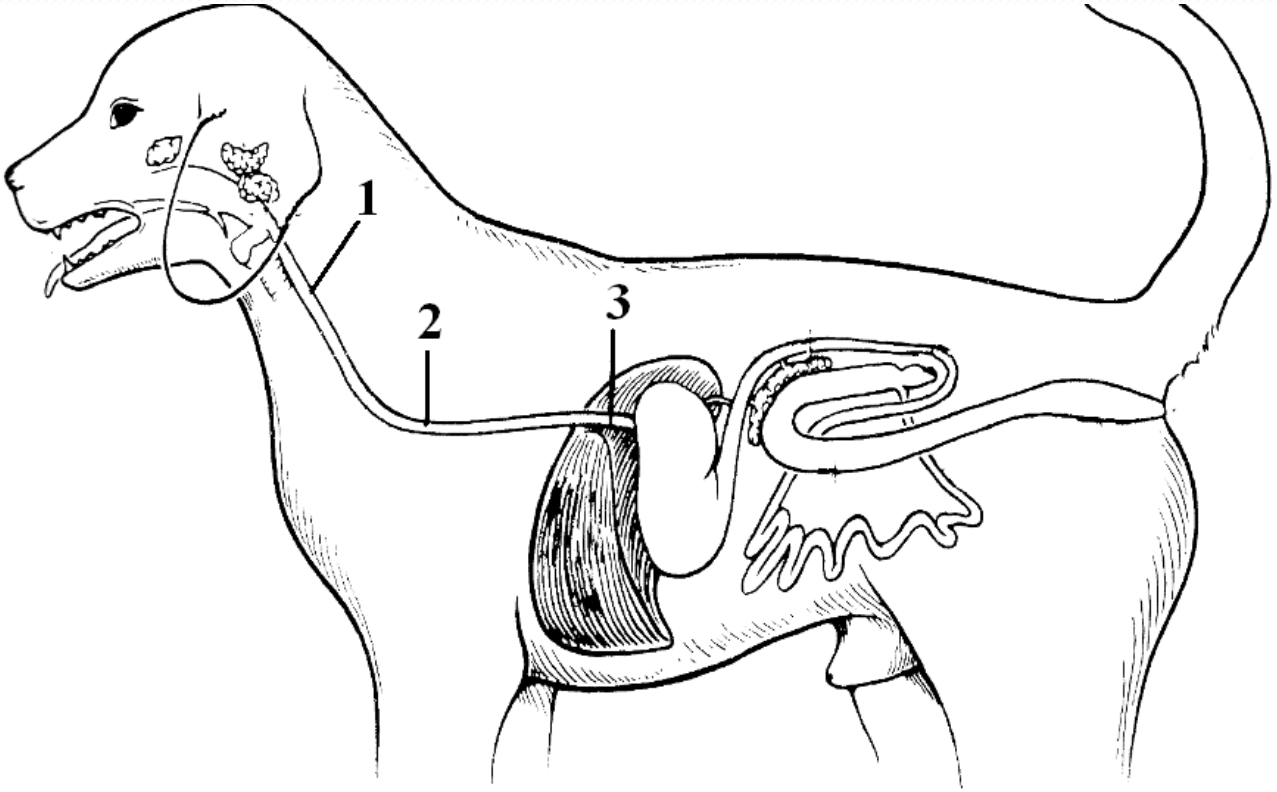


FIGURE 18–19. Schema of occlusal (table) surface of I_1 correlated with age of horse.

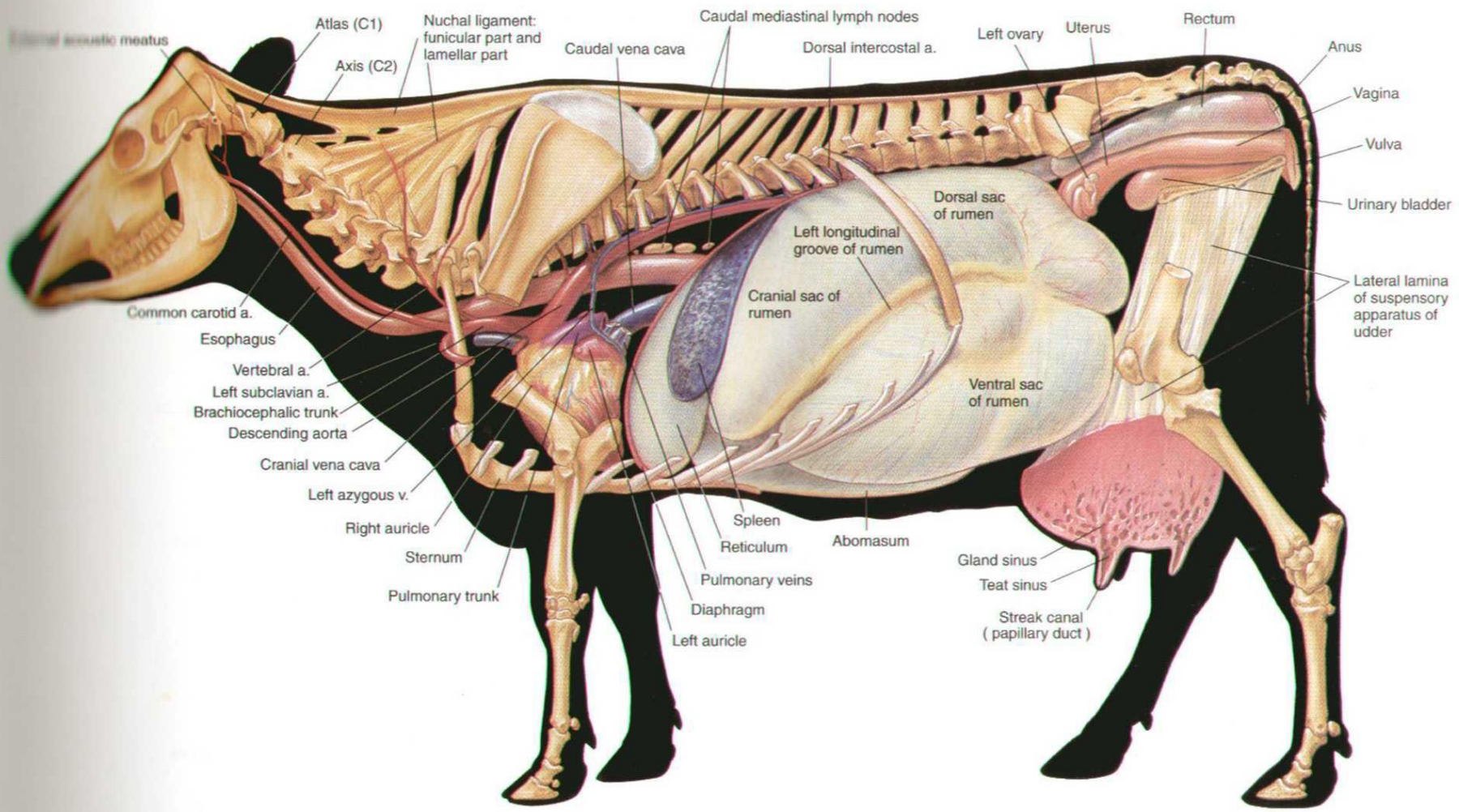

Dental Star
"Cup"
"Mark"

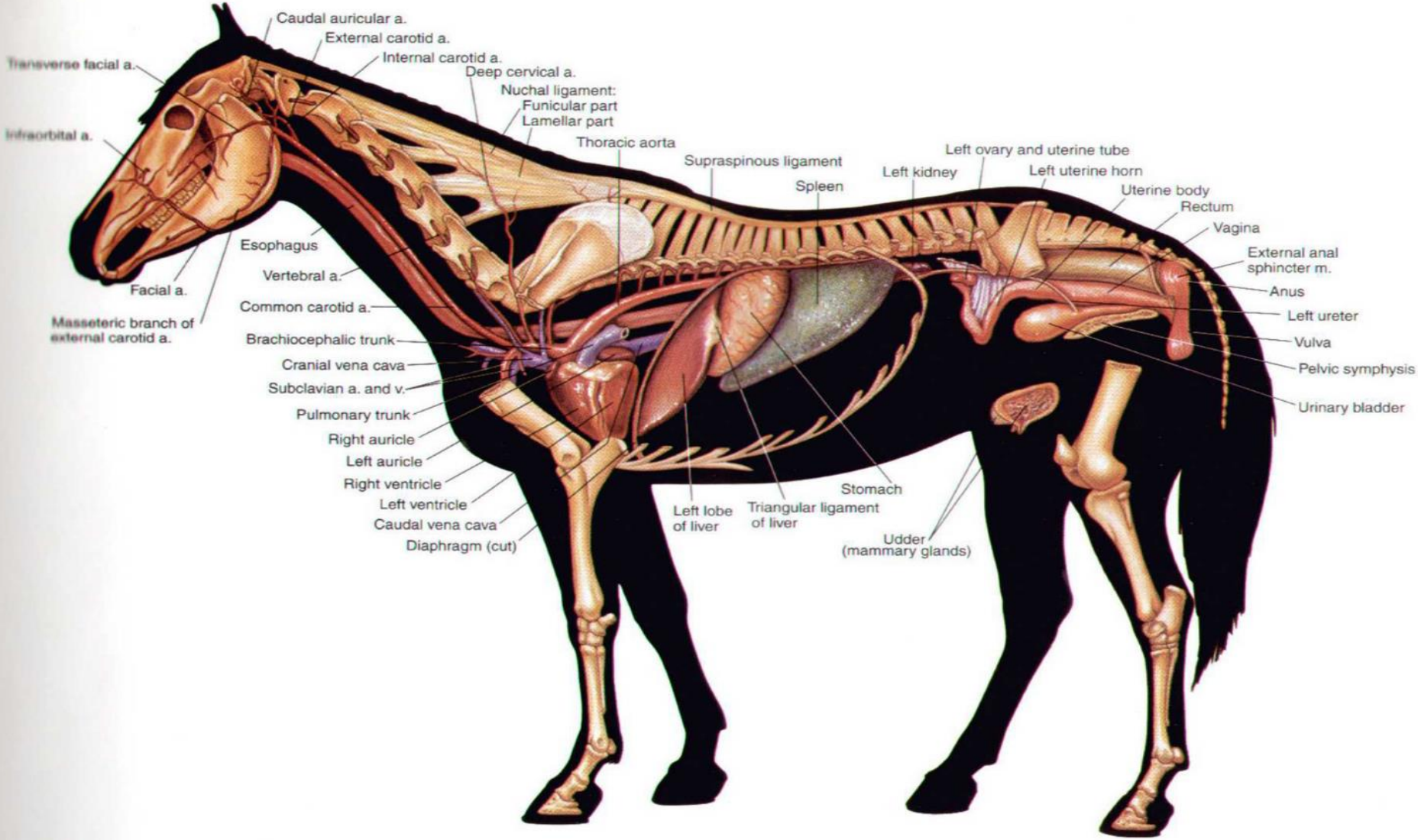

Infundibulum
3
5
7
9
15
20
25
C
D
P
E
S
3 years
Cup
5
Mark
7
Enamel Ring
C
9
Dental Star
15
20
25

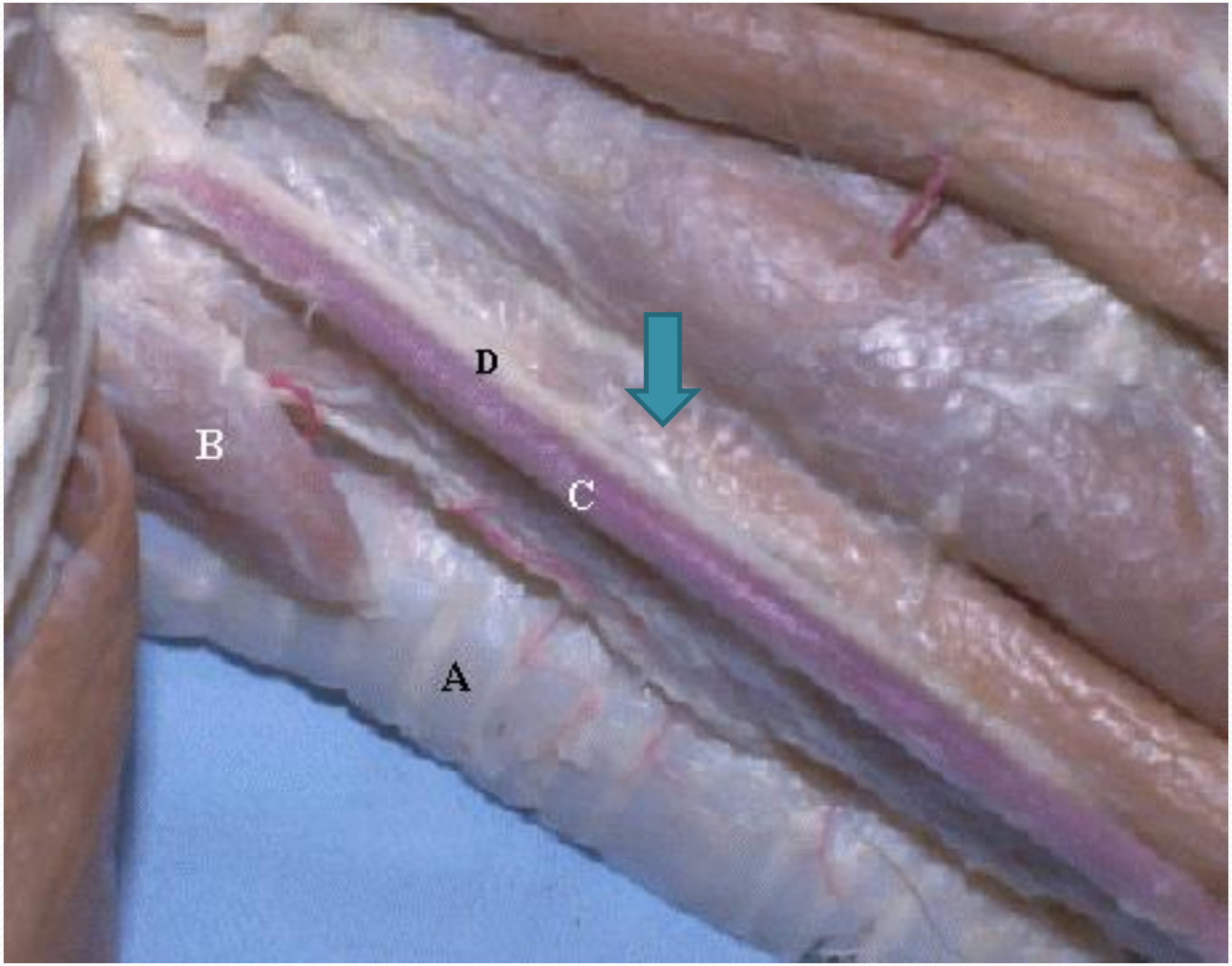
Esophagus



1)Cervical part 2)Thoracic part 3)Abdominal part


External acoustic meatus
Atlas (C1)
Axis (C2)
Nuchal ligament: funicular part and lamellar part
Caudal vena cava
Caudal mediastinal lymph nodes
Dorsal intercostal a.
Left ovary
Uterus
Rectum
Anus
Vagina
Vulva
Urinary bladder
Dorsal sac of rumen
Left longitudinal groove of rumen
Cranial sac of rumen
Lateral lamina of suspensory apparatus of udder
Ventral sac of rumen
Common carotid a.
Esophagus
Vertebral a.
Left subclavian a.
Brachiocephalic trunk
Descending aorta
Cranial vena cava
Left azygous v.
Right auricle
Sternum
Pulmonary trunk
Spleen
Reticulum
Abomasum
Pulmonary veins
Diaphragm
Left auricle
Gland sinus
Teat sinus
Streak canal (papillary duct)


Caudal auricular a.
External carotid a.
Internal carotid a.
Deep cervical a.
Nuchal ligament:
Funicular part
Lamellar part
Transverse facial a.
Infraorbital a.
Thoracic aorta
Supraspinous ligament
Spleen
Left kidney
Left ovary and uterine tube
Left uterine horn
Uterine body
Rectum
Vagina
External anal sphincter m.
Anus
Left ureter
Vulva
Pelvic symphysis
Urinary bladder
Esophagus
Vertebral a.
Facial a.
Common carotid a.
Masseteric branch of external carotid a.
Brachiocephalic trunk
Cranial vena cava
Subclavian a. and v.
Pulmonary trunk
Right auricle
Left auricle
Right ventricle
Left ventricle
Caudal vena cava
Diaphragm (cut)
Stomach
Left lobe of liver
Triangular ligament of liver
Udder (mammary glands)


D
B
C
A

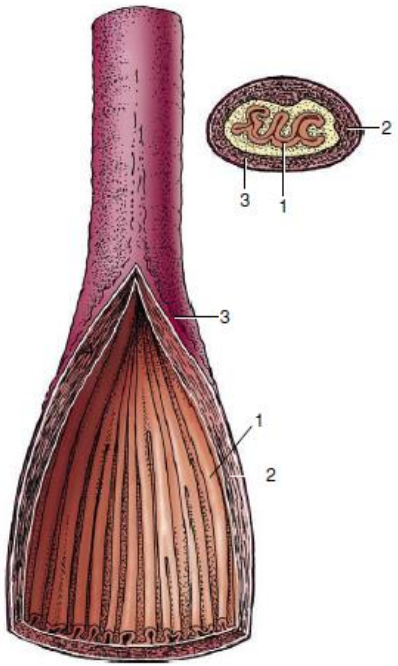


Figure 3–30 Semischematic drawing of the structure of the esophagus, sectioned longitudinally and transversely. *1,* Mucosa; *2,* muscular layer (longitudinal and circular); *3,* adventitia.

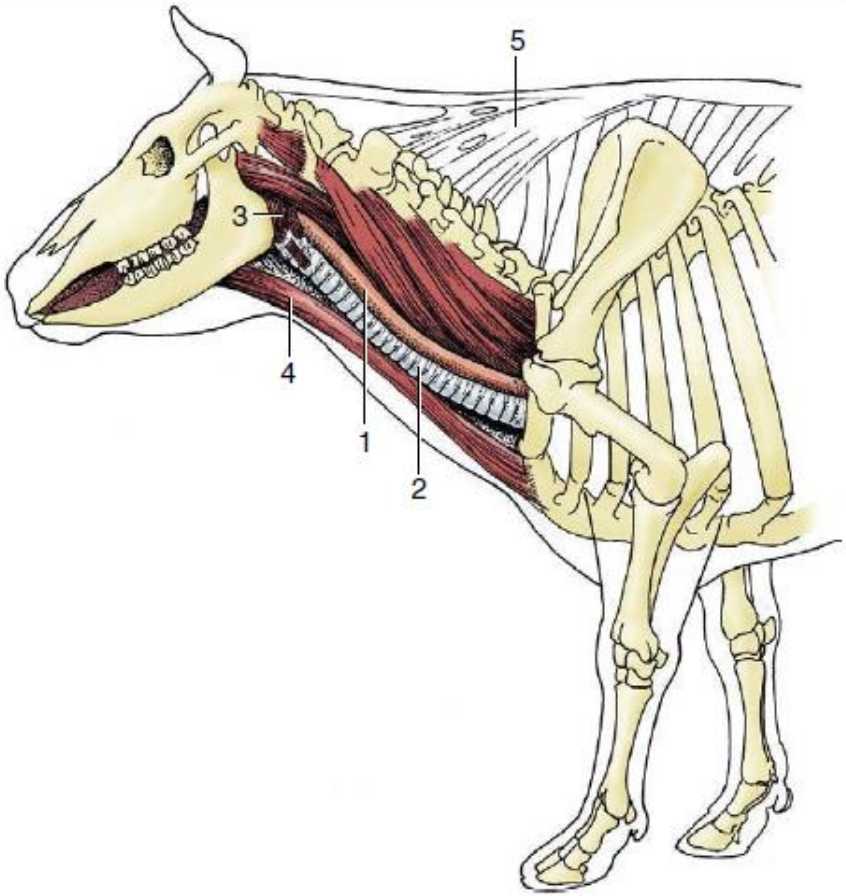
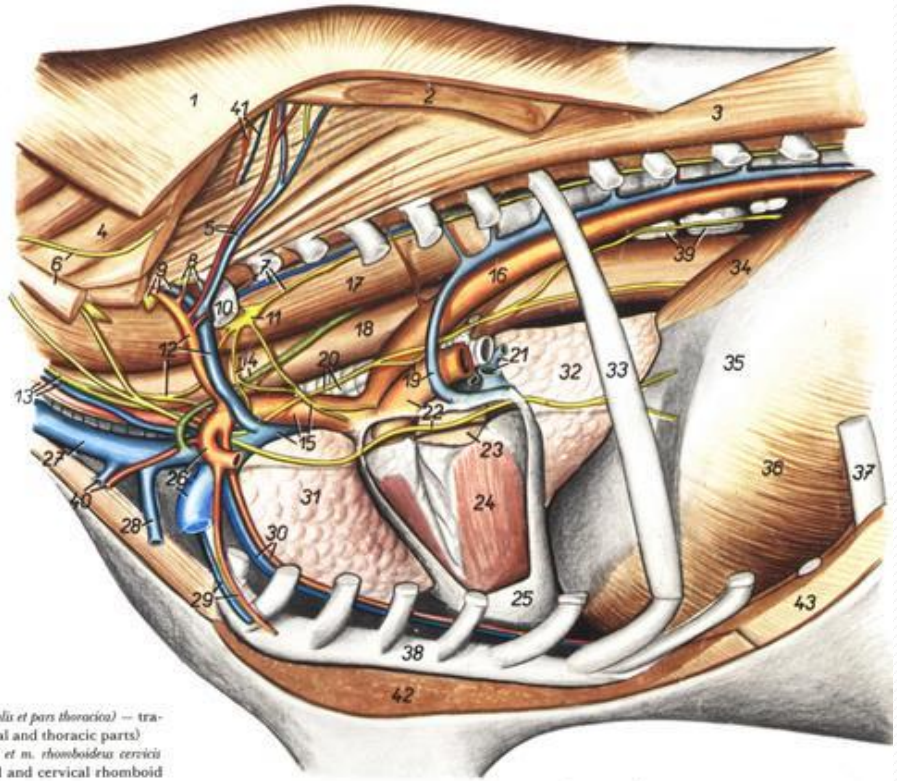


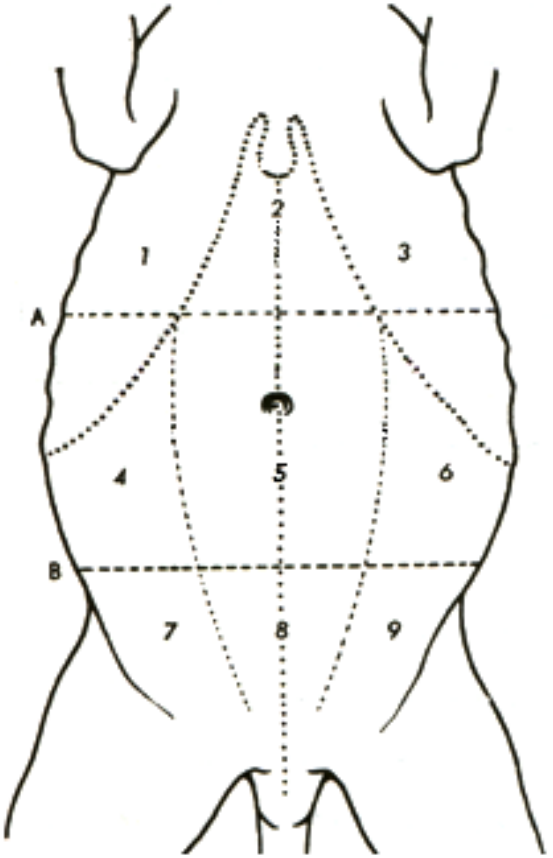
Figure 3–29 Lateral view of the bovine neck. In midneck the esophagus lies on the left dorsolateral aspect of the trachea. *1,* Esophagus; *2,* trachea; *3,* pharyngeal musculature; *4,* sternocephalicus muscle; *5,* nuchal ligament.

Bovine. Dissection of thorax with pleura removed revealing viscera, left view.

Figure 10



1. *m. trapezius (pars cervicalis et pars thoracica)* — trapezius muscle (cervical and thoracic parts)
2. *m. rhomboideus thoracis et m. rhomboideus cervicis* — thoracic rhomboid and cervical rhomboid muscles
3. *m. longissimus thoracis* — longissimus thoracis muscle
4. *m. serratus ventralis cervicis* — cervical ventral serratus muscle
5. *a. et v. scapularis dorsalis* — dorsal scapular artery and vein
6. *m. scalenus dorsalis, n. accessorius* — dorsal scalenus muscle, accessory nerve
7. *a. et v. intercostalis suprema, truncus sympathicus* — supreme intercostal artery and vein, sympathetic trunk
8. *n. cervicalis VIII, a. et v. cervicalis profunda* — eighth cervical nerve, deep cervical artery and vein
9. *n. cervicalis VII, a. et v. vertebralis* — seventh cervical nerve, vertebral artery and vein
10. *costa I* — first rib
11. *ganglion stellatum (s. cervicothoracicum)* — stellate ganglion (same as cervicothoracic)
12. *truncus costocervicalis, v. costocervicalis, ganglion cervicale medium* — costocervical trunk, costocervical vein, middle cervical ganglion
13. *truncus vagosympathicus, a. carotis communis, v. jugularis interna* — vagosympathetic trunk, common carotid artery, internal jugular vein
14. *ansa subclavia, ductus thoracicus* — ansa subclavia, thoracic duct
15. *v. cava cranialis, truncus brachiocephalicus, n. cardiacus thoracicus* — cranial vena cava, brachiocephalic trunk, thoracic cardiac nerve
16. *aorta thoracica* — thoracic aorta
17. *m. longus colli* — longus colli muscle
18. *esophagus* — esophagus
19. *n. laryngeus recurrens sinister, v. azygos sinistra* — left recurrent laryngeal nerve, left azygos vein
20. *n. vagus, trachea* — vagus nerve, trachea
21. *vv. pulmonales* — pulmonary veins
22. *truncus pulmonalis, n. phrenicus* — pulmonary trunk, phrenic nerve
23. *auricula sinistra cordis* — left auricle of heart
24. *ventriculus sinister cordis* — left ventricle of heart
25. *pericardium* — pericardium
26. *a. et v. subclavia sinistra* — left subclavian artery and vein
27. *v. jugularis externa* — external jugular vein
28. *v. cephalica* — cephalic vein
29. *a. et v. thoracica externa* — external thoracic artery and vein
30. *a. et v. thoracica interna* — internal thoracic artery and vein
31. *pars cranialis lobi cranialis pulmonis dextri* — cranial part of cranial lobe of right lung
32. *lobus accessorius pulmonis* — accessory lobe of lung
33. *costa VII* — seventh rib
34. *crus mediale sinistrum diaphragmatis* — left medial crus of diaphragm
35. *centrum tendineum diaphragmatis* — central tendon of diaphragm
36. *pars costalis diaphragmatis* — costal part of diaphragm
37. *costa X* — tenth rib
38. *sternum* — sternum
39. *lnn. mediastinales caudales* — caudal mediastinal lymph nodes
40. *a. et v. cervicalis superficialis* — superficial cervical artery and vein
41. *ramus v. et a. cervicalis profundae* — branch of deep cervical artery and vein
42. *m. pectoralis profundus* — deep pectoral muscle
43. *m. obliquus externus abdominis* — external oblique abdominal muscle



2 : Xyphoid Region
1& 3 : Hypochondrial R
5 : Umbilical R
4 & 6 : Left & right flank
8 : Pubic R
7 & 9 : Inguinal R

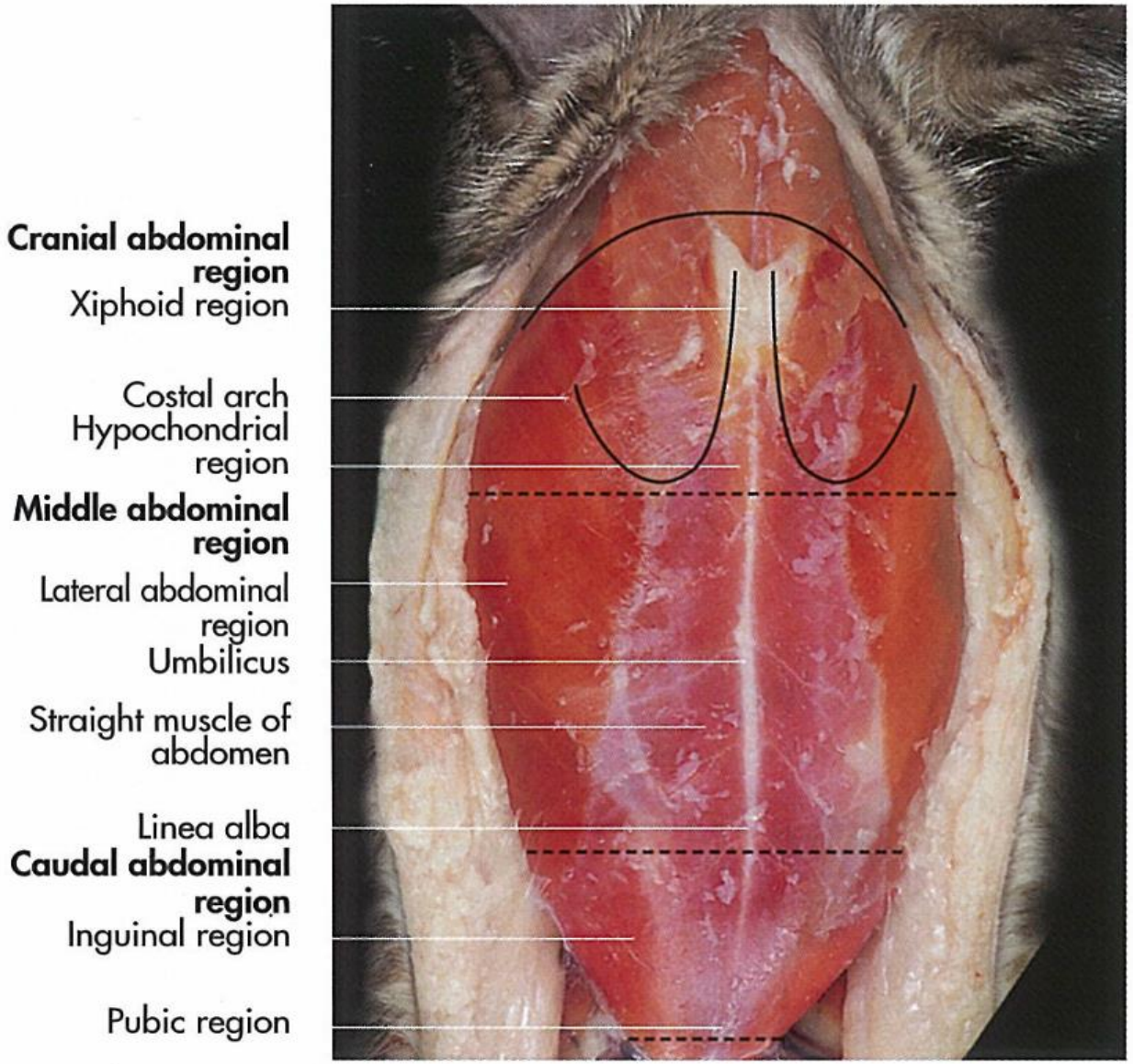
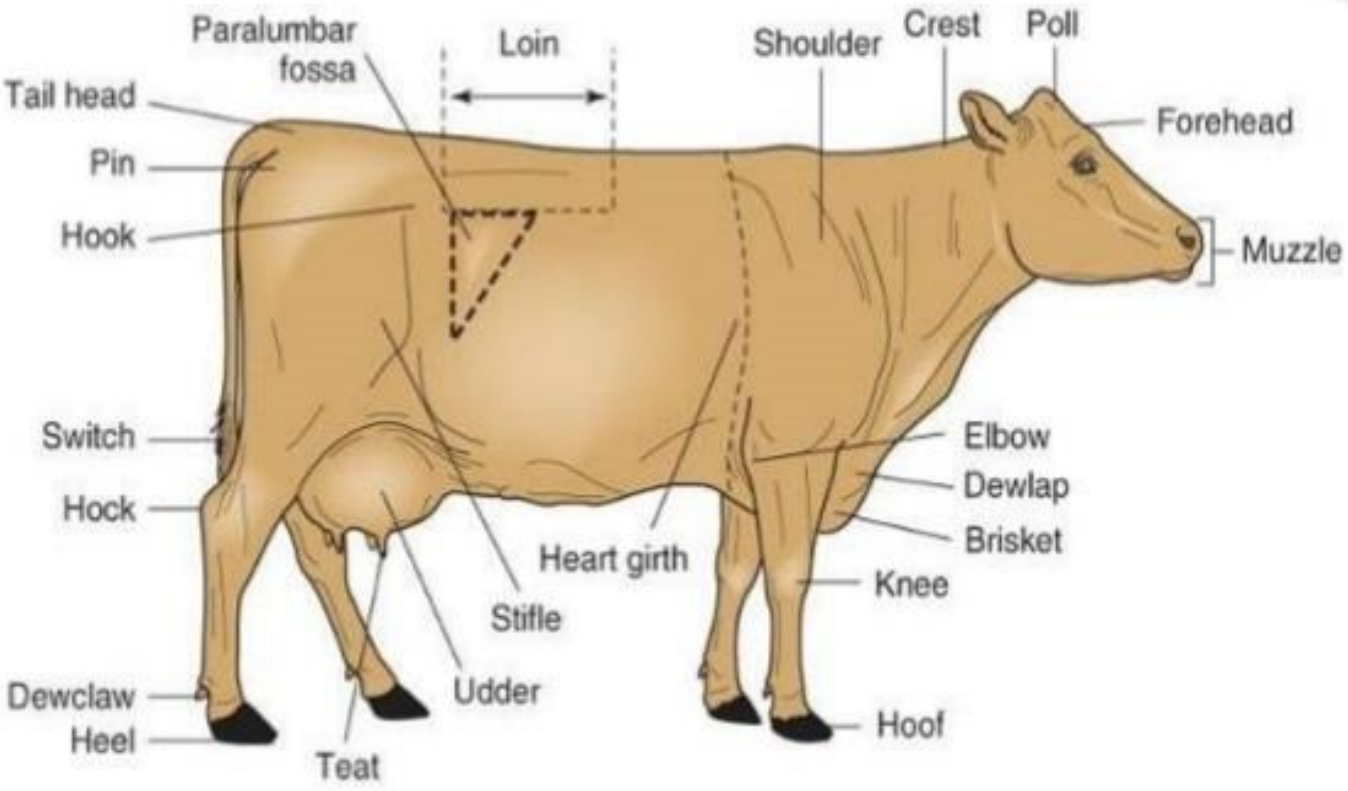
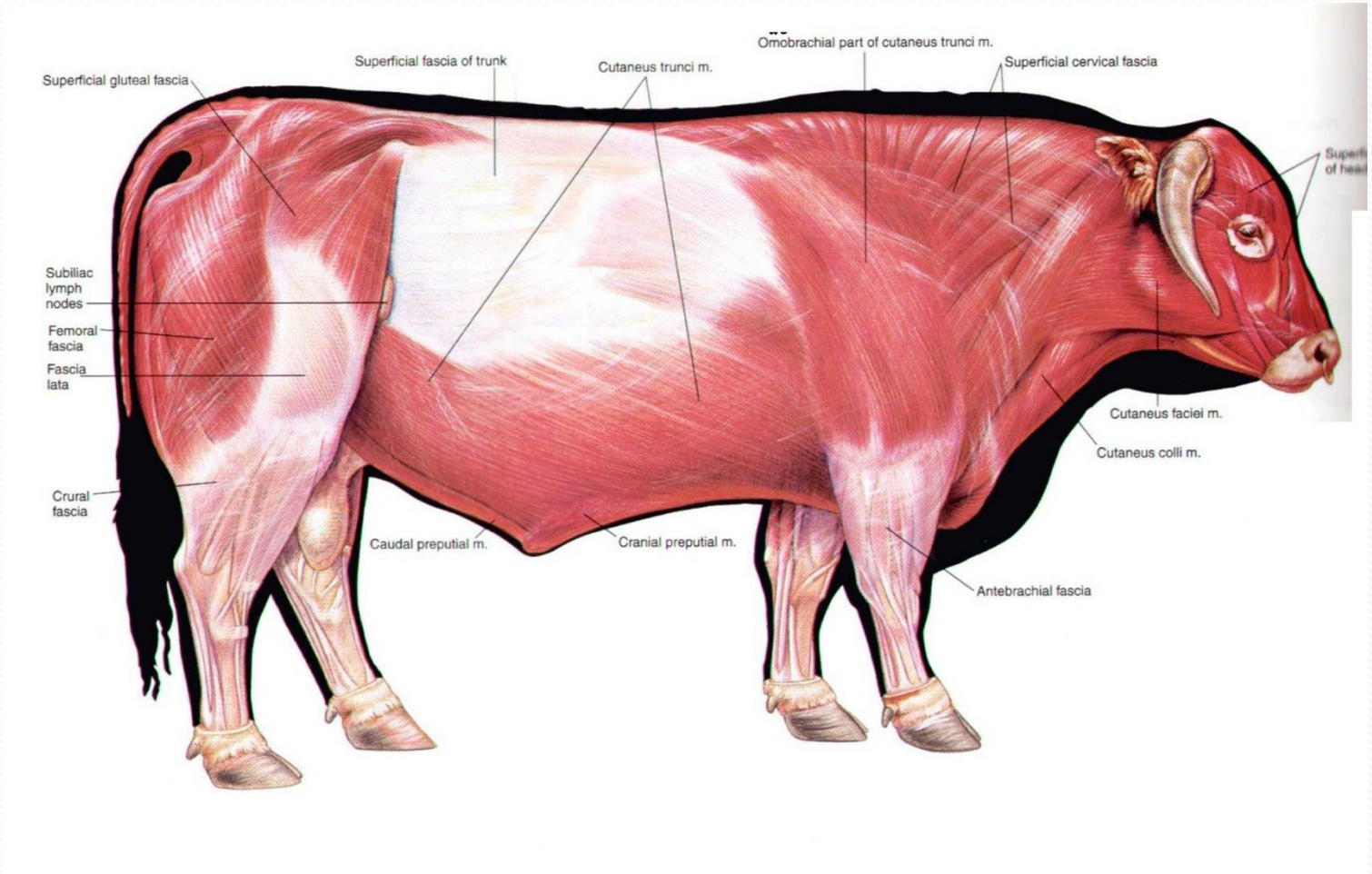


Fig. 6-17. Regions of the ventral abdomen shown on a cat (König, 1992).


Paralumbar fossa
Loin
Shoulder
Crest
Poll
Tail head
Pin
Hook
Forehead
Muzzle
Switch
Hock
Elbow
Dewlap
Brisket
Heart girth
Knee
Stifle
Udder
Dewclaw
Heel
Teat
Hoof


Omobrachial part of cutaneus trunci m.
Superficial fascia of trunk
Cutaneus trunci m.
Superficial cervical fascia
Superficial gluteal fascia
Subiliac lymph nodes
Femoral fascia
Fascia lata
Cutaneus faciei m.
Cutaneus colli m.
Crural fascia
Caudal preputial m.
Cranial preputial m.
Antebrachial fascia

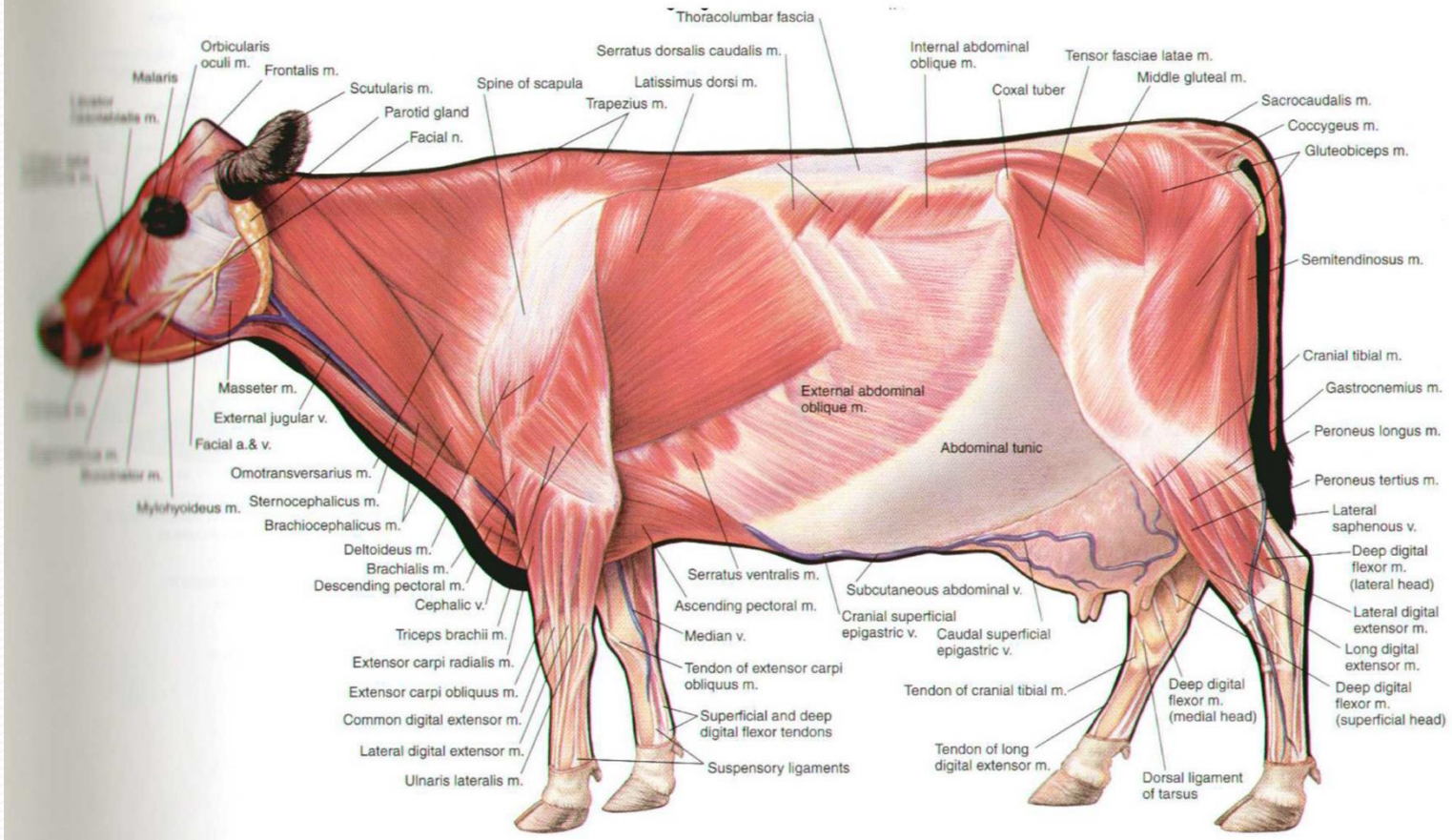
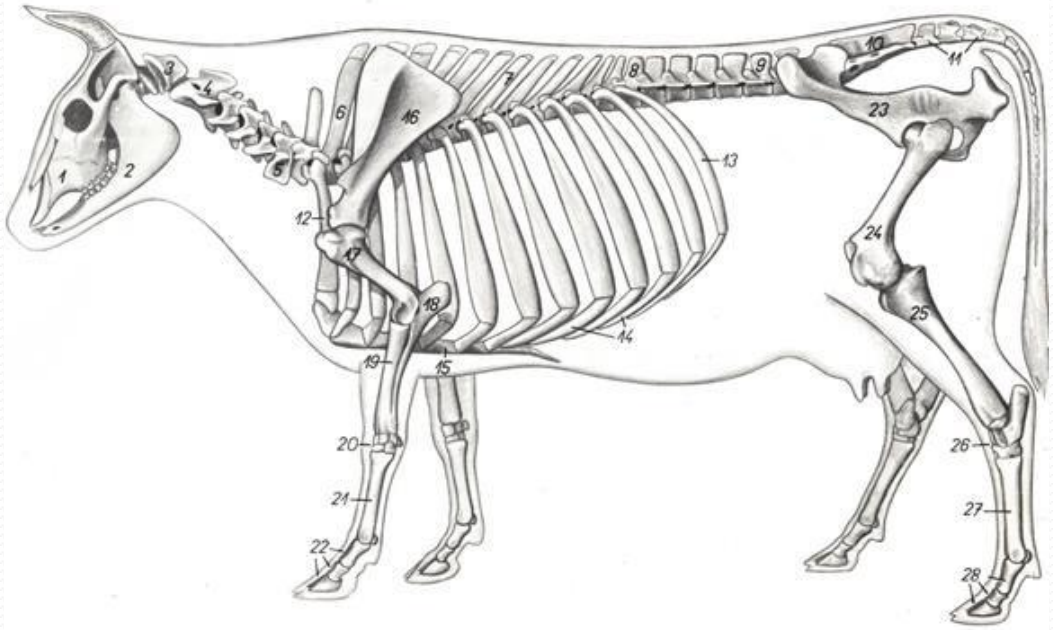


PLATE 2.6 Superficial muscles and veins of the cow. Left lateral view.
m = muscle, v = vein, a = artery, n = nerve

Bovine. Skeleton.

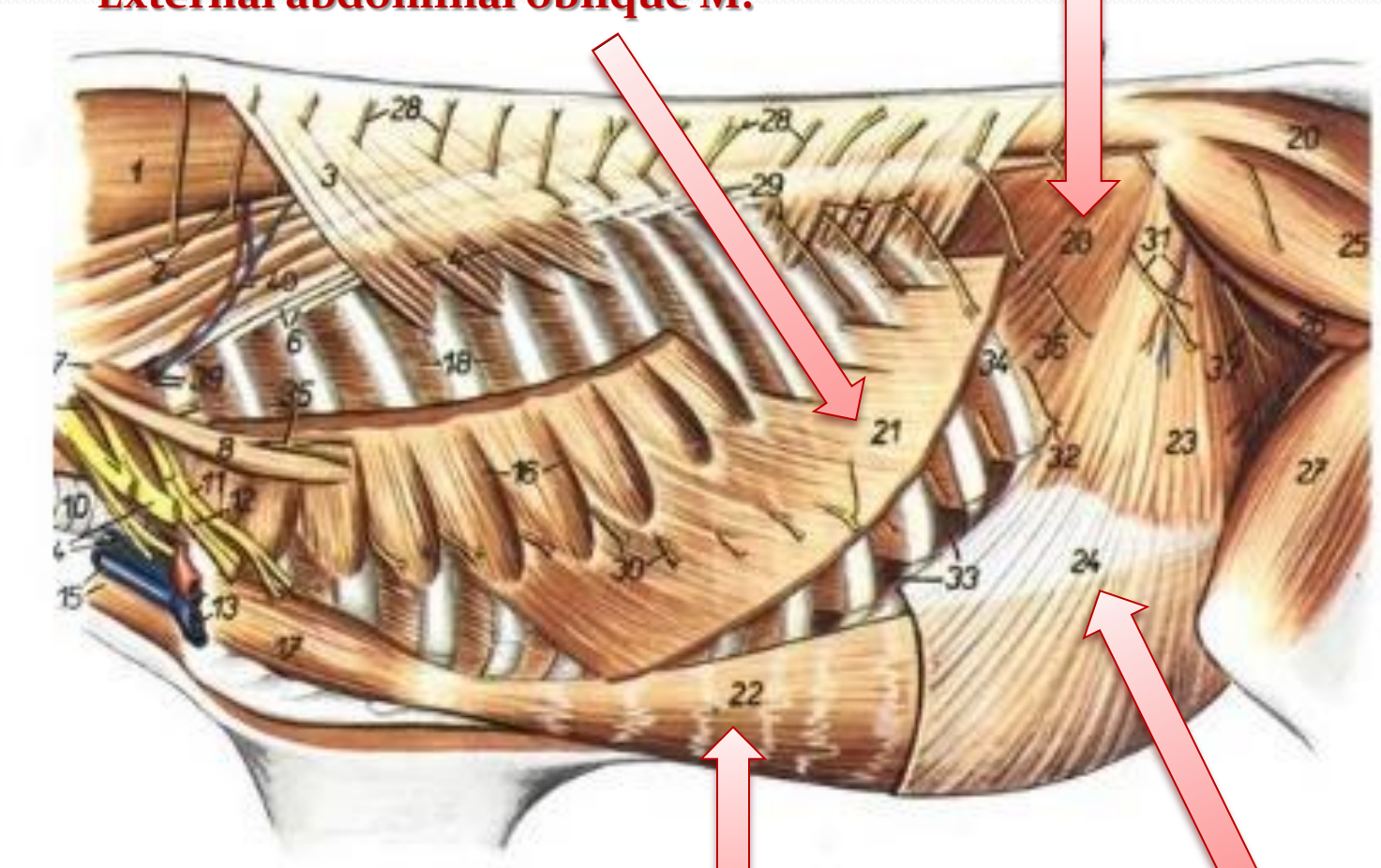
Figure 2



1. *maxilla* — maxilla
2. *mandibula* — mandible
3. *atlas* — atlas
4. *axis* — axis
5. *vertebra cervicalis VI* — sixth cervical vertebra
6. *vertebra thoracica I* — first thoracic vertebra
7. *vertebra thoracica VII* — seventh thoracic vertebra
8. *vertebra thoracica XIII* — thirteenth thoracic vertebra
9. *vertebra lumbalis V* — fifth lumbar vertebra
10. *os sacrum* — sacrum
11. *vertebrae coccygeae* — coccygeal vertebra
12. *costa I* — first rib
13. *costa XIII* — thirteenth rib
14. *cartilagines costales* — costal cartilages
15. *sternum* — sternum
16. *scapula* — scapula
17. *humerus* — humerus
18. *ulna* — ulna
19. *radius* — radius
20. *ossa carpi* — carpal bones
21. *os metacarpale III et IV* — third and fourth metacarpal bone
22. *ossa digitorum manus* — bones of digits (of thoracic appendage)
23. *os coxae* — os coxae
24. *os femoris* — femoral bone
25. *tibia* — tibia
26. *ossa tarsi* — tarsal bones
27. *os metatarsale III et IV* — third and fourth metatarsal bone
28. *ossa digitorum pedis* — bones of digits (of pelvic appendage)

Transverse abdominal M.

External abdominal oblique M.



Internal abdominal oblique M.

Rectus abdominalis

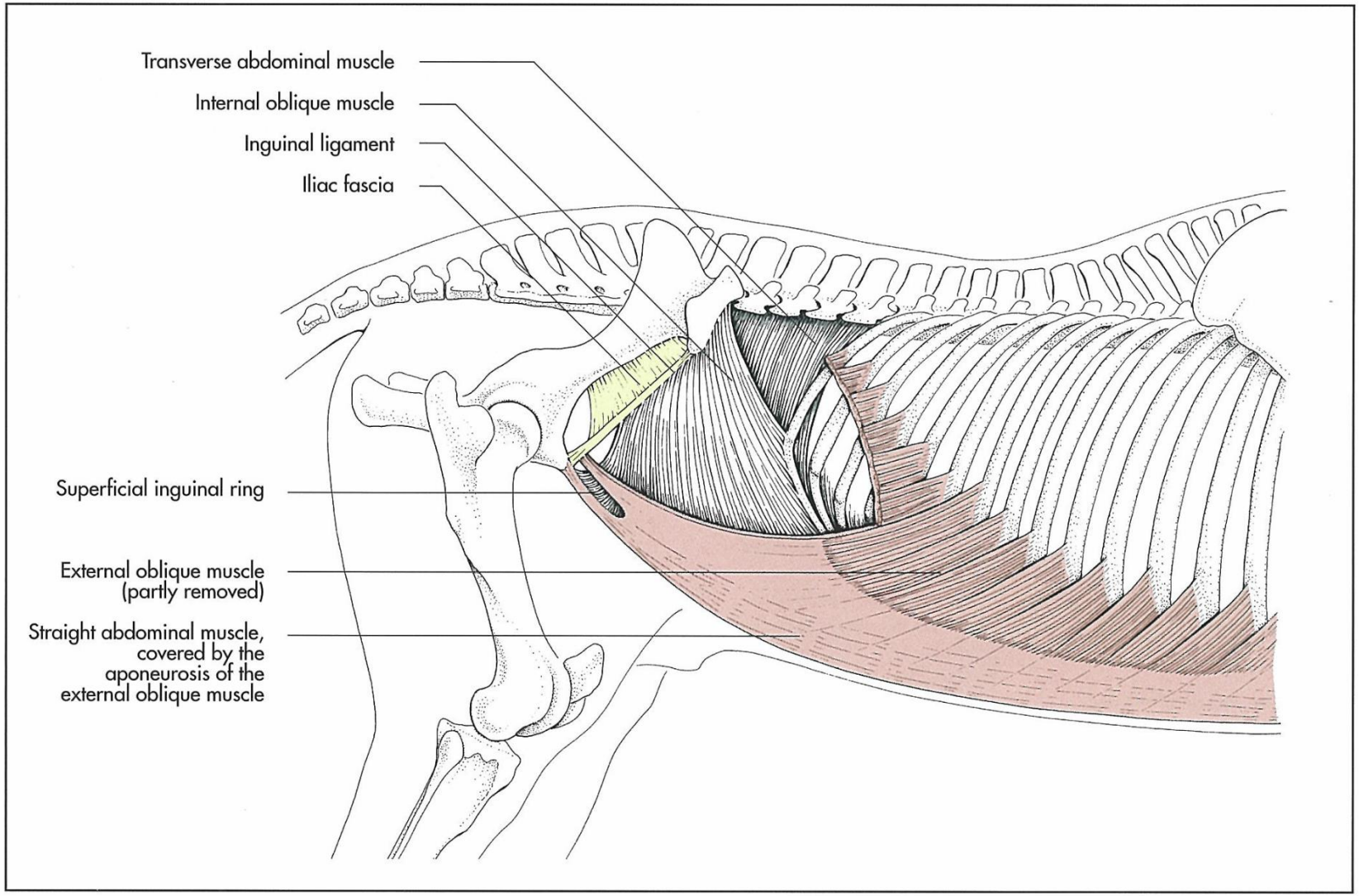


Fig. 2-15. Muscles of the thoracic wall of the horse (schematic, lateral aspect).

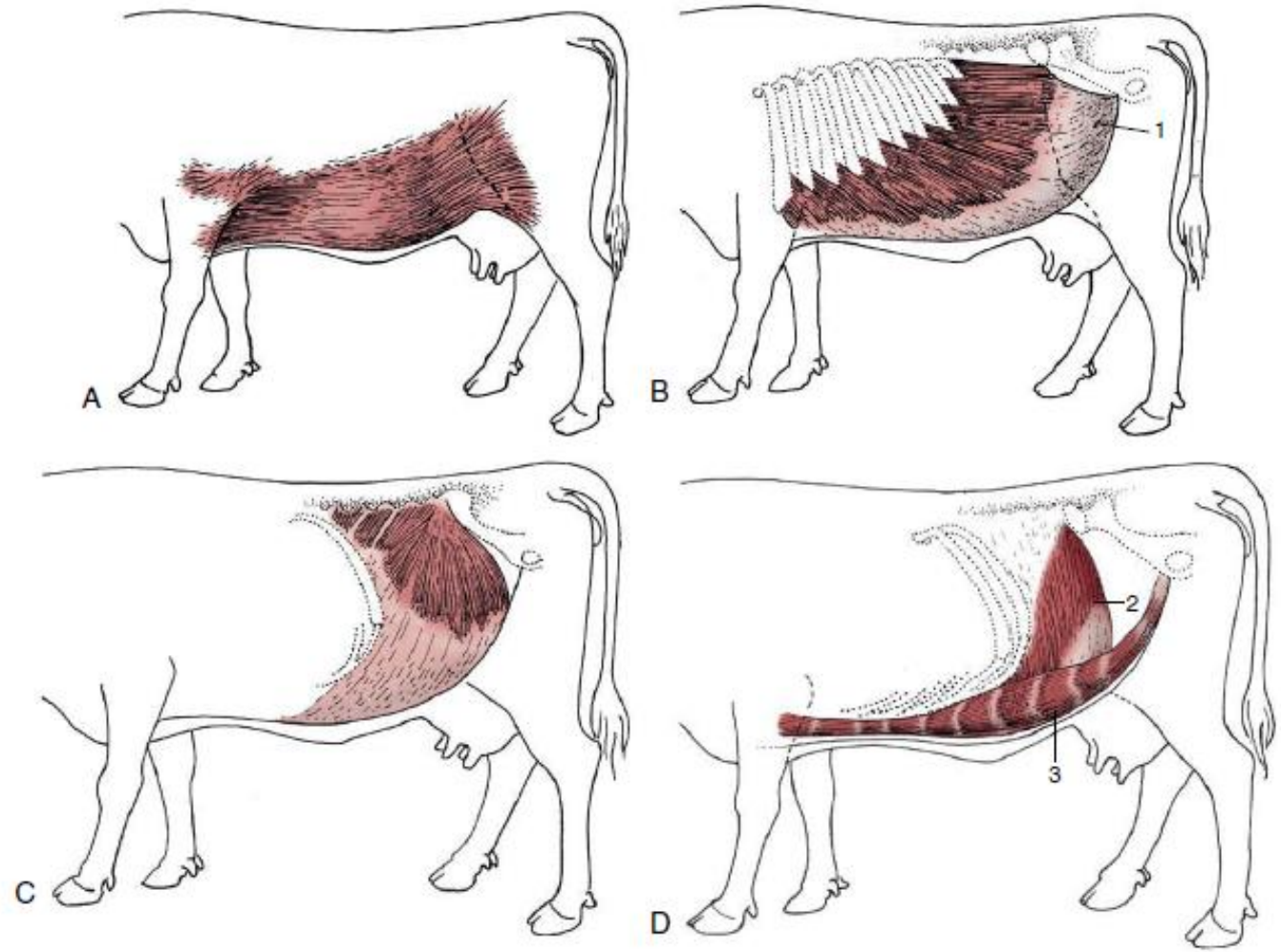


Figure 28–1 Cutaneous trunci and abdominal muscles. **A,** Cutaneous trunci, especially well-developed ventrally. **B,** External abdominal oblique with superficial inguinal ring *(1)* in its aponeurosis. **C,** Internal abdominal oblique. **D,** Transversus abdominis *(2)* and rectus abdominis *(3)*. Note the reduction in the thickness of the wall along the caudal part of the rectus margin.

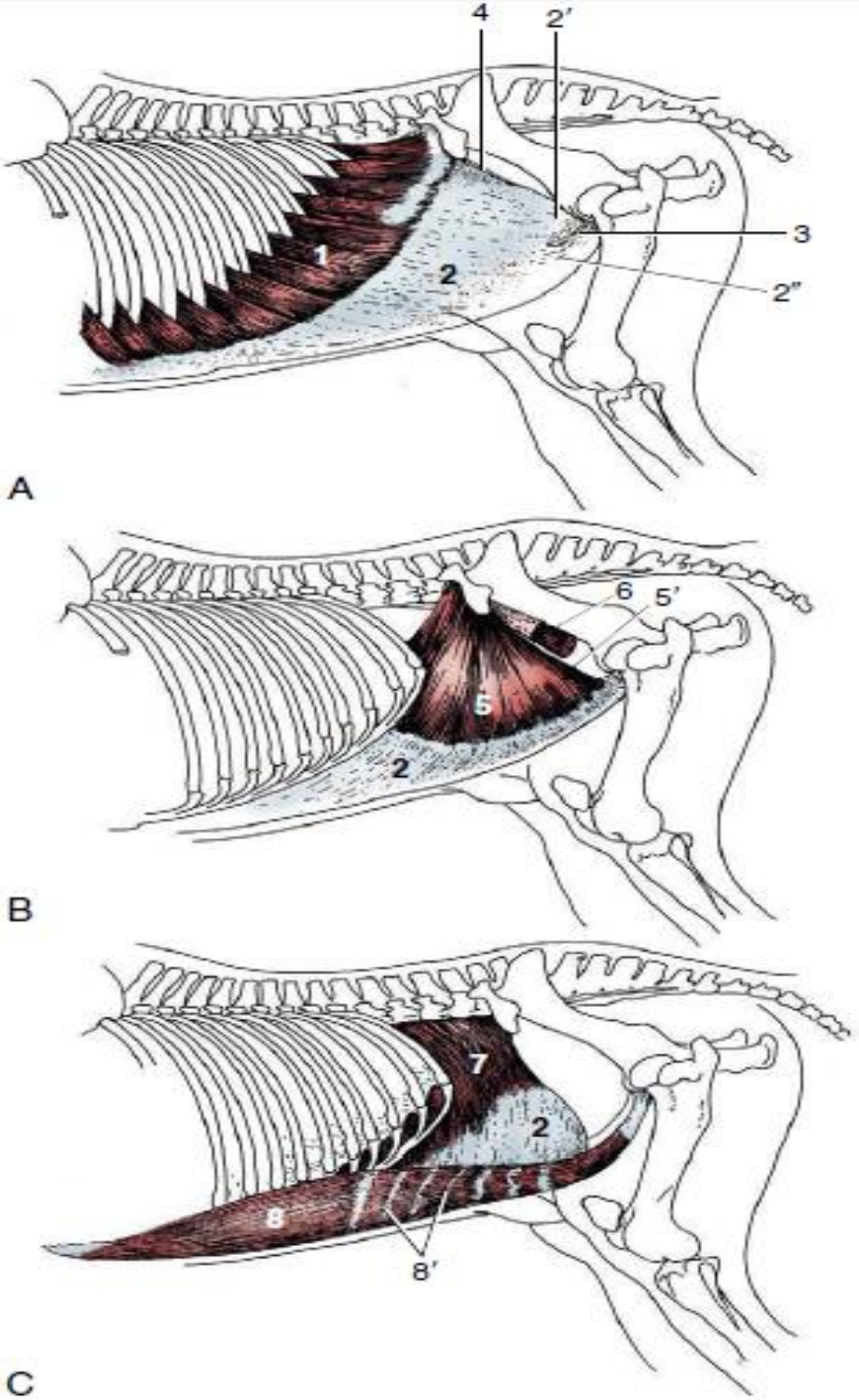
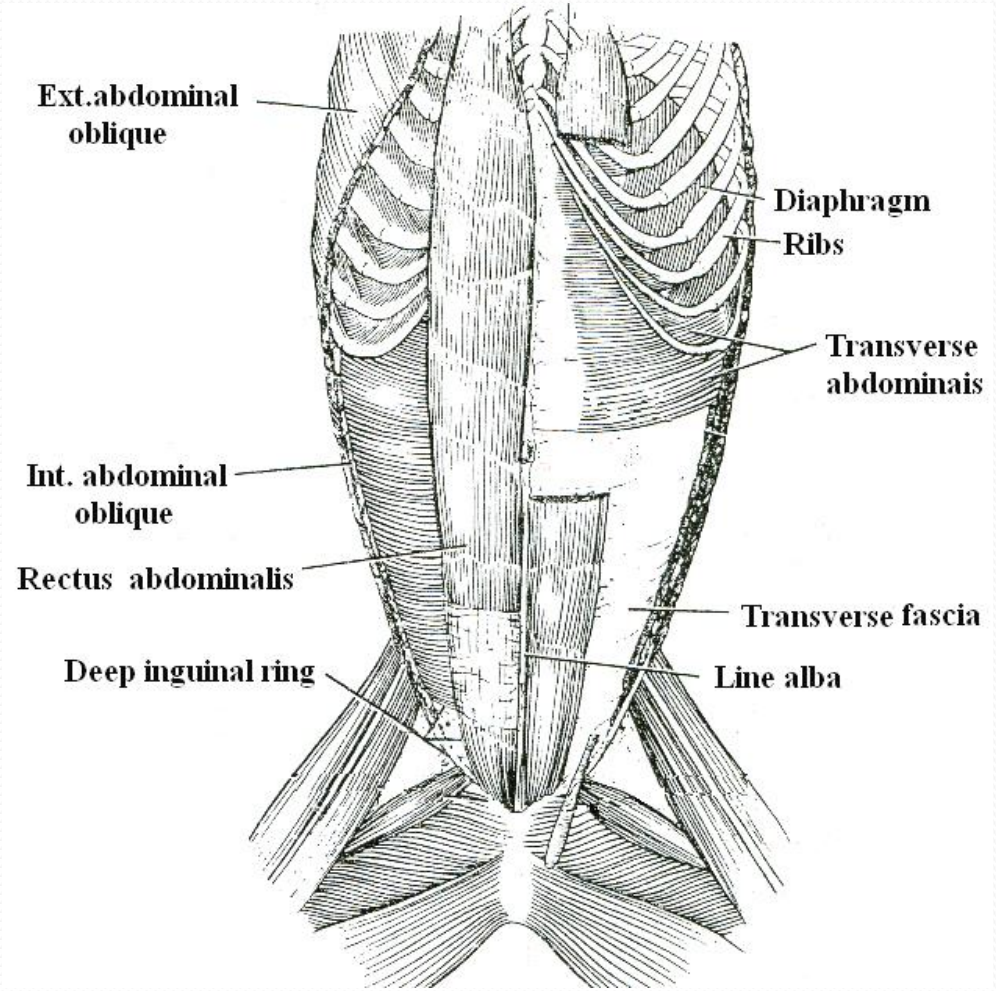
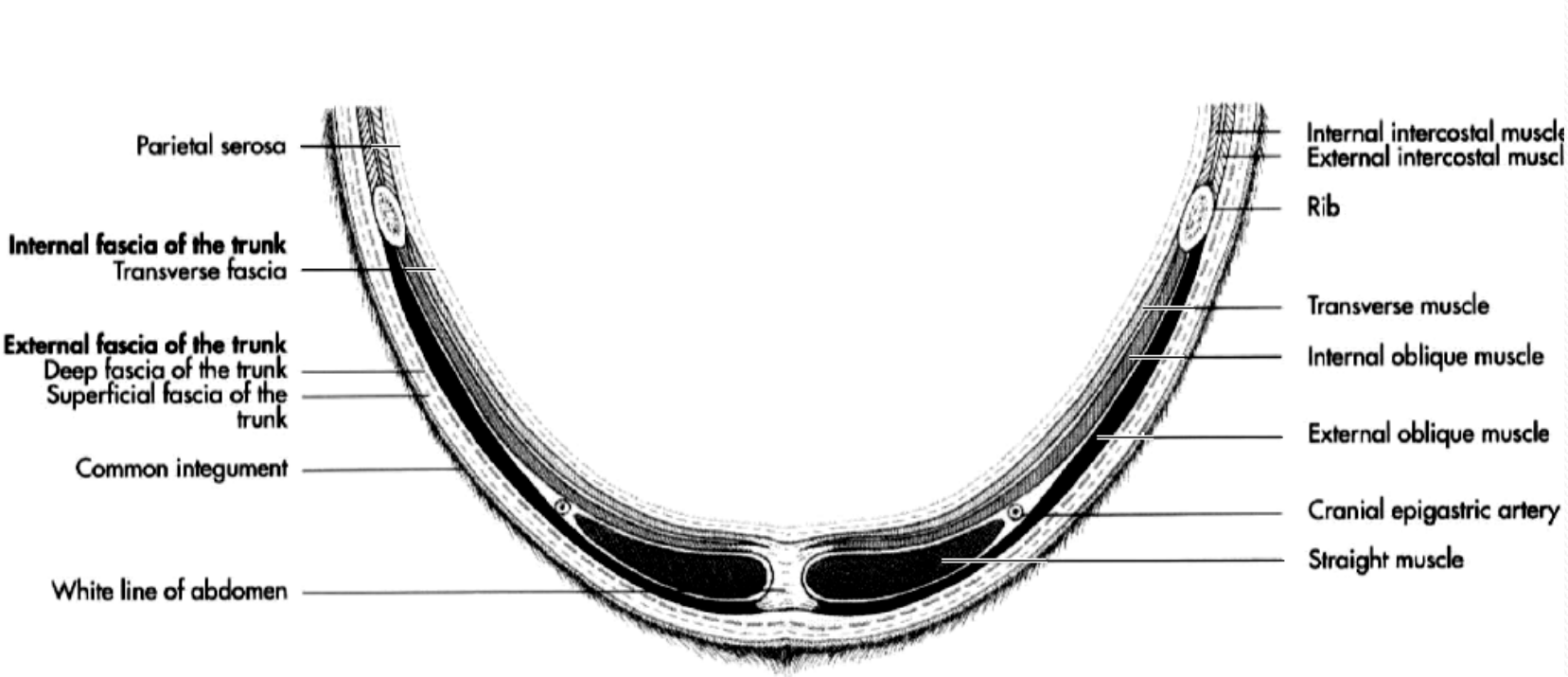


Figure 21–4 The abdominal muscles and their skeletal attachments. 1, External abdominal oblique, muscular part; 2, aponeurotic parts of 1, 5, and 7; 2 ′2 , ", pelvic and abdominal tendons of aponeurotic part; 3, superficial inguinal ring; 4, attachment of pelvic tendon of external oblique aponeurosis on iliopsoas and sartorius ("inguinal ligament"); 5, internal abdominal oblique, muscular part; 5 ′, free caudal border forming the cranial margin of the deep inguinal ring; 6, iliopsoas, partly enclosed by iliac fascia; 7, transversus abdominis, muscular part; 8, rectus abdominis; 8 ′, tendinous inscriptions.


Ext.abdominal oblique
Diaphragm
Ribs
Transverse abdominais
Int. abdominal oblique
Rectus abdominalis
Transverse fascia
Deep inguinal ring
Line alba


Parietal serosa
Internal fascia of the trunk
Transverse fascia
External fascia of the trunk
Deep fascia of the trunk
Superficial fascia of the trunk
Common integument
White line of abdomen
Internal intercostal muscle
External intercostal muscl
Rib
Transverse muscle
Internal oblique muscle
External oblique muscle
Cranial epigastric artery
Straight muscle

Stomach

انواع معده :

ساده : گوشتخواران و تک سمیان ، جوندگان و انسان

مرکب : نشخوار کنندگان

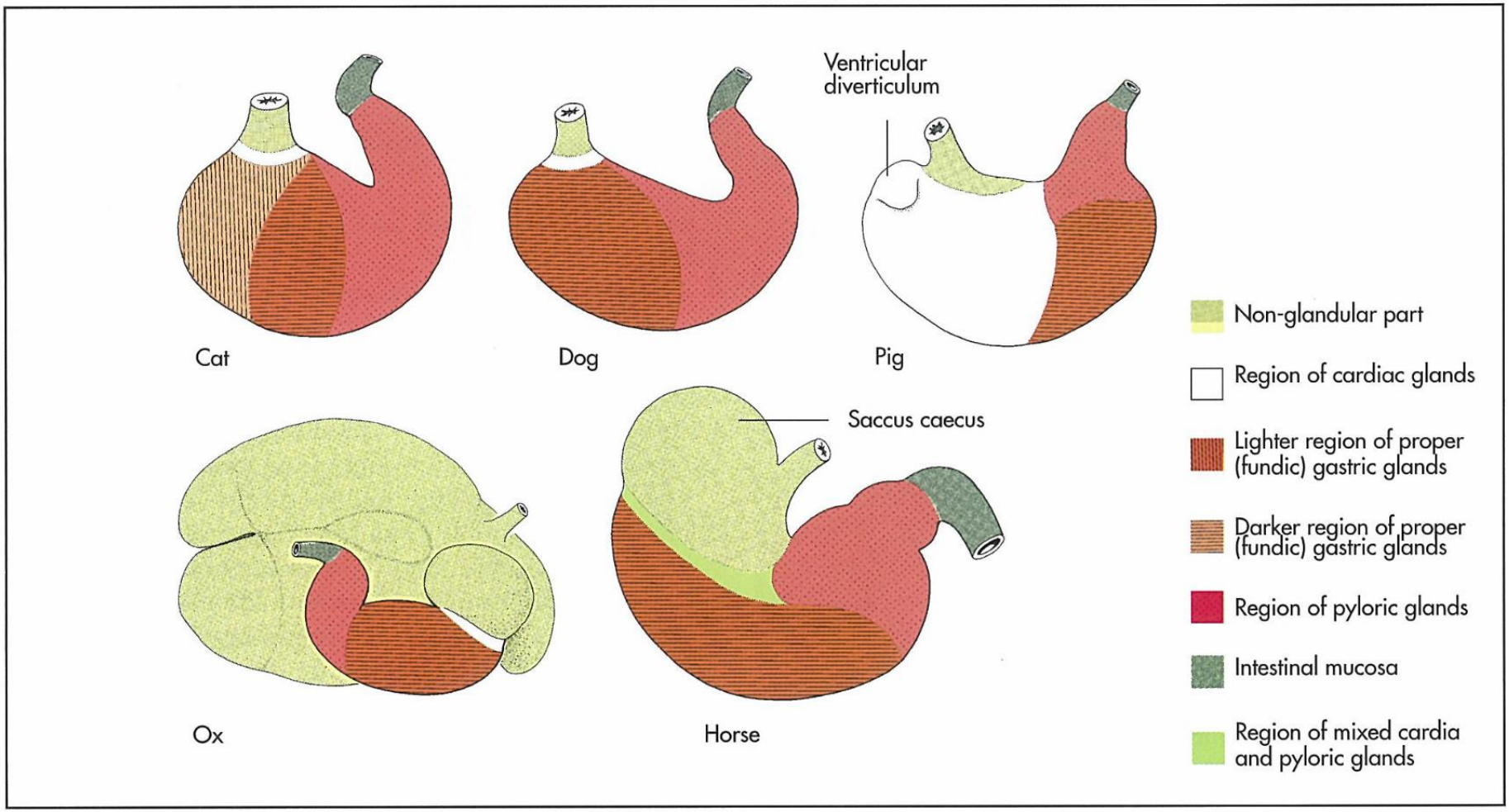
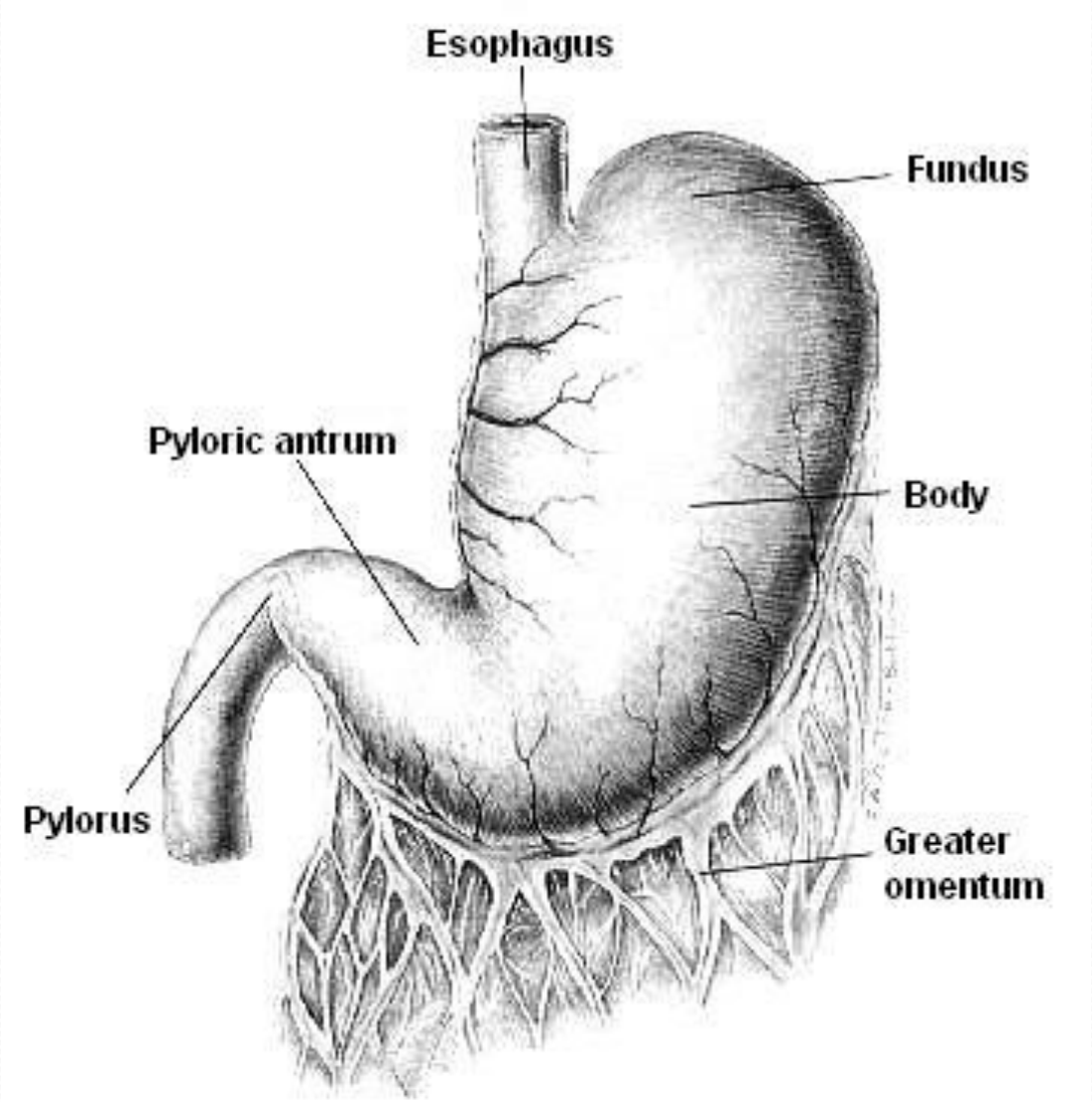


Fig 7-49. Distribution of the gastric mucosa in the domestic mammals, schematic (Liebich, 2004).


Esophagus
Fundus
Pyloric antrum
Body
Pylorus
Greater
omentum

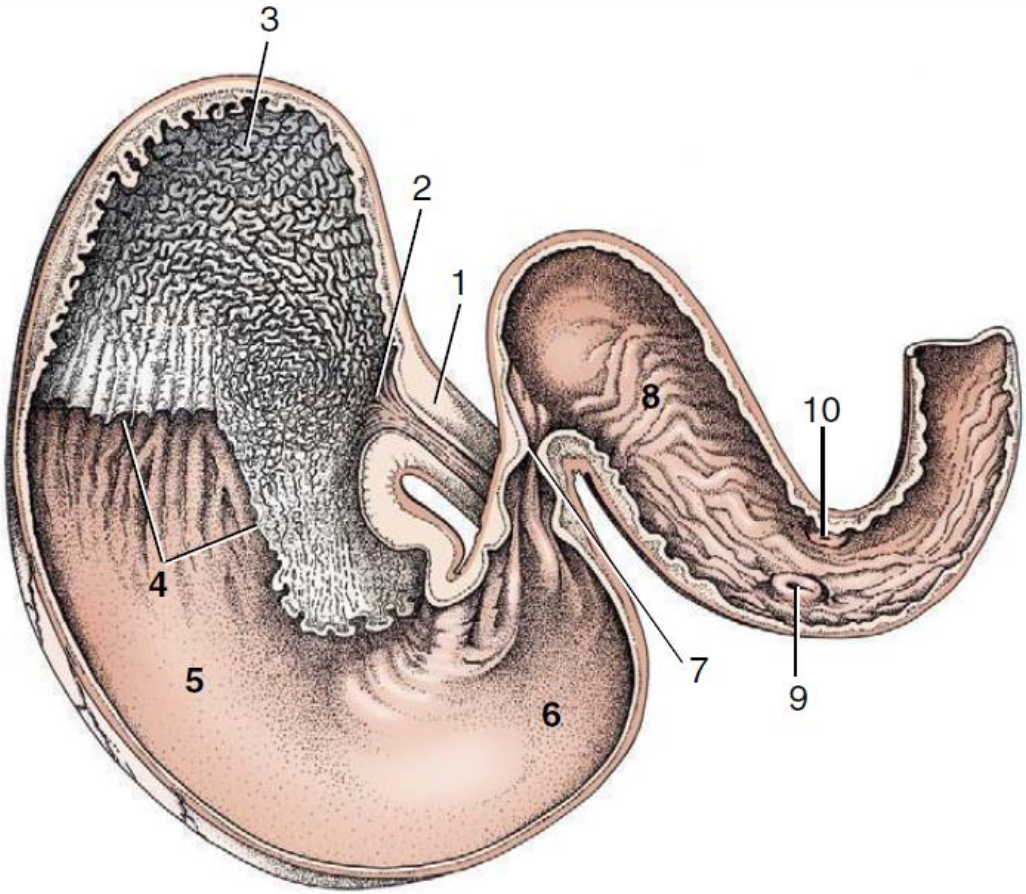


Figure 21–9 A, Interior of the stomach and cranial part of the duodenum. 1, Esophagus; 2, cardiac opening; 3, fundus (blind sac); 4, margo plicatus; 5, body; 6, pyloric part; 7, pylorus; 8, cranial part of duodenum; 9, major duodenal papilla within hepatopancreatic ampulla; 10, minor duodenal papilla.

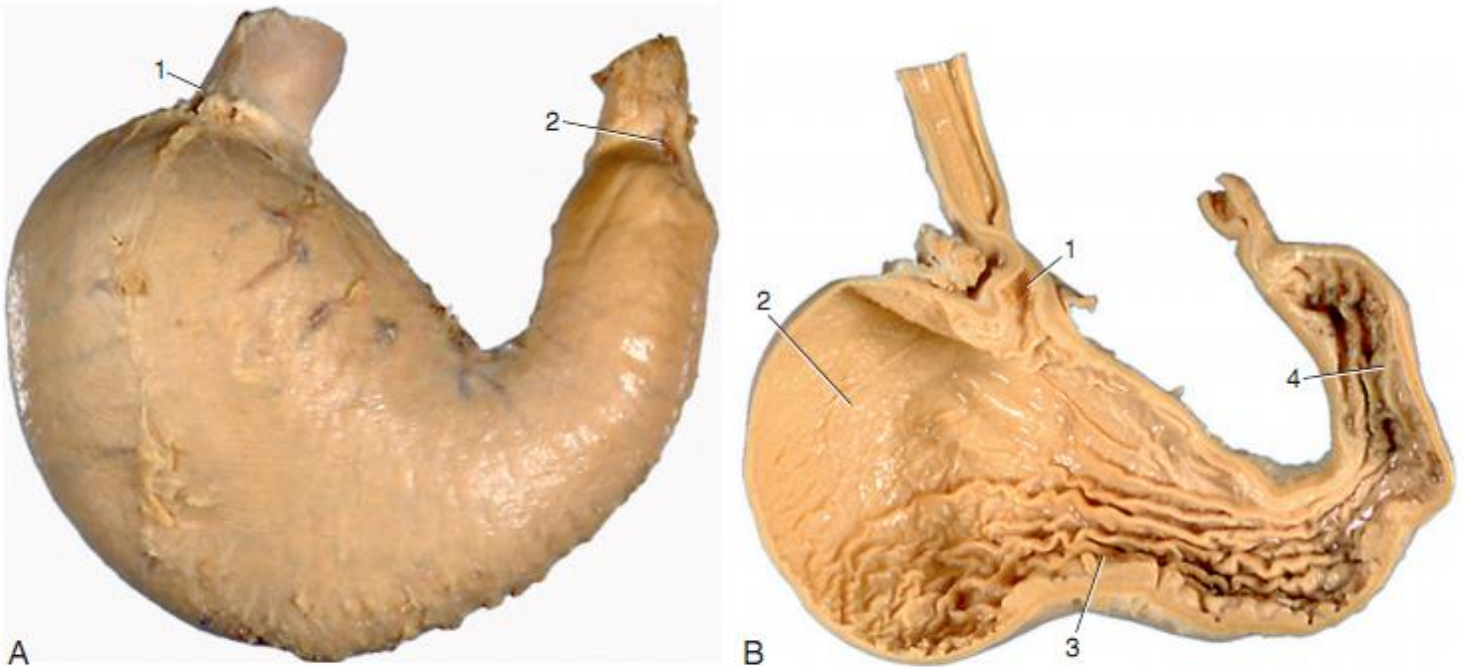


Figure 3–35 **A,** Visceral surface of stomach (dog). *1,* cardia; *2,* pylorus. **B,** Interior of stomach (dog). *1,* cardiac opening; *2,* fundus; *3,* body; *4,* pyloric antrum.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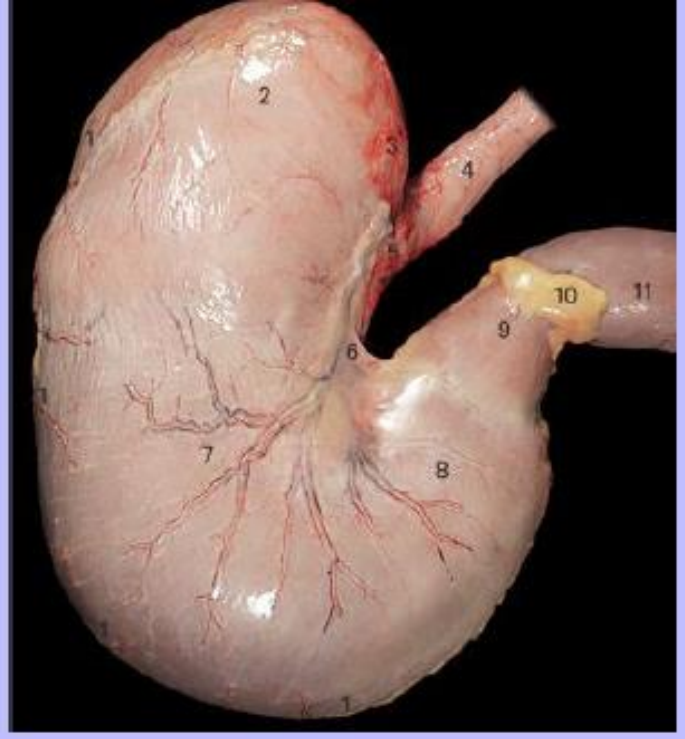


1 Greater curvature (attachment of the greater omentum)

2 Fundus (blind sac)

3 Area of direct adhesion to the diaphragm

4 Esophagus

5 Cardia

6 Lesser curvature (attachment of the lesser omentum)

7 Body of the stomach

8 Pyloric region of the stomach

9 Pylorus

10 Attachment of the greater omentum crossing the duodenum

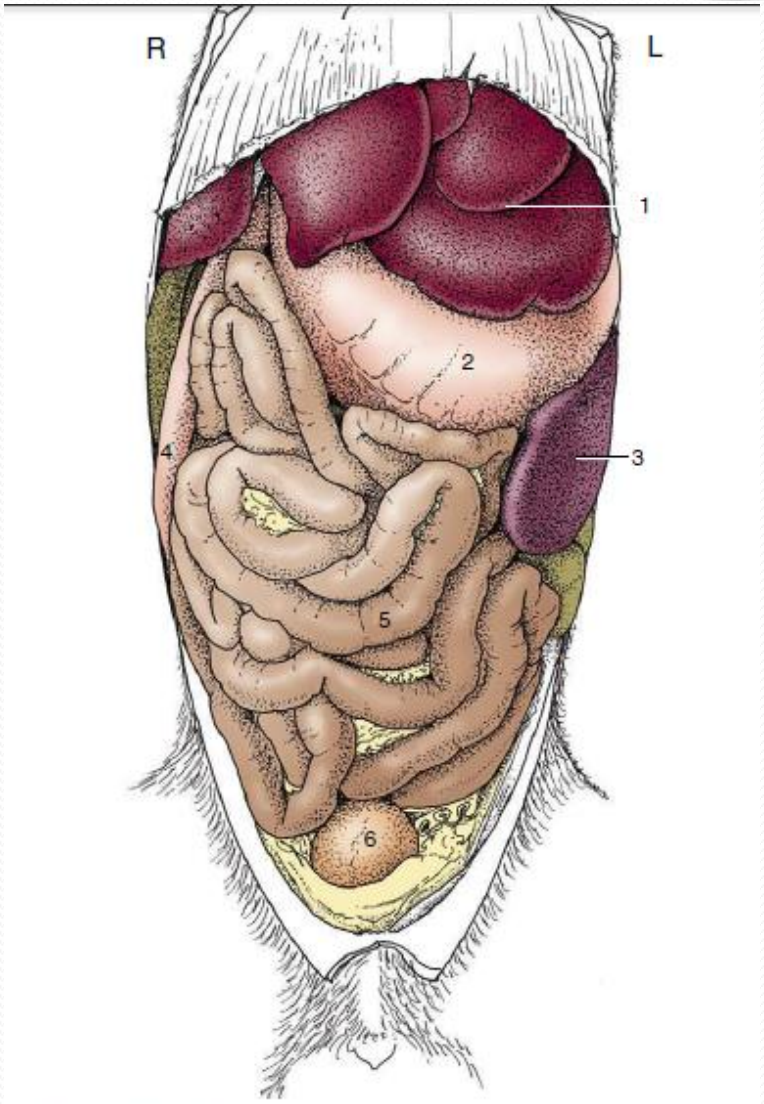
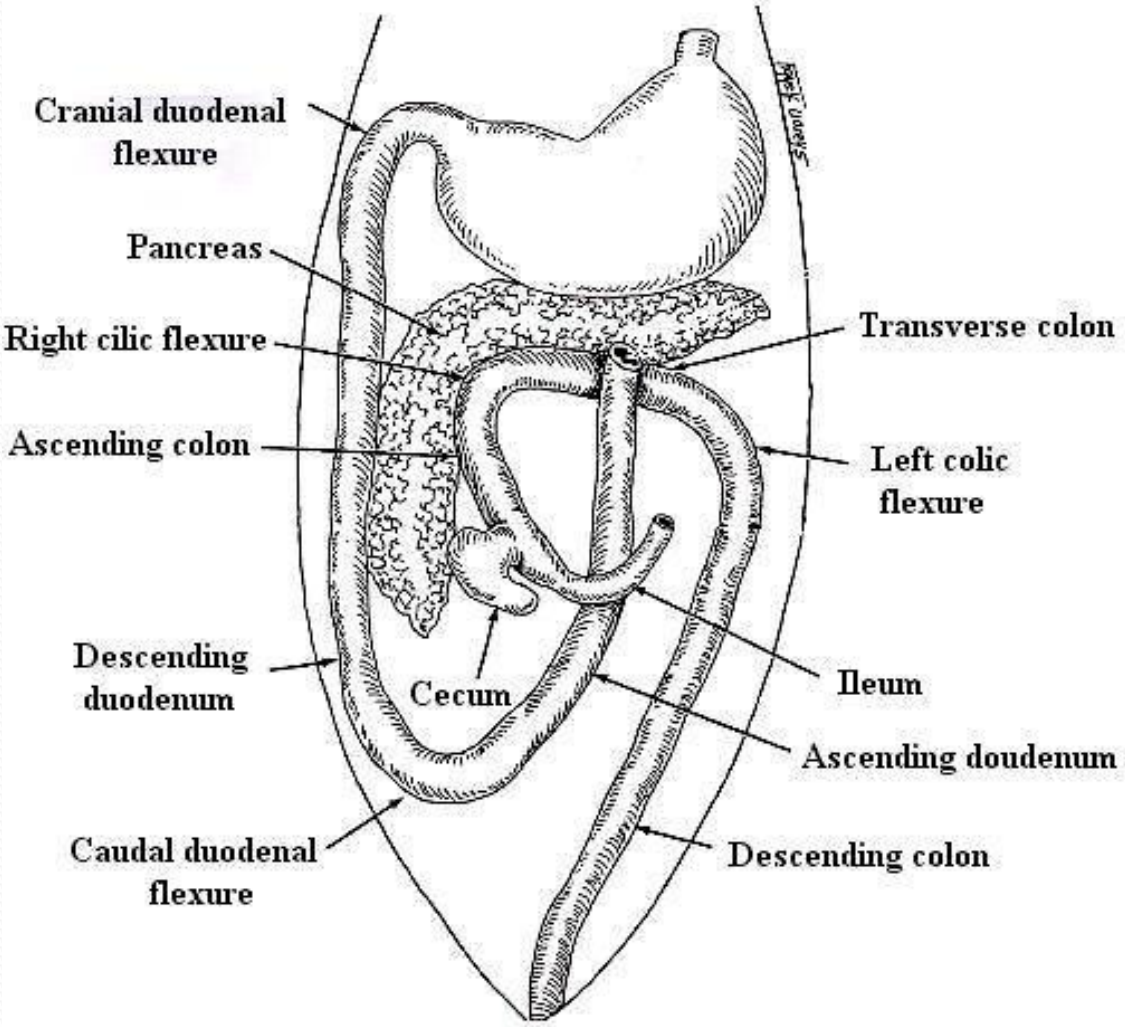
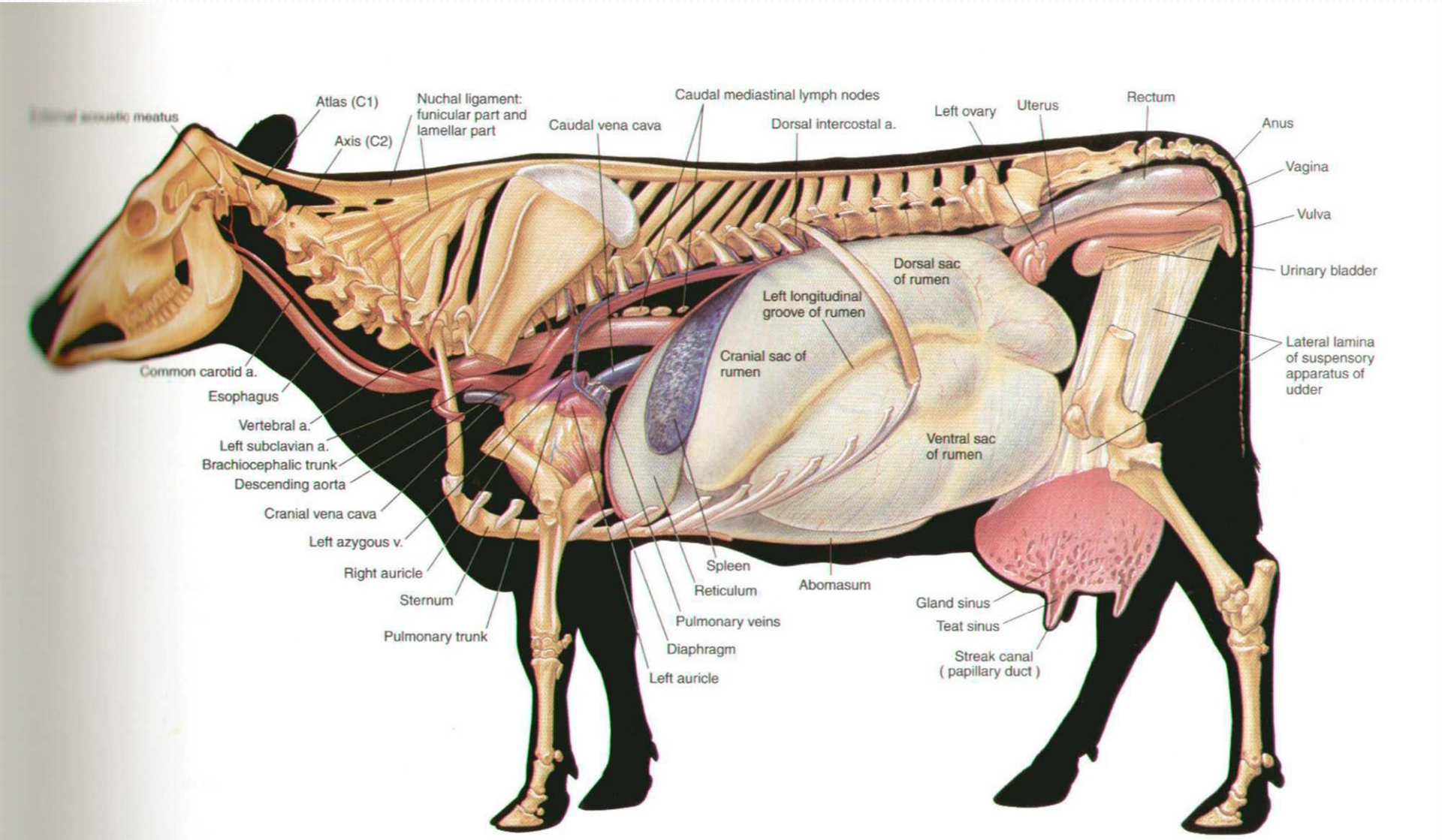


Figure 3–41 Ventral view of the abdominal organs of the dog after removal of the greater omentum. *1,* Liver; *2,* stomach; *3,* spleen; *4,* descending duodenum; *5,* jejunum; *6,* bladder; *7,* diaphragm.


Cranial duodenal flexure
Pancreas
Right cilic flexure
Ascending colon
Descending duodenum
Caudal duodenal flexure
Cecum
Transverse colon
Left colic flexure
Ileum
Ascending doudenum
Descending colon

Stomach in Ruminant

- Rumen شکمبه / غیر غده ای
- Reticulum نگاری / غیر غده ای
- Omasum هزارلا / غیر غده ای
- Abomasum شیردان / غده ای(معده ی اصلی)

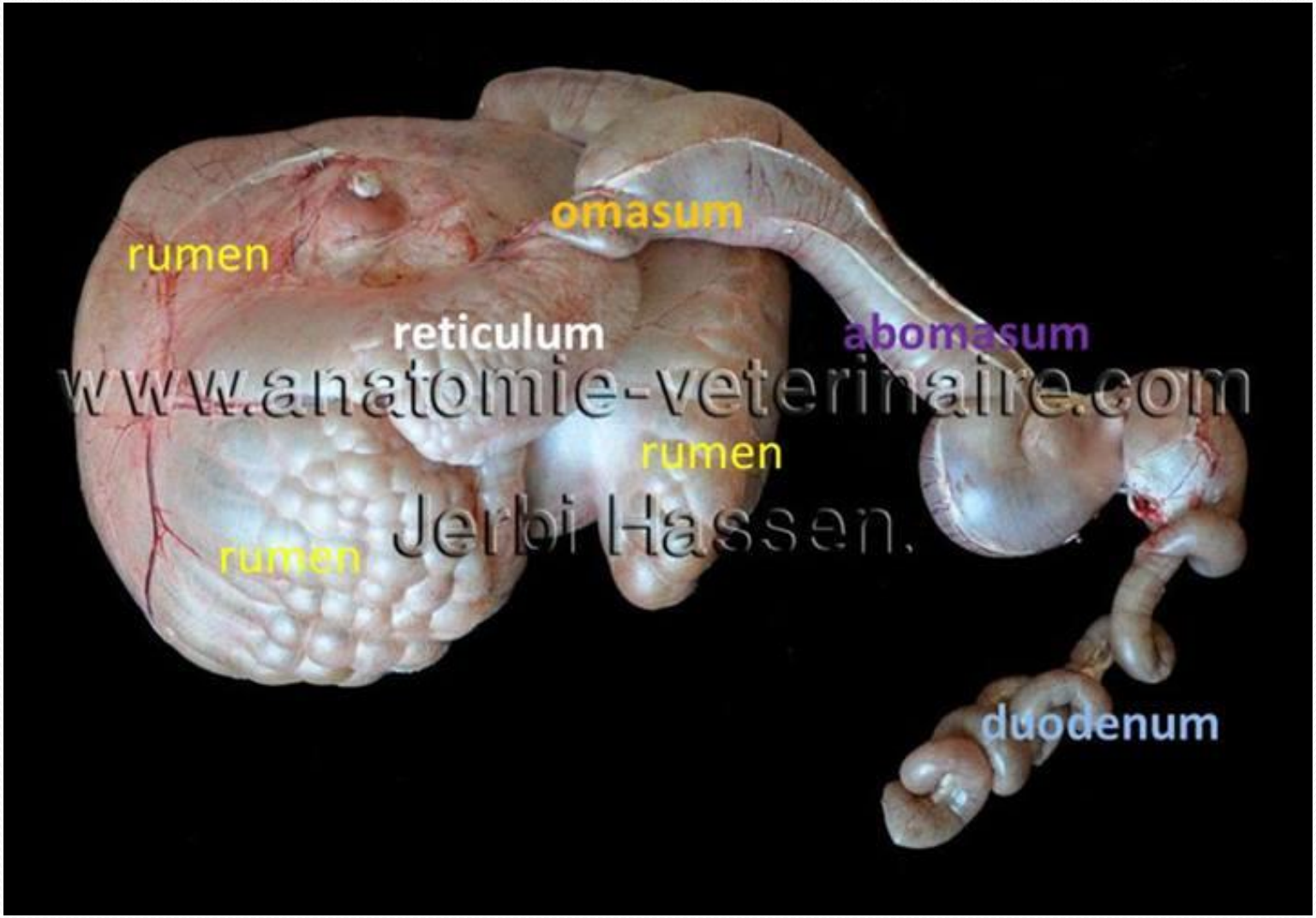

External acoustic meatus
Atlas (C1)
Axis (C2)
Nuchal ligament: funicular part and lamellar part
Caudal vena cava
Caudal mediastinal lymph nodes
Dorsal intercostal a.
Left ovary
Uterus
Rectum
Anus
Vagina
Vulva
Urinary bladder
Lateral lamina of suspensory apparatus of udder
Dorsal sac of rumen
Left longitudinal groove of rumen
Cranial sac of rumen
Ventral sac of rumen
Common carotid a.
Esophagus
Vertebral a.
Left subclavian a.
Brachiocephalic trunk
Descending aorta
Cranial vena cava
Left azygous v.
Right auricle
Sternum
Pulmonary trunk
Spleen
Reticulum
Abomasum
Pulmonary veins
Diaphragm
Left auricle
Gland sinus
Teat sinus
Streak canal (papillary duct)

پیش معده ها (Forestomach)

- رشد و تکامل کمی، در زمان نوزادی دارد.
- در هفته های اول در اثر مصرف مواد جامد، فعالیت فیزیولوژیک تکامل پیدا می کند.

- نسبت حجم (شیردان / شکمبه):
  - در یک ماهگی : ۲ / ۱
  - در دو ماهگی : ۱ / ۱
  - در سه ماهگی : ۱ / ۲
  - در گاو بالغ : ۱ / ۹

- گنجایش معده گاو بالغ:
  - ۲۳۵ ـ ۱۱۰ لیتر است.
  - ۸۰ % اختصاص به شکمبه دارد.
  - ۵ % اختصاص به نگاری دارد.
  - ۸ % اختصاص به هزارلا دارد.
  - ۷ % اختصاص به شیردان دارد.


omasum
rumen
reticulum
abomasum
www.anatomie-veterinaire.com
rumen
Jerbi Hassen.
rumen
duodenum

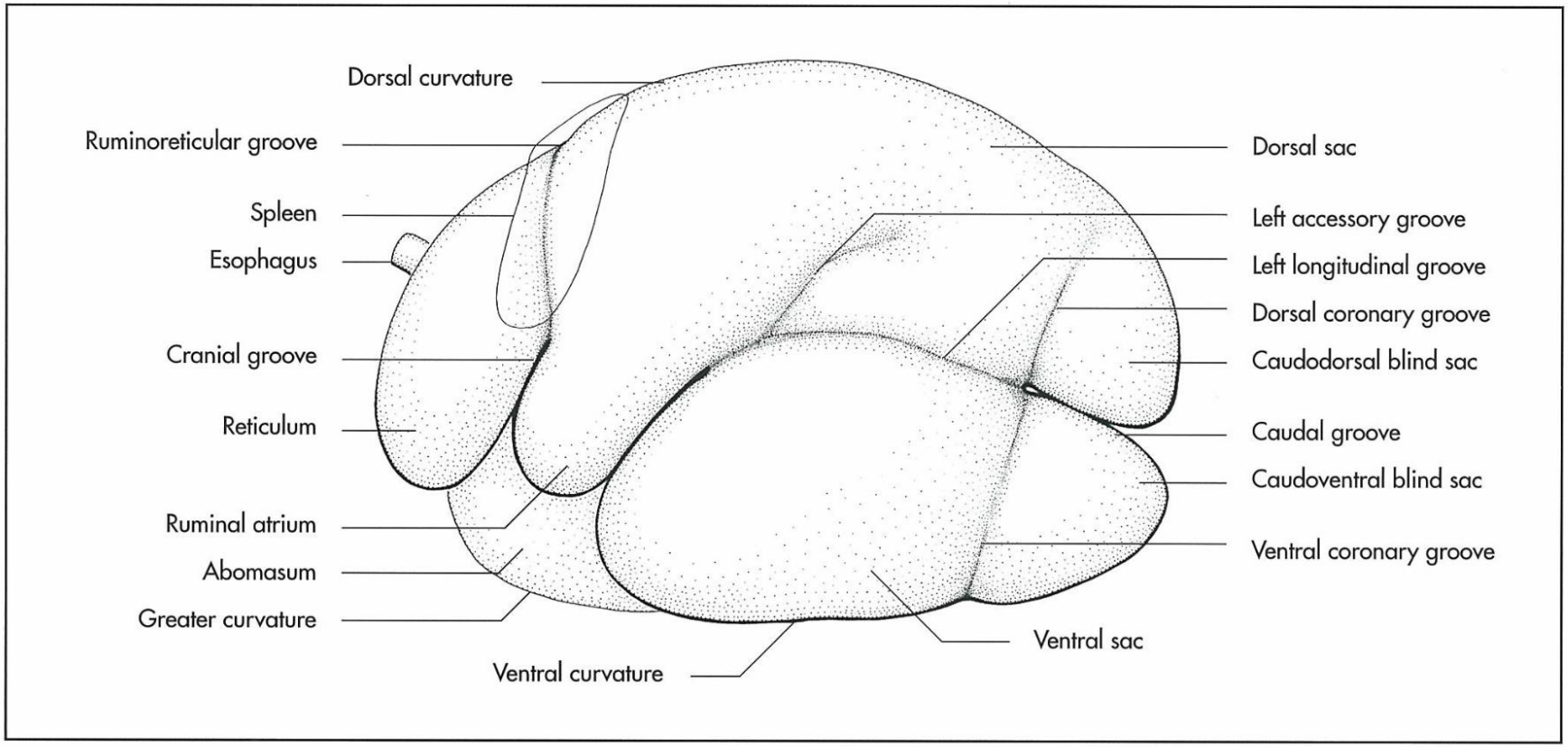


Fig 7-65. Compartments of the stomach of the ox, left lateral aspect, schematic (Schaller, 1992).

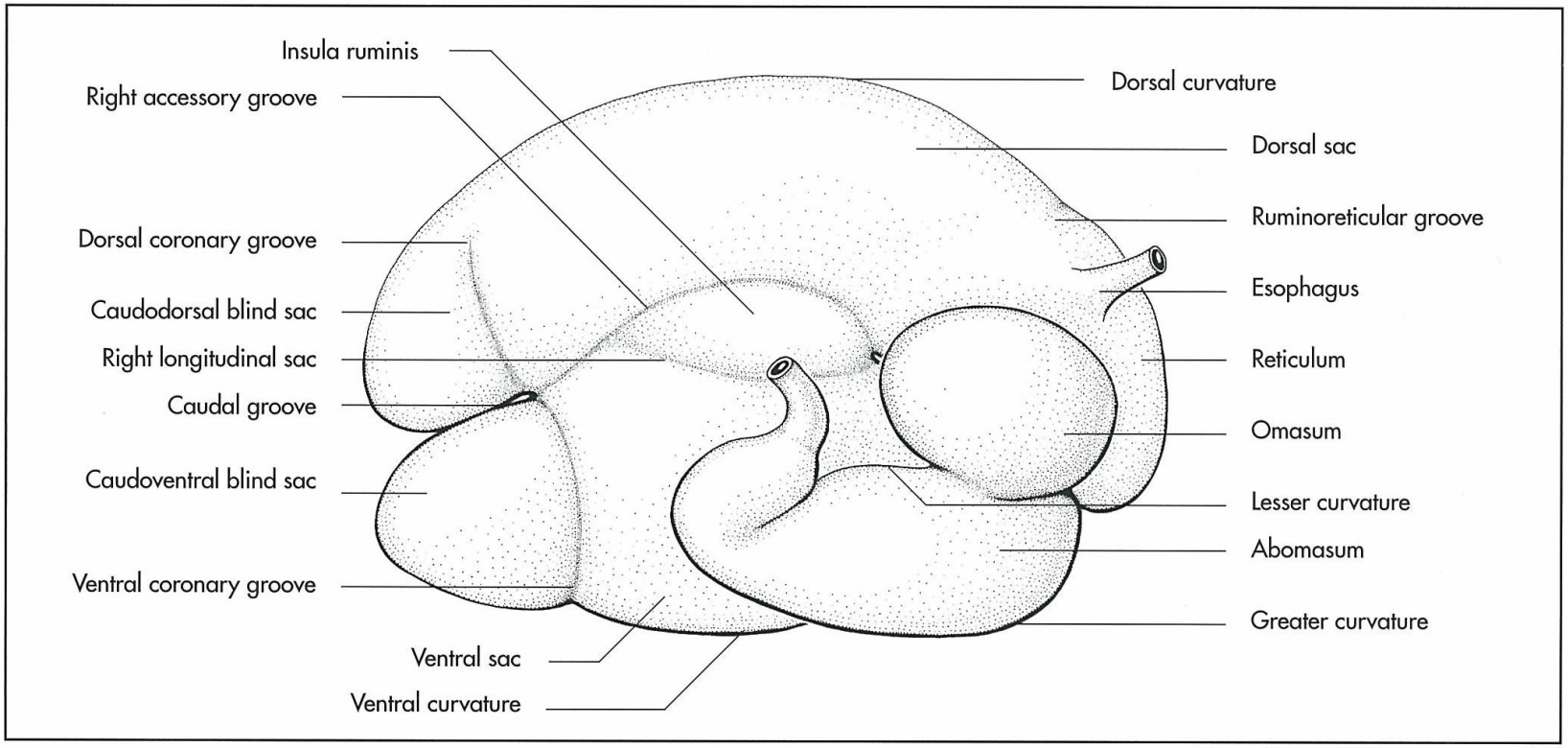
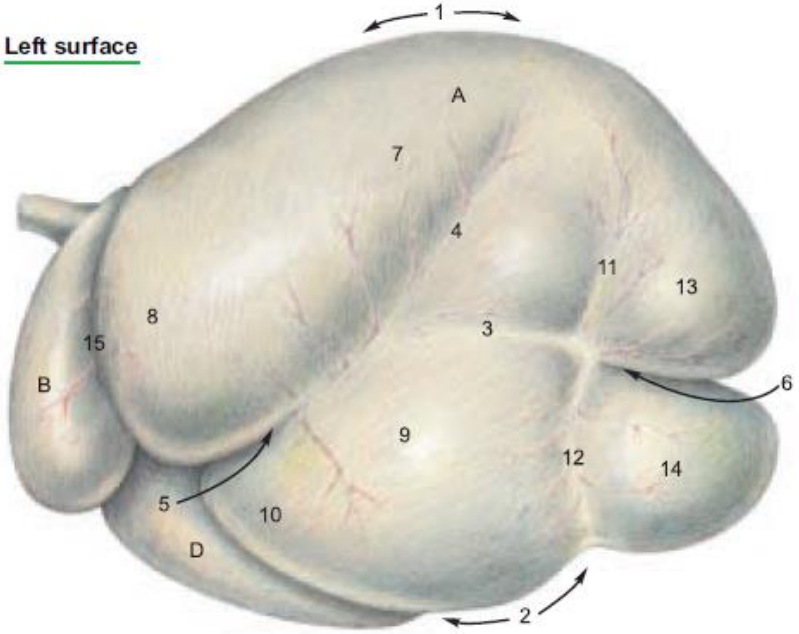
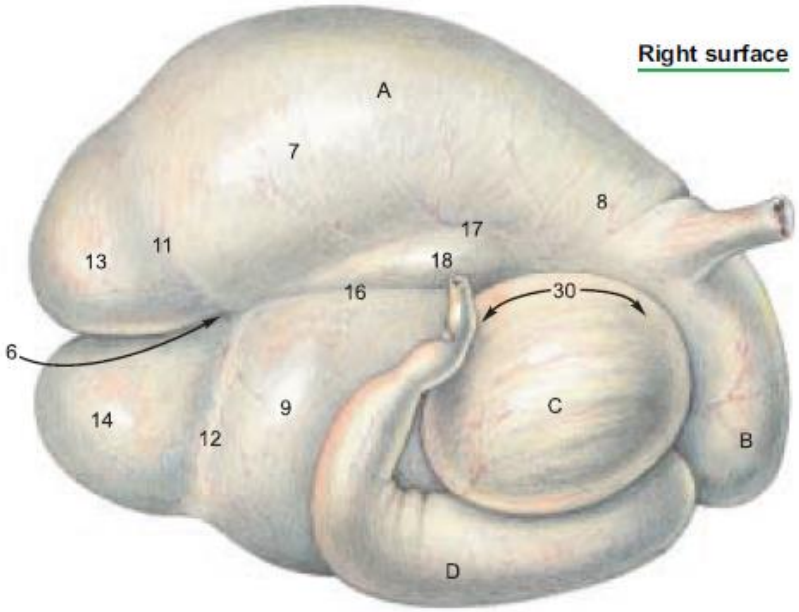


Fig 7-66. Compartments of the stomach of the ox, right lateral aspect, schematic (Schaller, 1992).

Left surface



Right surface



Legend:

A Rumen
1 Dorsal curvature
2 Ventral curvature
3 Left longitudinal groove
4 Left accessory groove
5 Cranial groove
6 Caudal groove
7 Dorsal sac
8 Atrium
9 Ventral sac
10 Recess of ventr. sac of rumen
11 Dorsal coronary groove
12 Ventral coronary groove
13 Caudodorsal blind sac
14 Caudoventral blind sac
15 Ruminoreticular groove
16 Right longitudinal groove
17 Right accessory groove
18 Insula
19 Intraruminal orifice
20 Pillars
21 Papillae

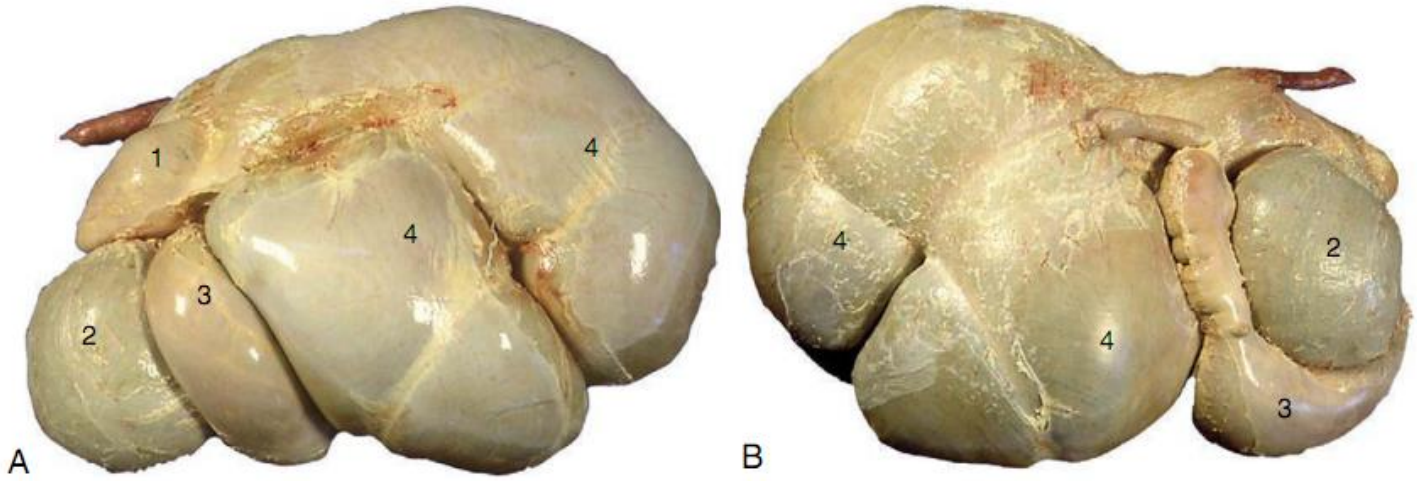
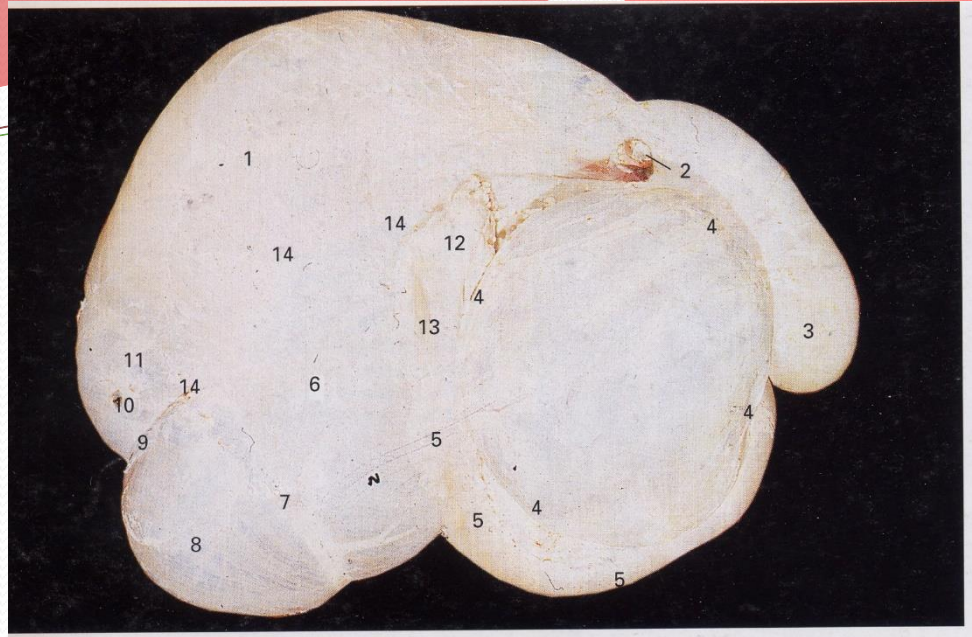
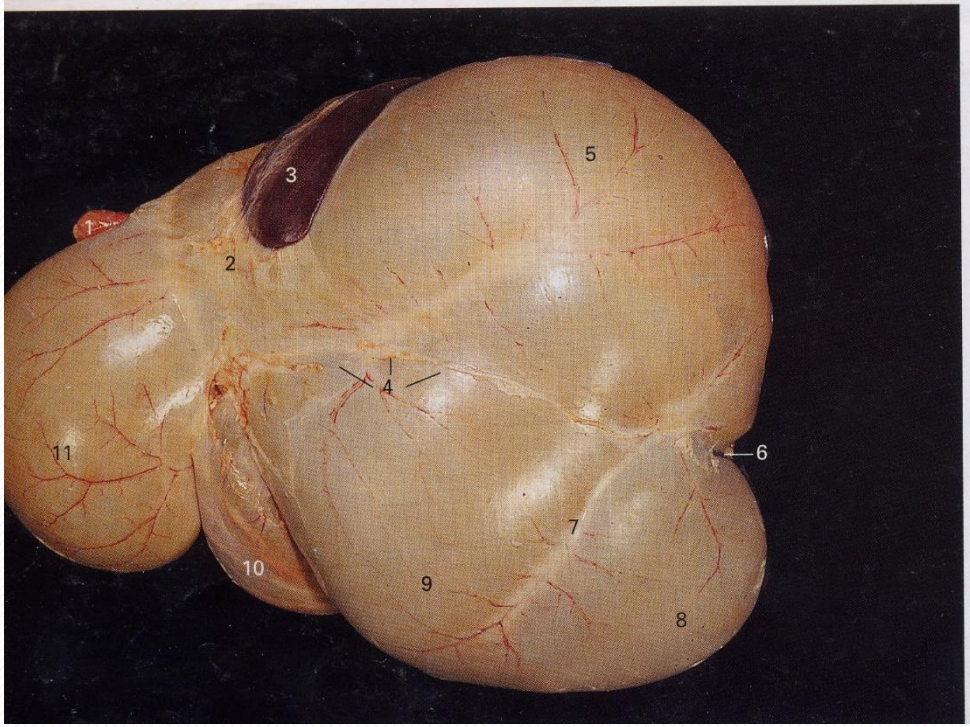


Figure 28–7 **A,** Bovine stomach, left side. **B,** Bovine stomach, right side. *1,* Reticulum; *2,* omasum; *3,* abomasum; *4,* rumen.



269. The stomach of a one-year-old bull seen from the right side.

1 Dorsal sac of the rumen
2 Oesophagus
3 Reticulum
4 Omasum
5 Abomasum
6 Ventral sac of the rumen
7 Right ventral coronary groove
8 Caudoventral blind sac
9 Caudal groove
10 Caudodorsal blind sac
11 Right dorsal coronary groove
12 Beginning of the duodenum
13 Pylorus
14 Right longitudinal groov



270. The stomach and spleen of a sheep seen from the left side. The omenta have been removed.

1 Oesophagus
2 Atrium of the rumen
3 Parietal surface of the spleen
4 Left longitudinal groove
5 Dorsal sac of the rumen
6 Caudal groove
7 Left ventral coronary groove
8 Caudoventral blind sac
9 Ventral sac of the rume
10 Abomasum
11 Reticulum

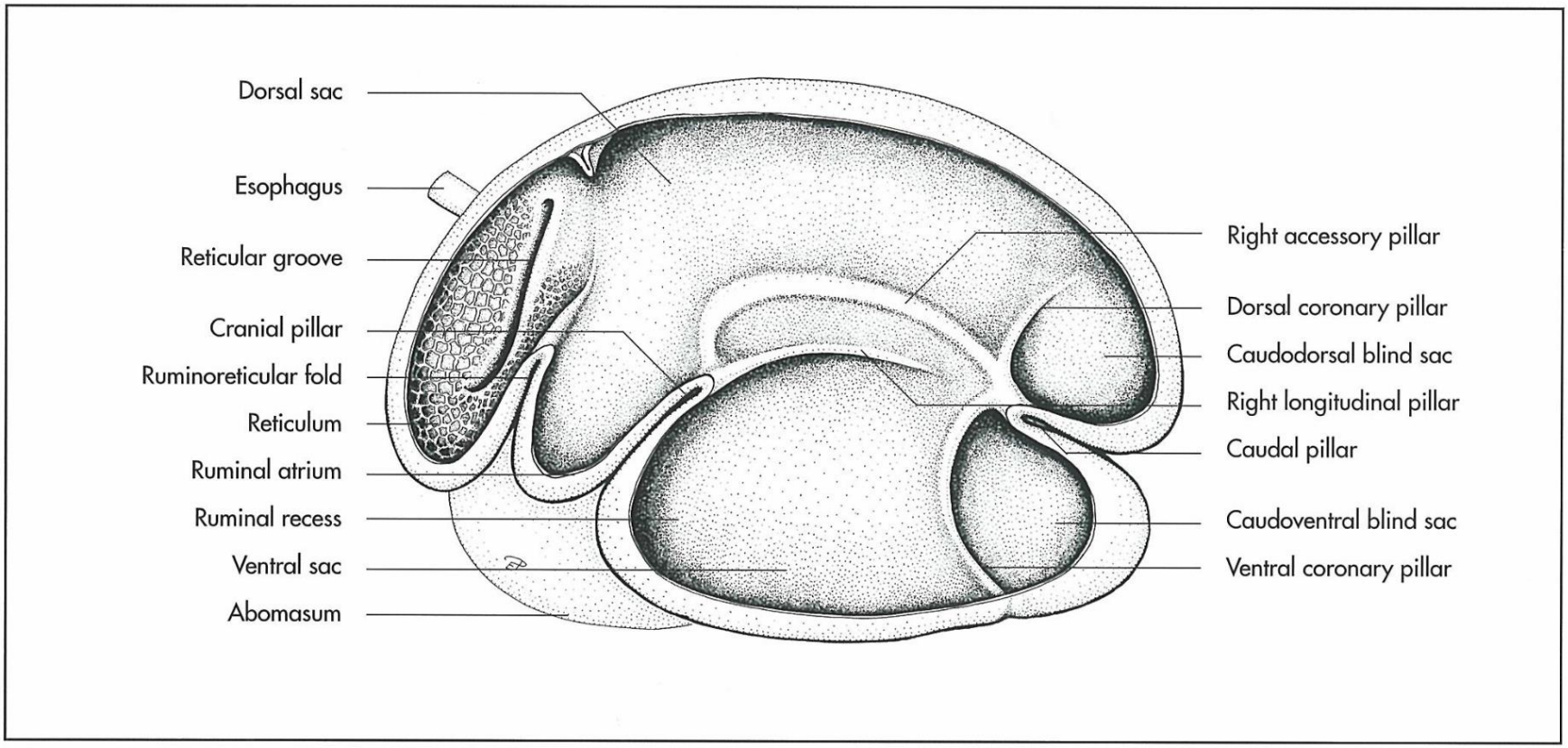


Fig 7-68. Interior of the rumen of the ox, left aspect, schematic (Schaller, 1992).

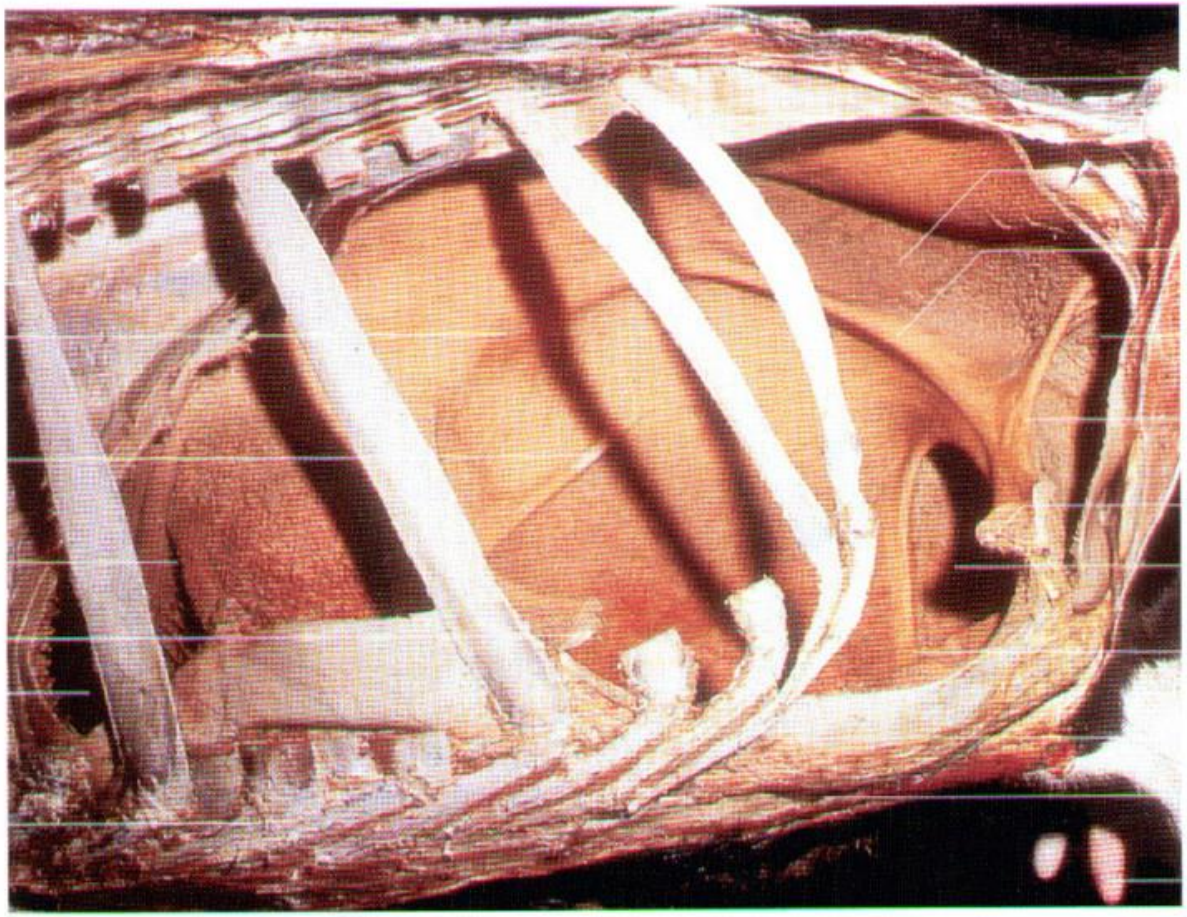
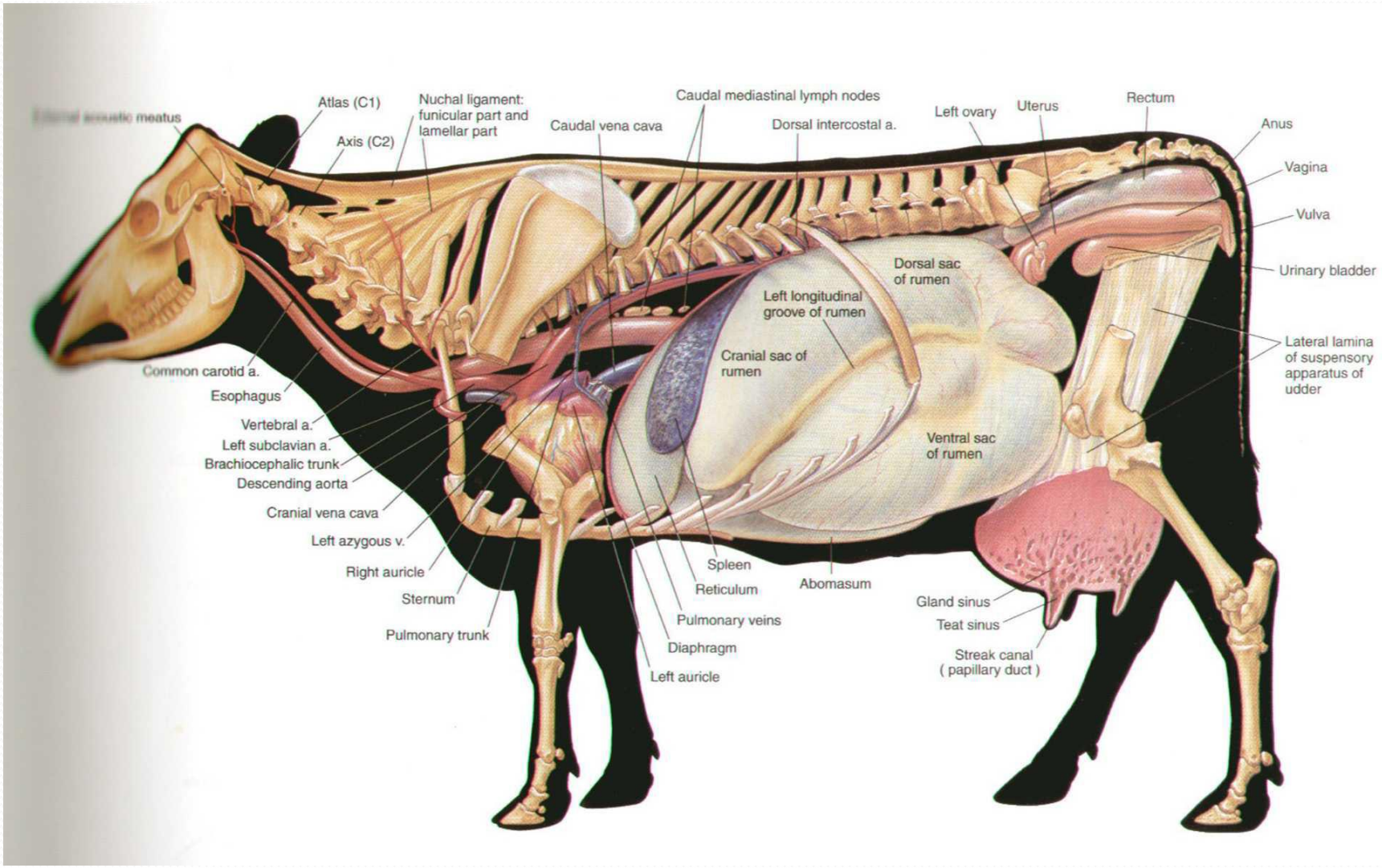
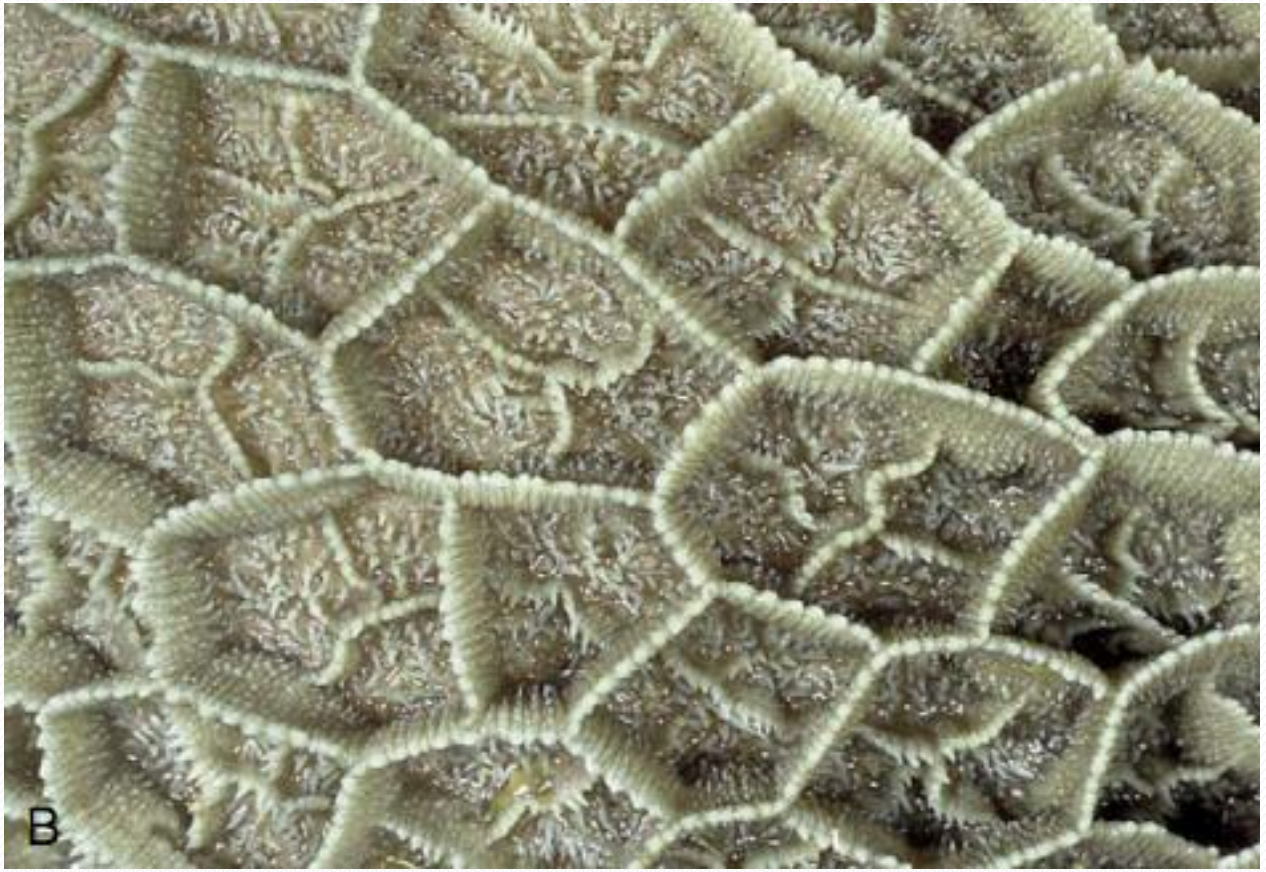


Fig 7-67. Topography of the rumen in an ox. Parts of the lateral body wall, several ribs and the lateral ruminal wall are removed, left lateral aspect (Pavaux, 1983).

پرزهای شکمبه گاو


External acoustic meatus
Atlas (C1)
Axis (C2)
Nuchal ligament: funicular part and lamellar part
Caudal vena cava
Caudal mediastinal lymph nodes
Dorsal intercostal a.
Left ovary
Uterus
Rectum
Anus
Vagina
Vulva
Urinary bladder
Dorsal sac of rumen
Left longitudinal groove of rumen
Cranial sac of rumen
Lateral lamina of suspensory apparatus of udder
Ventral sac of rumen
Common carotid a.
Esophagus
Vertebral a.
Left subclavian a.
Brachiocephalic trunk
Descending aorta
Cranial vena cava
Left azygous v.
Right auricle
Sternum
Pulmonary trunk
Spleen
Reticulum
Pulmonary veins
Diaphragm
Left auricle
Abomasum
Gland sinus
Teat sinus
Streak canal (papillary duct)


B

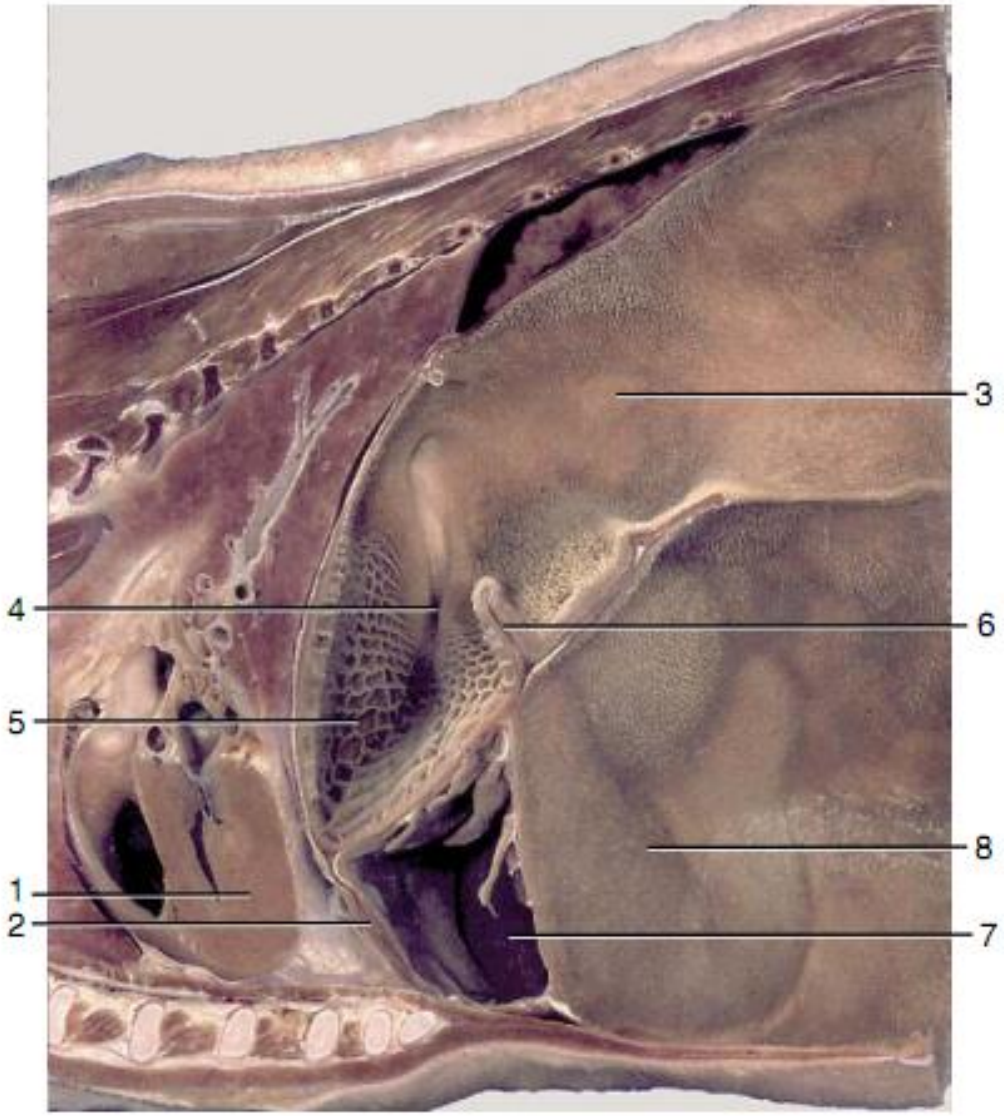
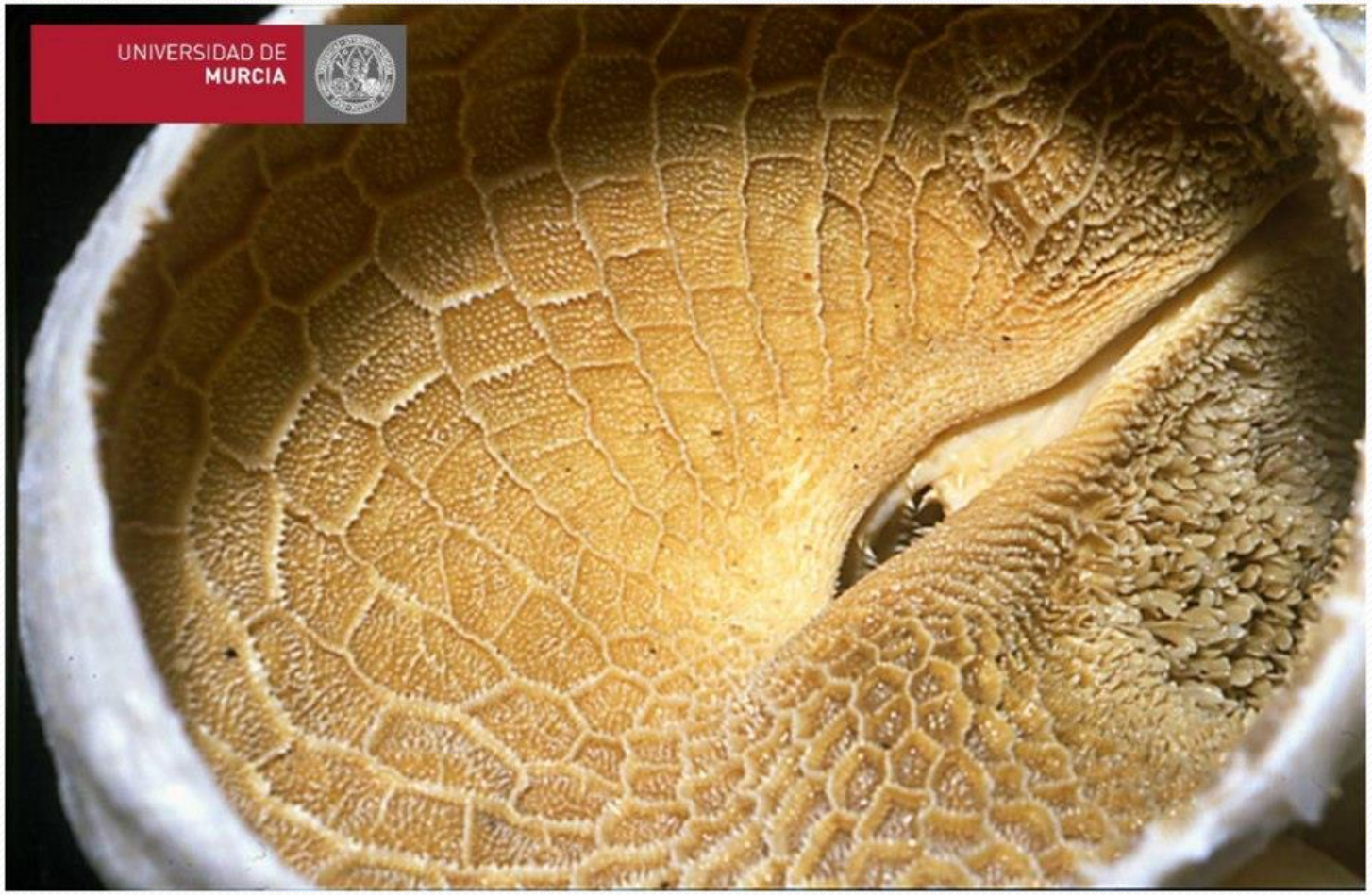


Figure 28–14 Paramedian section of part of the trunk of a goat. *1,* Heart; *2,* diaphragm; *3,* atrium ruminis; *4,* reticular groove; *5,* reticulum; *6,* ruminoreticular fold; *7,* abomasum; *8,* ventral sac of rumen.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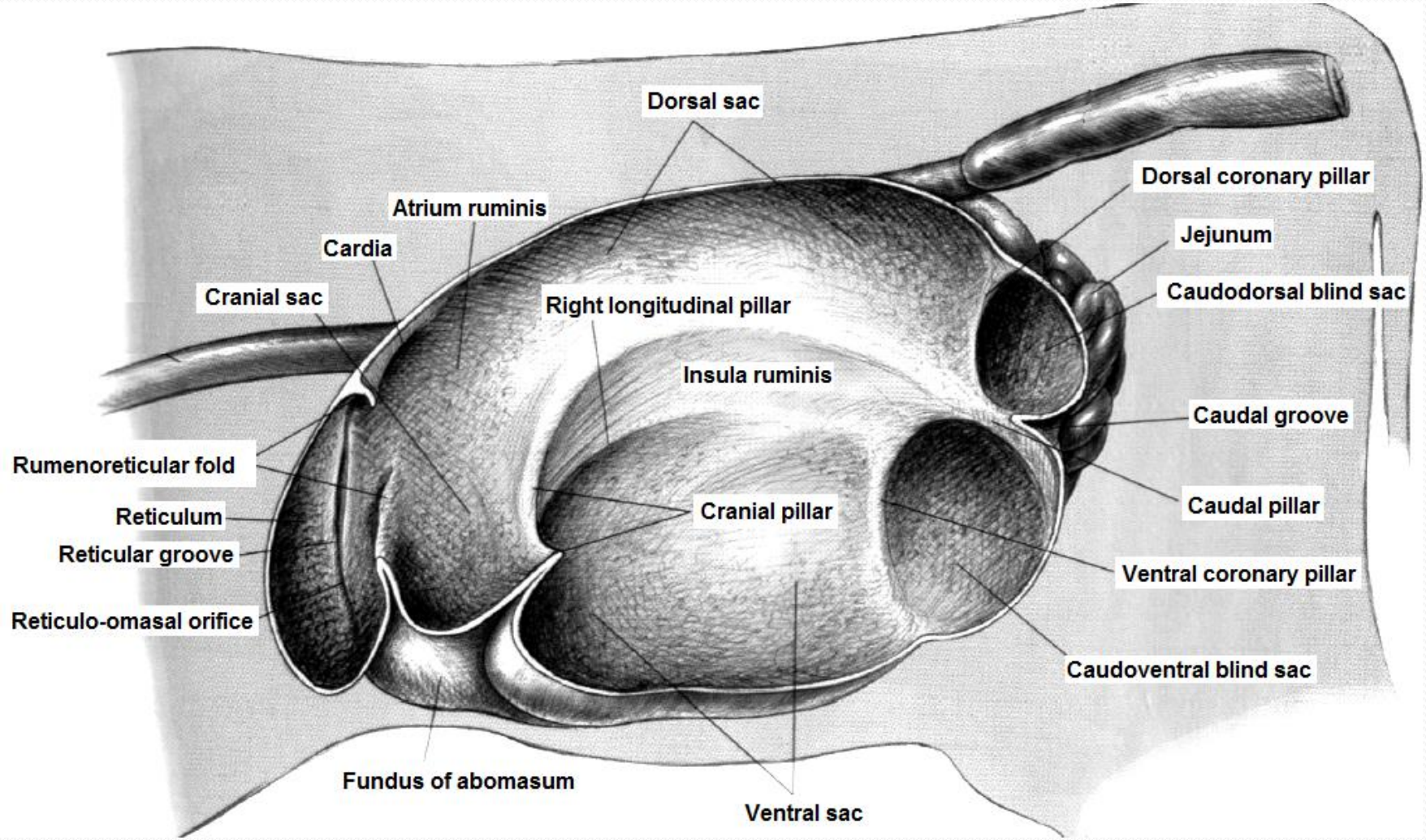
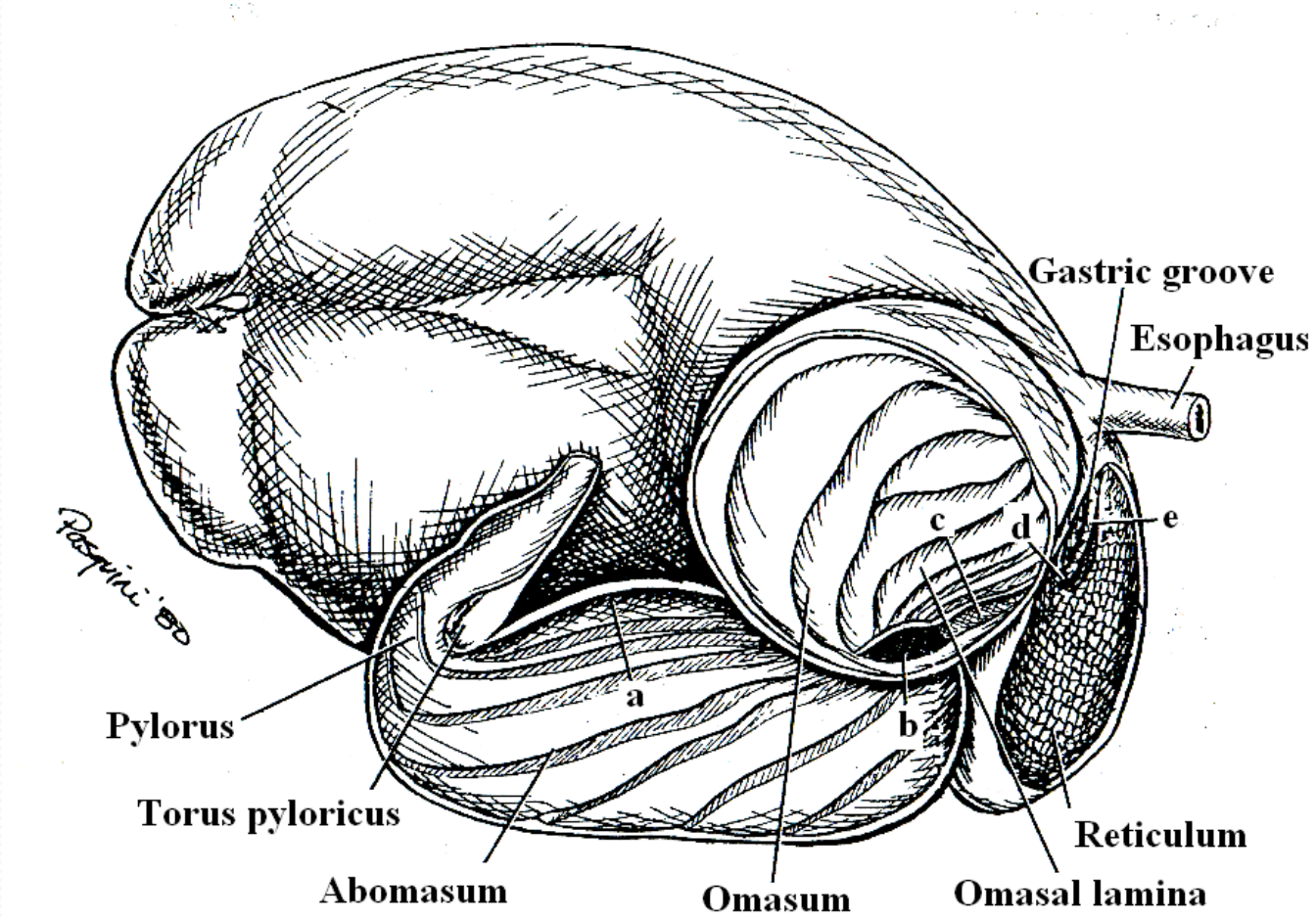
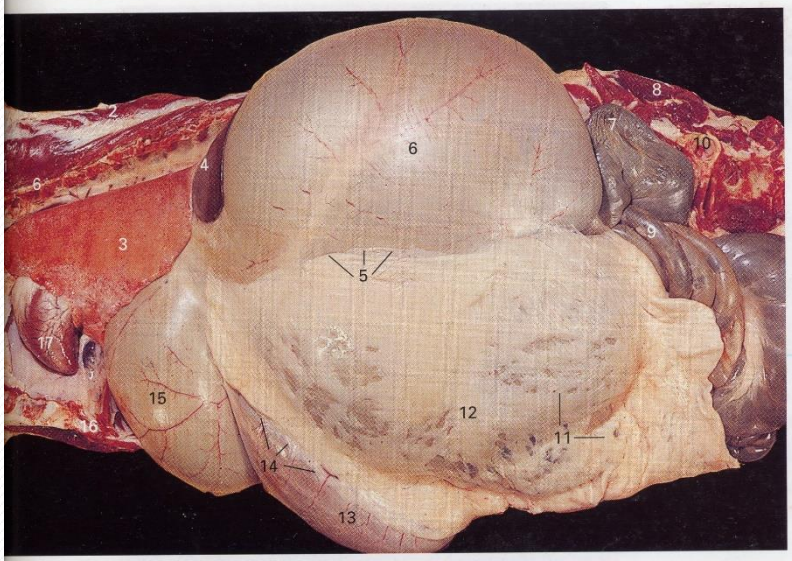

Dorsal sac
Dorsal coronary pillar
Atrium ruminis
Jejunum
Cardia
Caudodorsal blind sac
Cranial sac
Right longitudinal pillar
Insula ruminis
Caudal groove
Rumenoreticular fold
Caudal pillar
Cranial pillar
Reticulum
Reticular groove
Ventral coronary pillar
Reticulo-omasal orifice
Caudoventral blind sac
Fundus of abomasum
Ventral sac

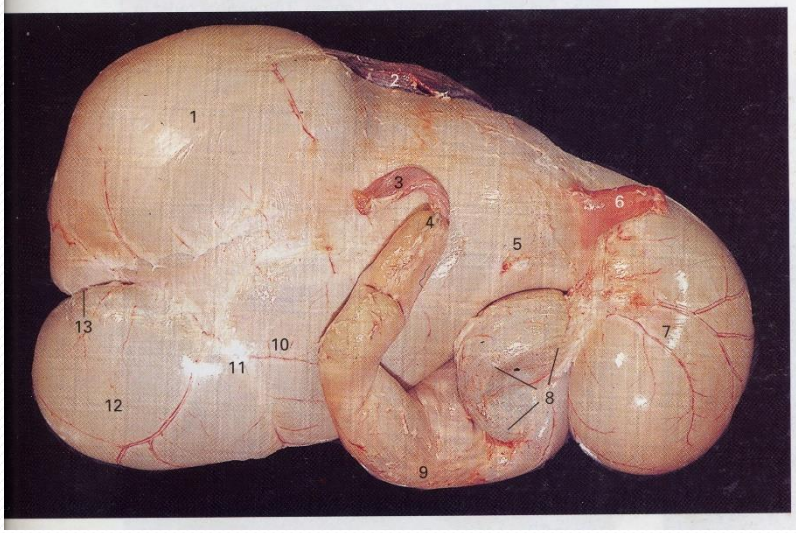


a)Abomasal groove b)Omasoabomasal opening c)Omasal groove
d)Reticuloomasal opening e)Reticular groove



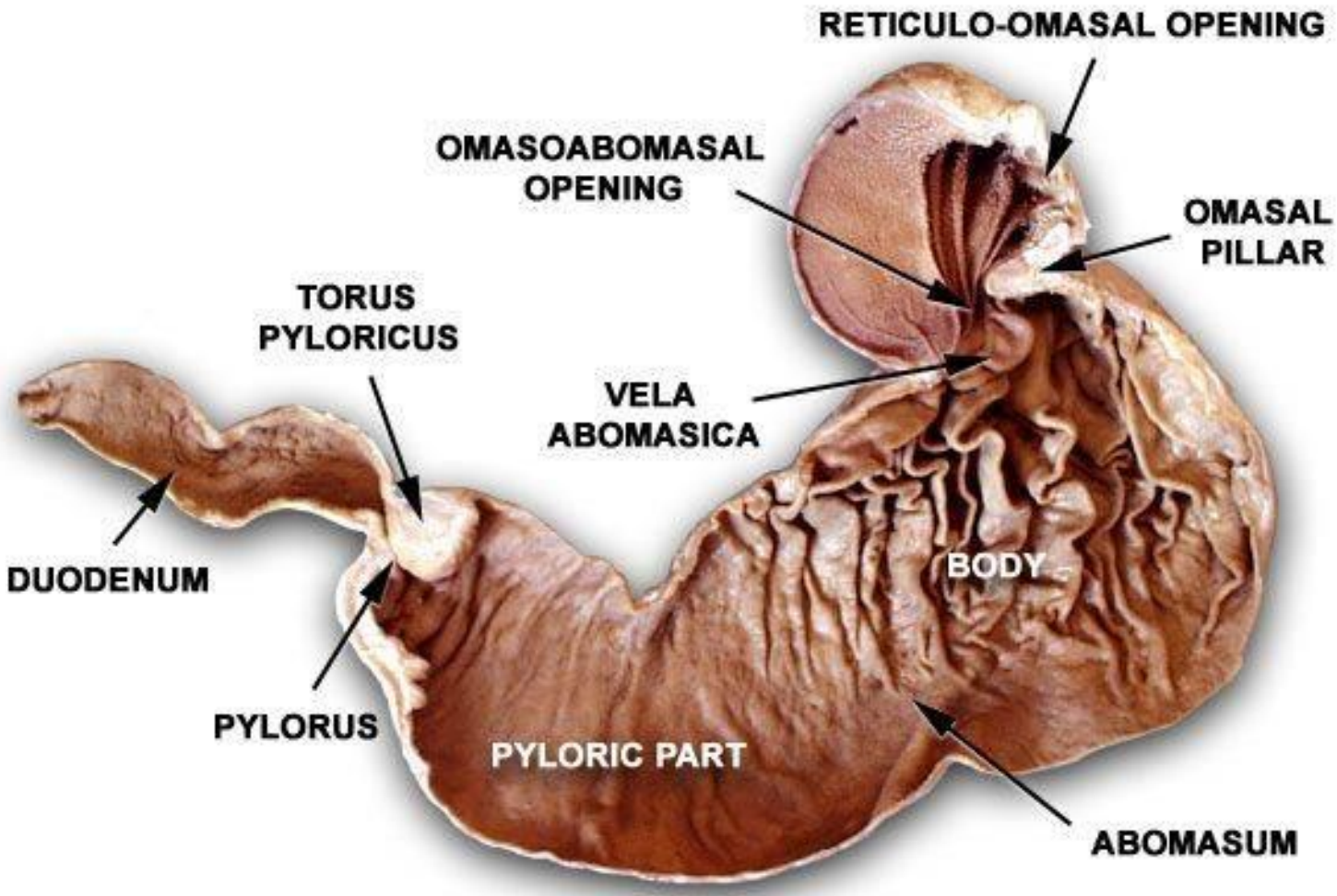
271. Left view of the contents of the thorax and abdomen of a sheep. The body wall has been removed and the diaphragm has been allowed to slip out of sight between the stomach and the left lung. The stomach is distended with gas which allows its compartments to be clearly distinguished but increases its size: this effect has been exaggerated by foreshortening.

1 M. longissimus thoracis
2 M. rhomboideus cervicis
3 Caudal lobe of the left lung
4 Parietal surface of the spleen
5 Left longitudinal groove of the rumen and the attachment of the greater omentum
6 Dorsal sac of the rumen
7 Part of the proximal loop of the ascending colon
8 M. gluteus medius
9 Parts of the spiral loop of the ascending colon
10 Acetabulum
11 Superficial sheet of the greater omentum
12 Ventral sac of the rumen covered by the superficial sheet of the greater omentum
13 Body of the abomasum
14 Attachment of the superficial sheet of the greater omentum along the greater curvature of the abomasum
15 Reticulum
16 Xiphisternal cartilage cut longitudinally
17 Left ventricle



272. Right view of the stomach and spleen of a sheep. The omenta have been removed.

1 Dorsal sac of the rumen
2 Dorsal end of the spleen
3 Beginning of the descending duodenum
4 Pylorus
5 Atrium of the rumen
6 Oesophagus
7 Reticulum
8 Omasum
9 Body of the abomasum
10 Ventral sac of the rumen
11 Right ventral coronary groove
12 Caudoventral blind sac
13 Caudal groove



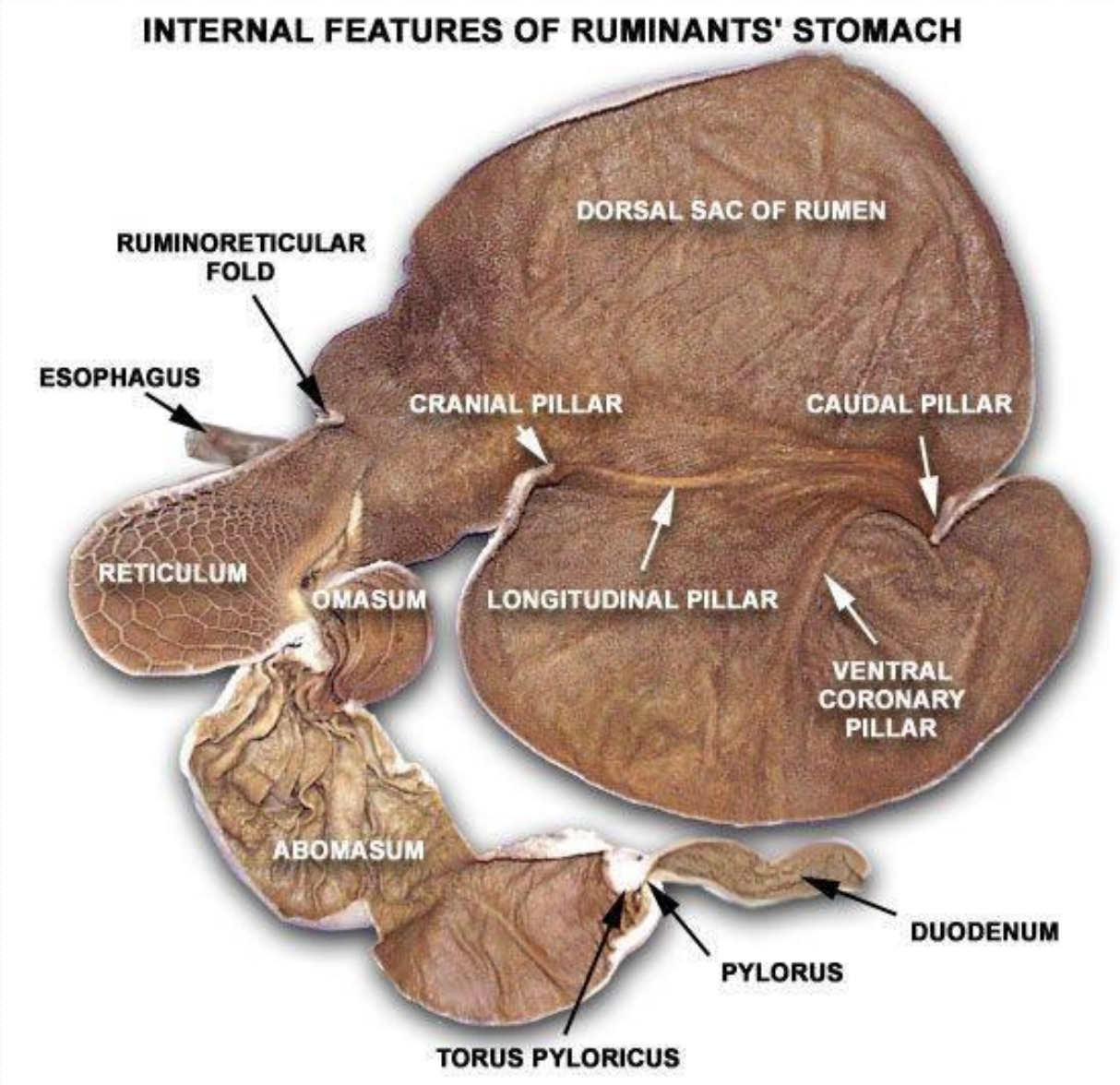
INTERIOR OF OMASOABOMASUM (GOAT)

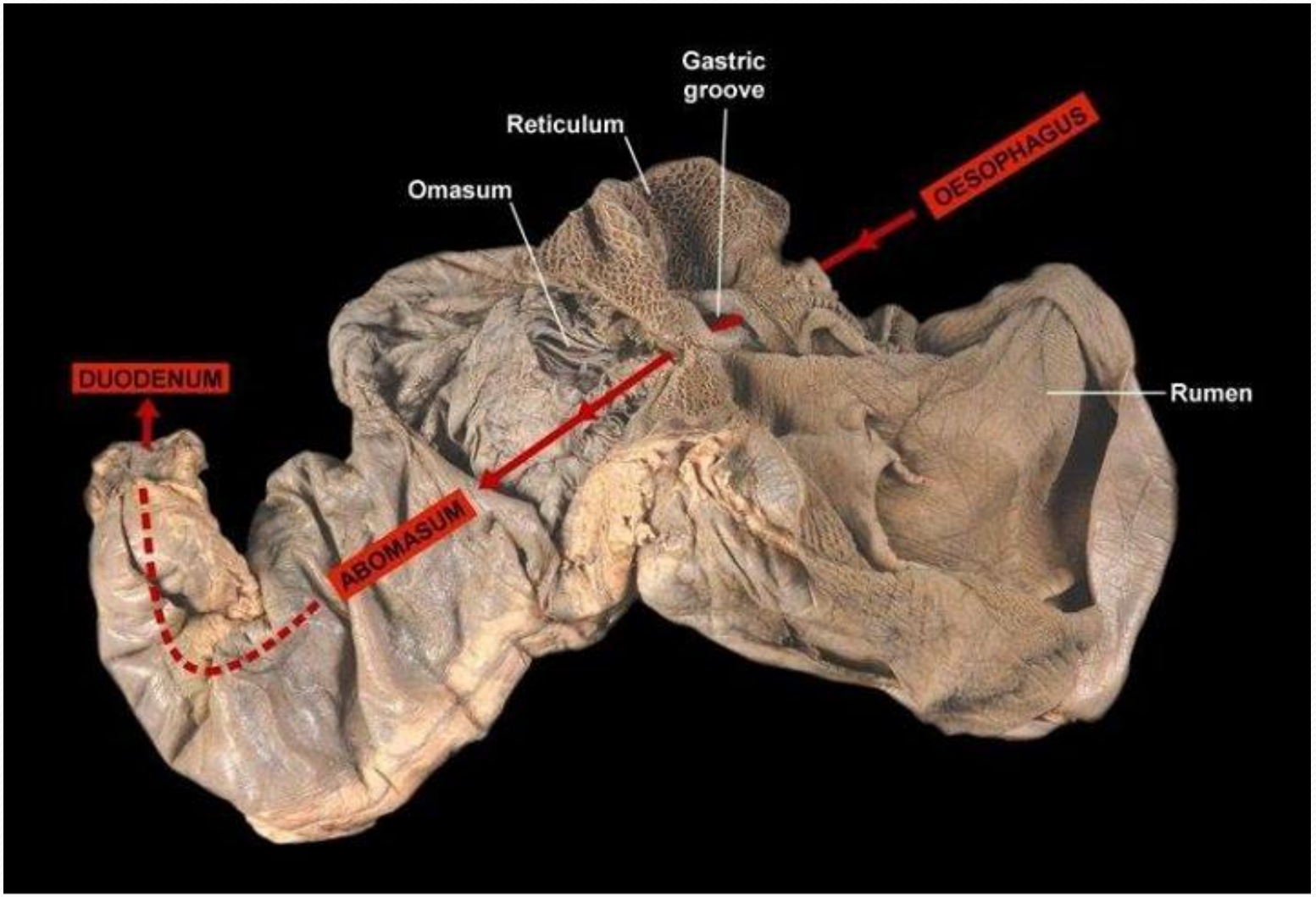
278. The mucosa of the dorsal sac of the rumen of a sheep.

279. The mucosa of the reticulum of a sheep. The area shown is the most ventral part of the organ.

280. The mucosa of the omasum of a sheep. The greater curvature is to the left and the lesser curvature to the right. Moving from left to right, the edges of progressively larger mucosal folds can be seen.

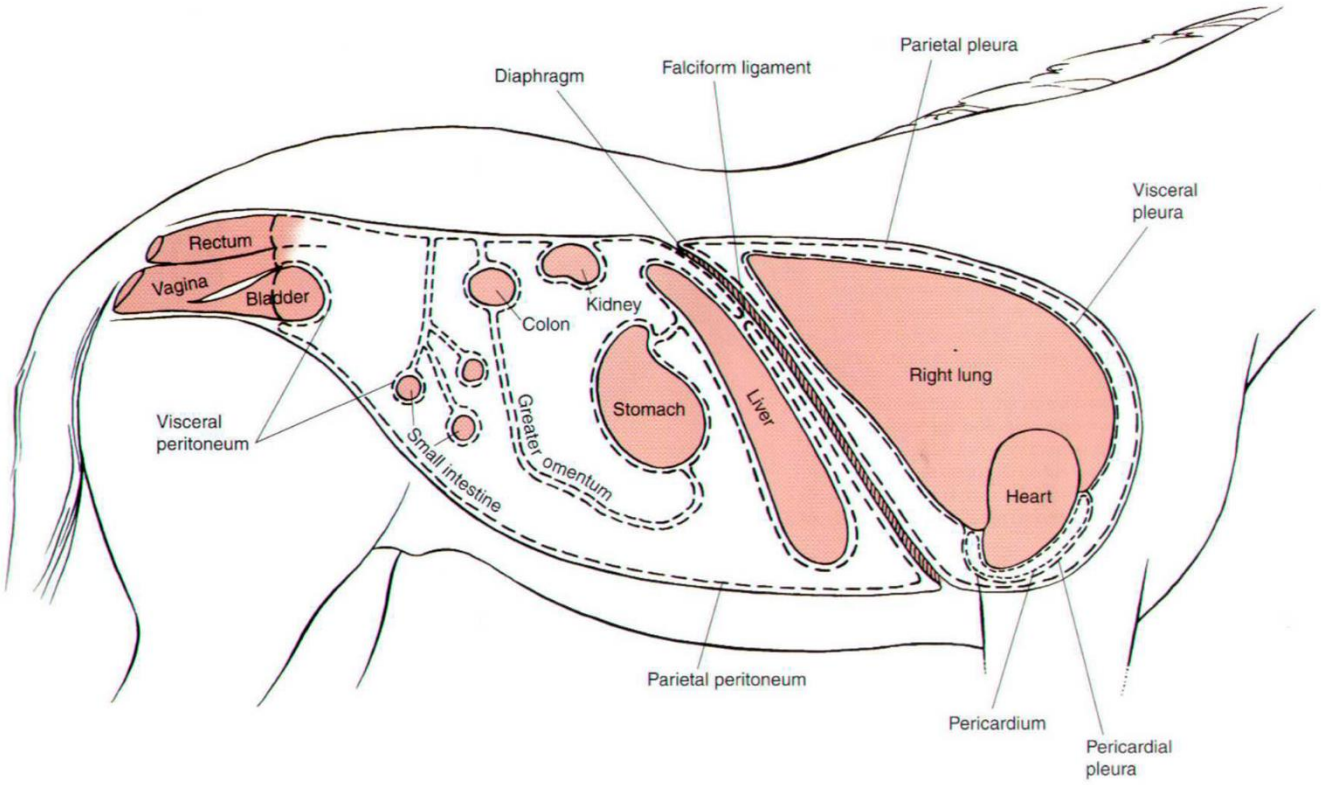
281. The mucosa of the abomasum of a sheep showing some of the permanent folds.


INTERNAL FEATURES OF RUMINANTS' STOMACH
DORSAL SAC OF RUMEN
RUMINORETICULAR FOLD
ESOPHAGUS
CRANIAL PILLAR
CAUDAL PILLAR
RETICULUM
OMASUM
LONGITUDINAL PILLAR
VENTRAL CORONARY PILLAR
ABOMASUM
DUODENUM
PYLORUS
TORUS PYLORICUS



A fixed calf stomach. The red arrow demarcates the route of milk flow i.e. bypassing of the forestomachs to the abomasum via the gastric groove. Note large abomasum relative to rumen in this suckling animal

Peritoneum


Diaphragm
Falciform ligament
Parietal pleura
Visceral pleura
Rectum
Vagina
Bladder
Colon
Kidney
Stomach
Liver
Right lung
Heart
Visceral peritoneum
Small intestine
Greater omentum
Parietal peritoneum
Pericardium
Pericardial pleura

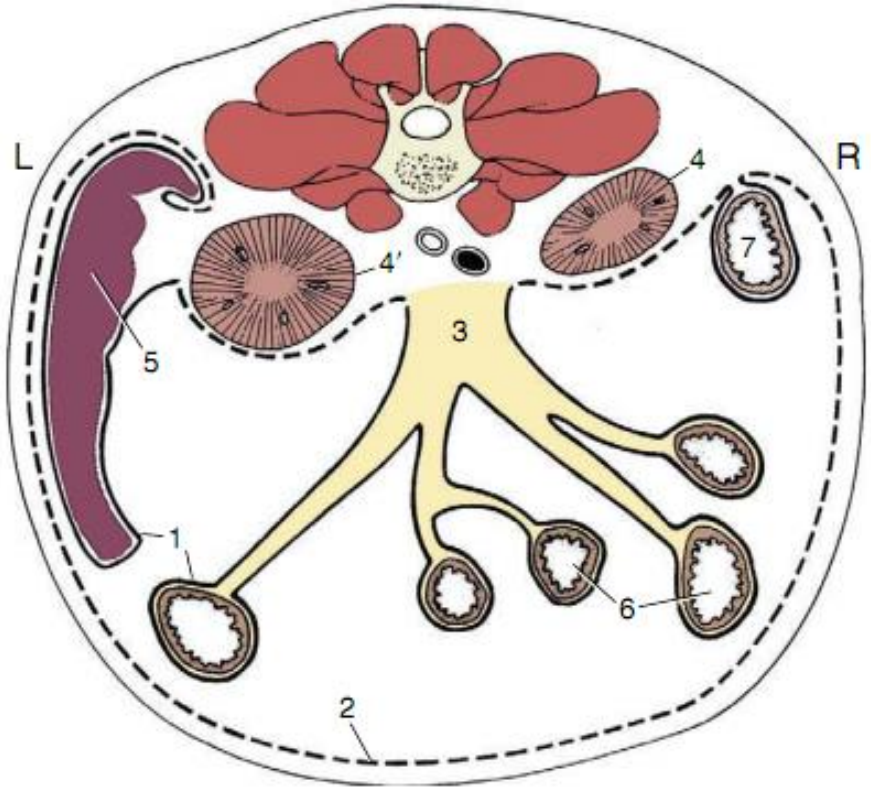


Figure 3–32 Schematic transverse section through the abdomen of the dog. *1,* Visceral peritoneum *(continuous line); 2,* parietal peritoneum *(broken line); 3,* root of mesentery; *4, 4',* right and left kidneys (retroperitoneal); *5,* spleen; *6,* jejunum; *7,* descending duodenum.

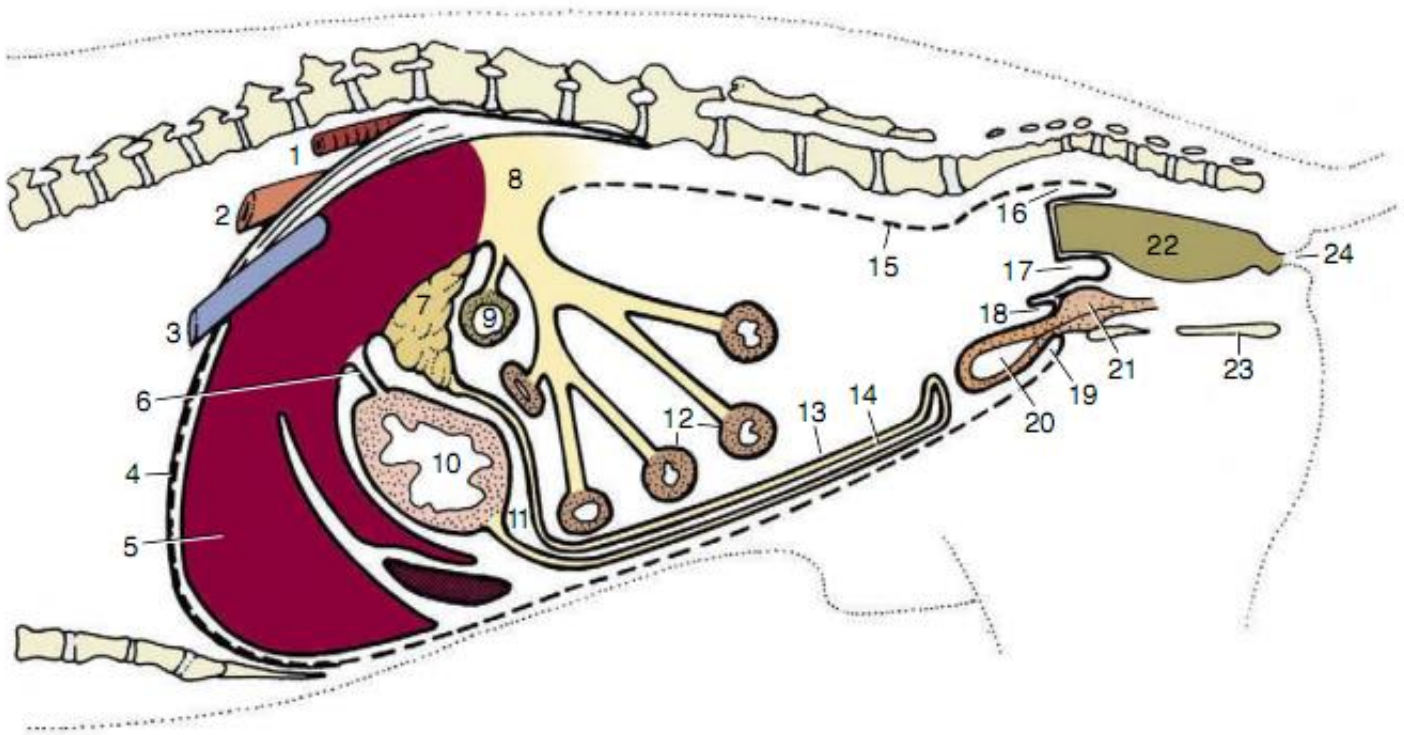
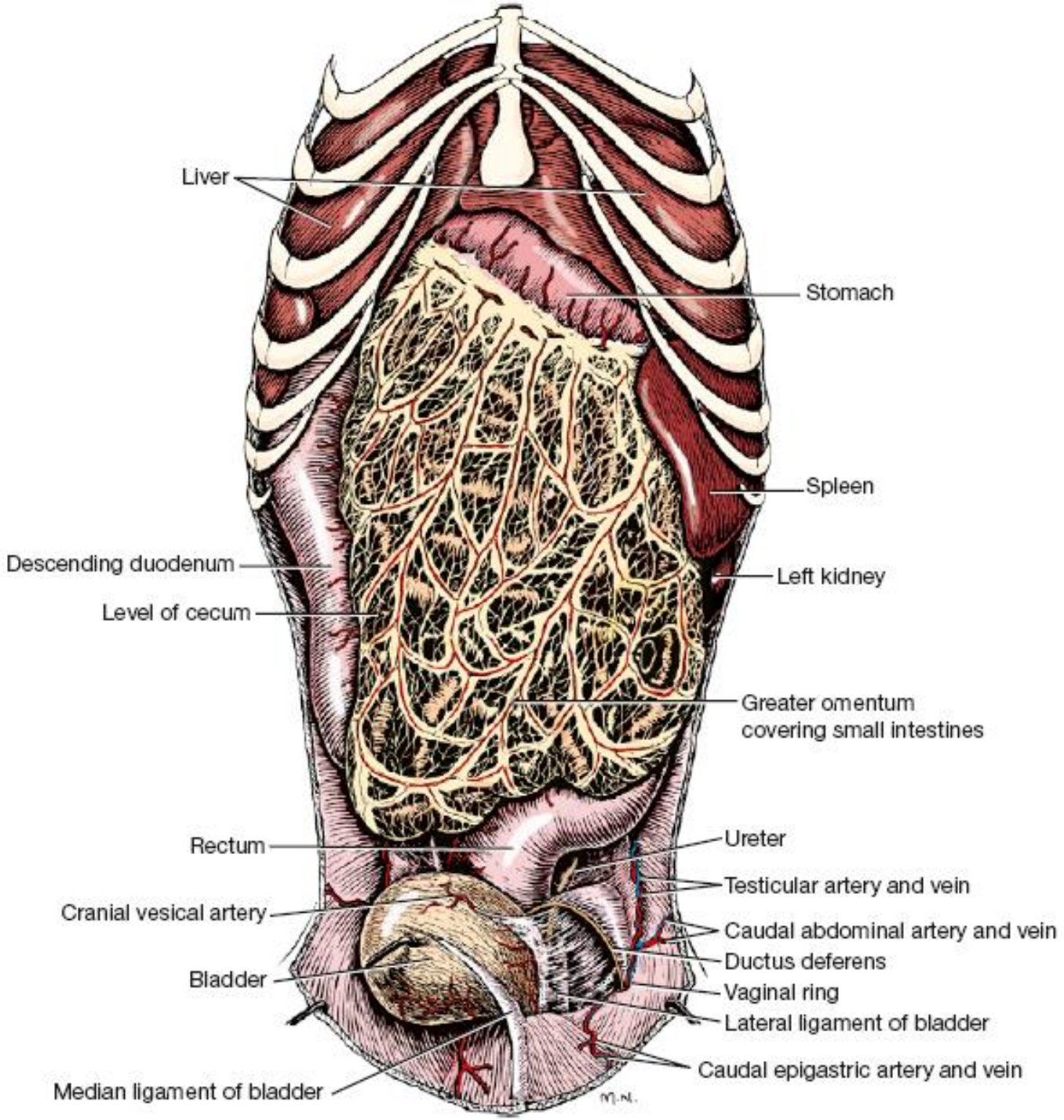
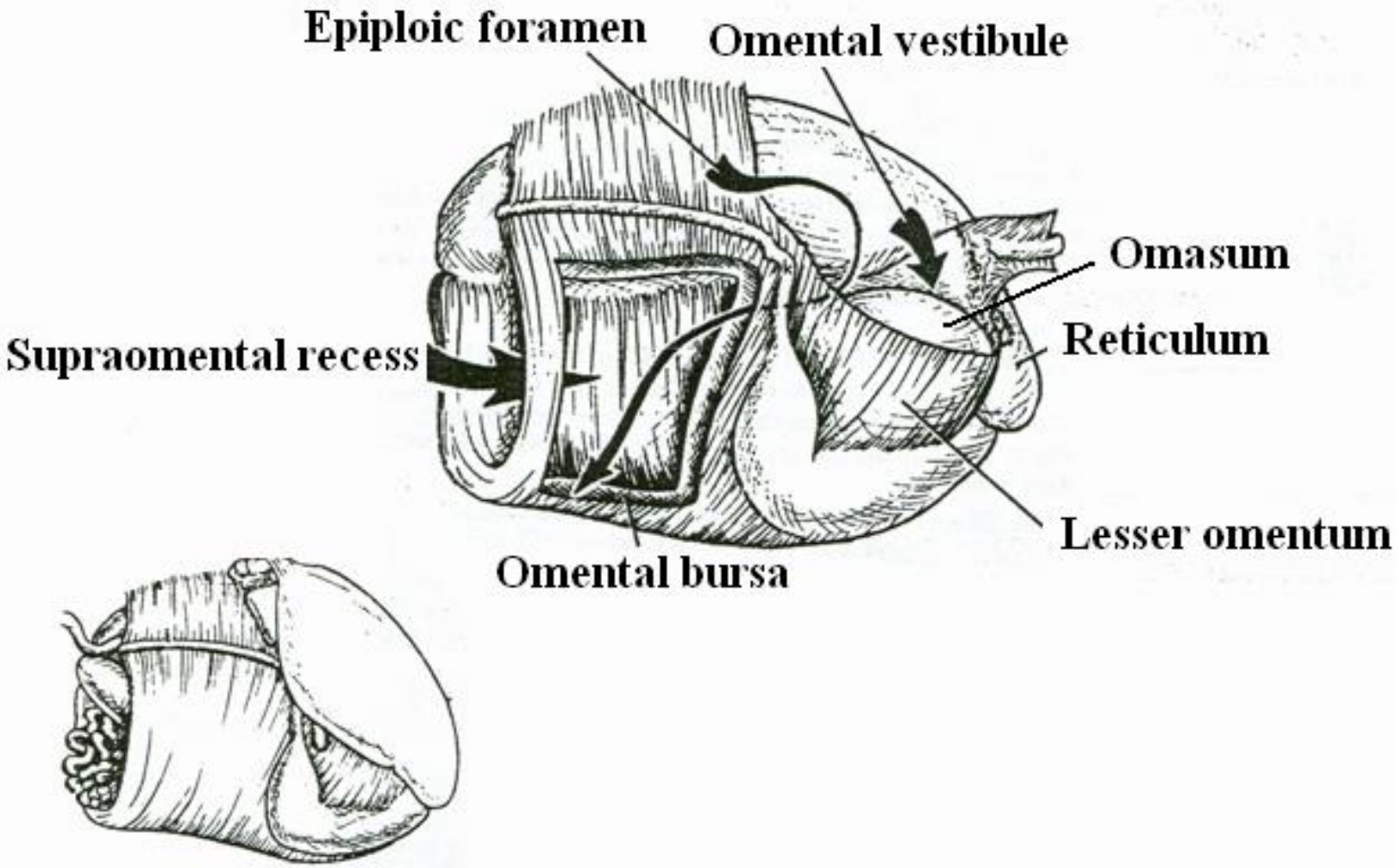
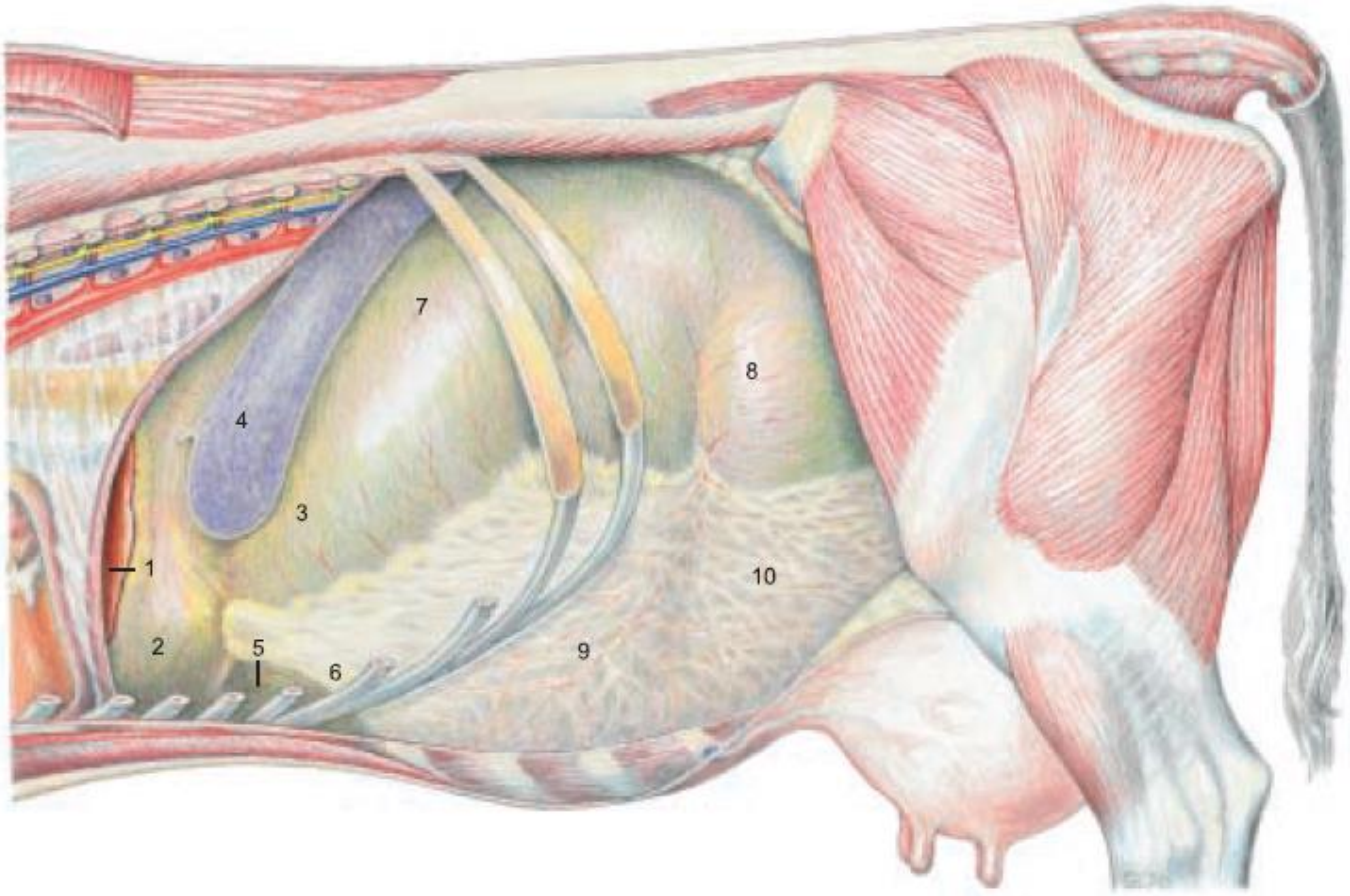


Figure 3–33 Paramedian section of the abdominal cavity of a dog to show the disposition of the peritoneum (schematic). *1,* Aorta; *2,* esophagus; *3,* caudal vena cava; *4,* diaphragm; *5,* liver; *6,* lesser omentum; *7,* pancreas; *8,* root of mesentery; *9,* transverse colon; *10,* stomach; *11,* omental bursa; *12,* small intestine; *13,* deep wall of greater omentum; *14,* superficial wall of greater omentum; *15,* parietal peritoneum; *16,* pararectal fossa; *17,* rectogenital pouch; *18,* vesicogenital pouch; *19,* pubovesical pouch; *20,* bladder; *21,* prostate; *22,* rectum; *23,* ischium; *24,* anus.


Liver
Stomach
Spleen
Descending duodenum
Left kidney
Level of cecum
Greater omentum
covering small intestines
Rectum
Ureter
Testicular artery and vein
Cranial vesical artery
Caudal abdominal artery and vein
Ductus deferens
Bladder
Vaginal ring
Lateral ligament of bladder
Caudal epigastric artery and vein
Median ligament of bladder


Epiploic foramen
Omental vestibule
Omasum
Supraomental recess
Reticulum
Lesser omentum
Omental bursa

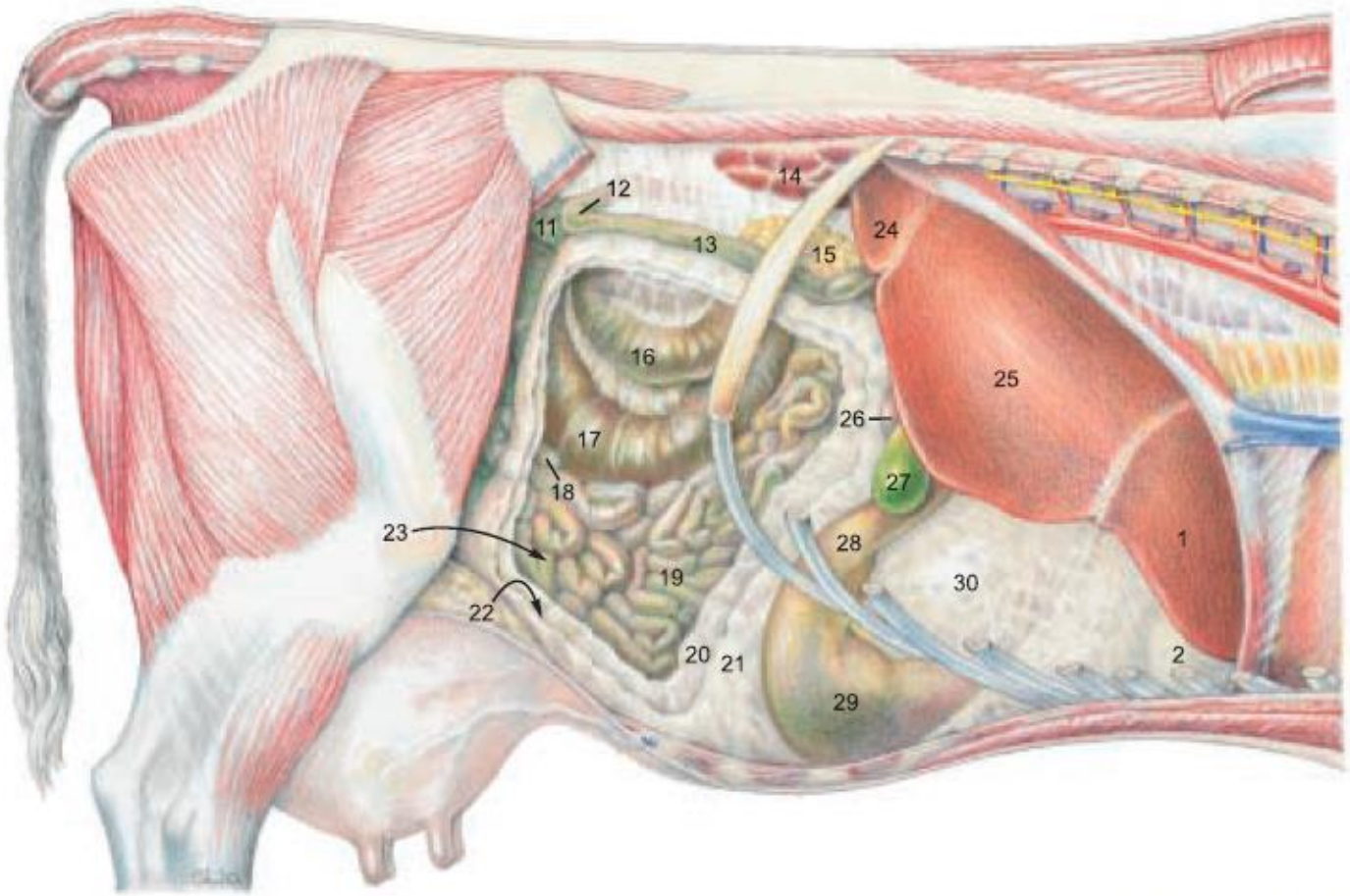
(Left side)



Legend:

1 Left lobe of liver
2 Reticulum
3 Atrium of rumen
4 Spleen
5 Fundus of abomasum
6 Recess of ventral sac of rumen covered by omentum
7 Dorsal sac of rumen
8 Caudodorsal blind sac of rumen
9 Ventral sac of rumen covered by omentum
10 Caudoventral blind sac of rumen covered by omentum
11 Sigmoid part of descending colon
12 Caudal flexure of duodenum
13 Descending duodenum
14 Right kidney
15 Right lobe of pancreas

(Right side)



(See pp. 17, 63, 65, 67)

Legend:

16 Prox. loop of ascending colon
17 Cecum
18 Ileum
19 Jejunum

Greater omentum:
20 Deep wall
21 Supf. wall
22 Caudal recess

23 Supraomental recess
24 Caudate process of liver
25 Right lobe of liver
26 Cranial part of duodenum

27 Gall bladder
28 Pyloric part of abomasum
29 Body of abomasum
30 Omasum covered by lesser omentum

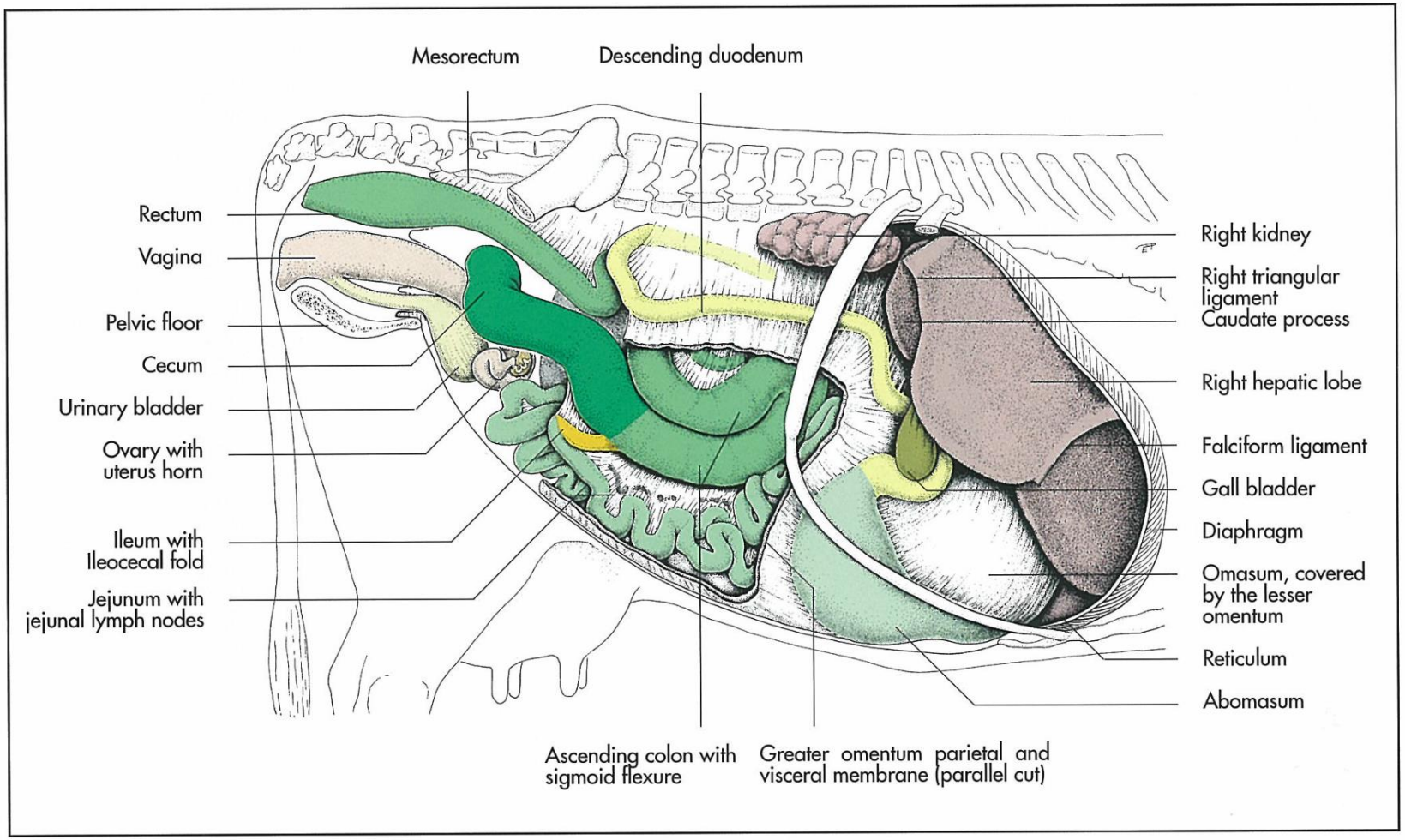
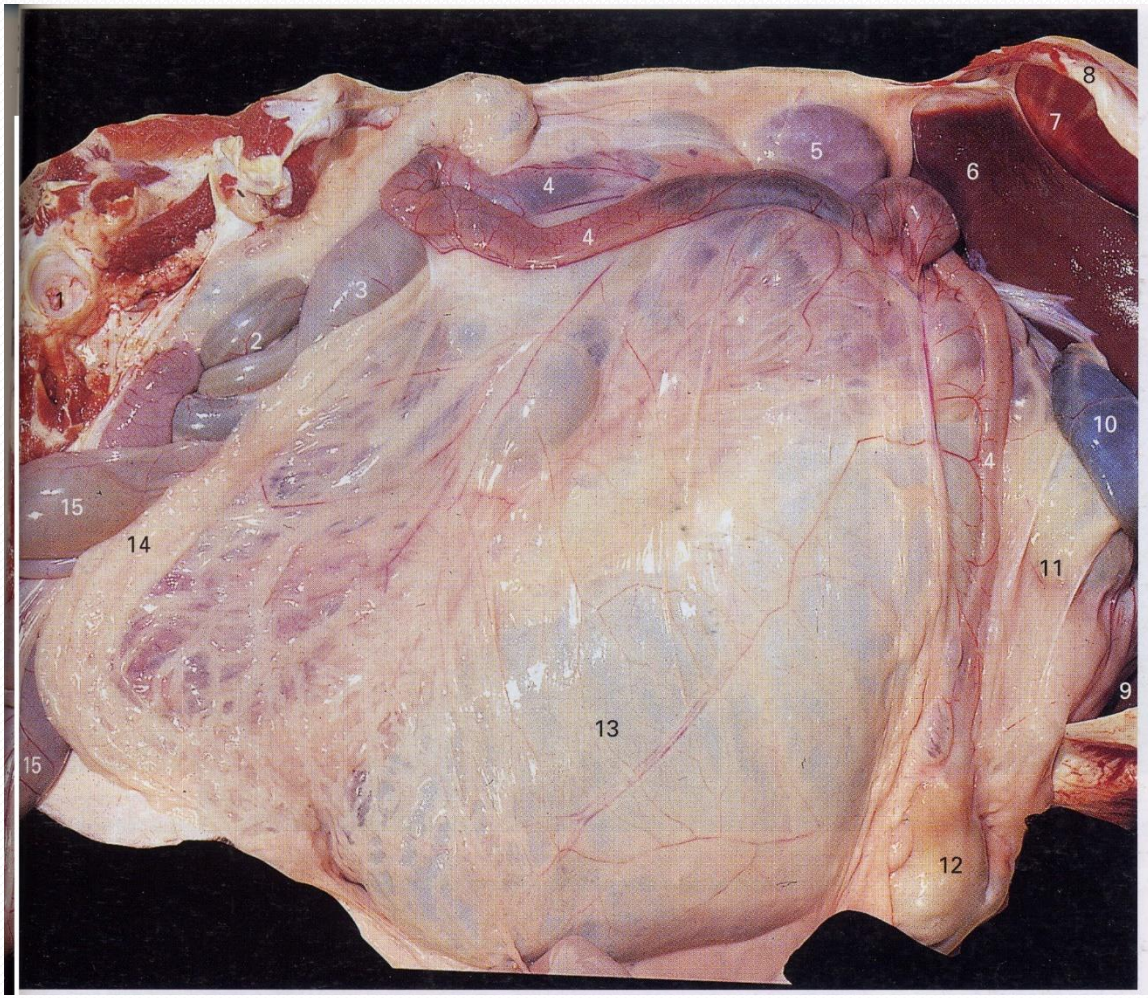


Fig 7-77. Topography of the abdominal and pelvic organs of the ox, right lateral aspect, abdominal wall and greater omentum removed, schematic.



317. The abdominal contents of a sheep seen from the right side. The body wall has been removed.

1 Acetabulum
2 Loops of jejunum
3 Part of the proximal loop of the ascending colon
4 Descending duodenum
5 Right kidney
6 Right lobe of the liver
7 Abdominal surface of the diaphragm
8 Caudal border of the rib cage
9 Left lobe of the liver
10 Gall bladder
11 Lesser omentum
12 Pyloric part of the abomasum
13 Ventral sac of the rume seen through the superficial sheet of the greater omentum
14 Line of reflection of the omentum where the superficial and deep sheets are continuous with one another
15 Caecum

Intestines

روده ی کوچک (Small intestine)

دوازدهه

تهی روده

ایلئوم

روده ی بزرگ (Large intestine)

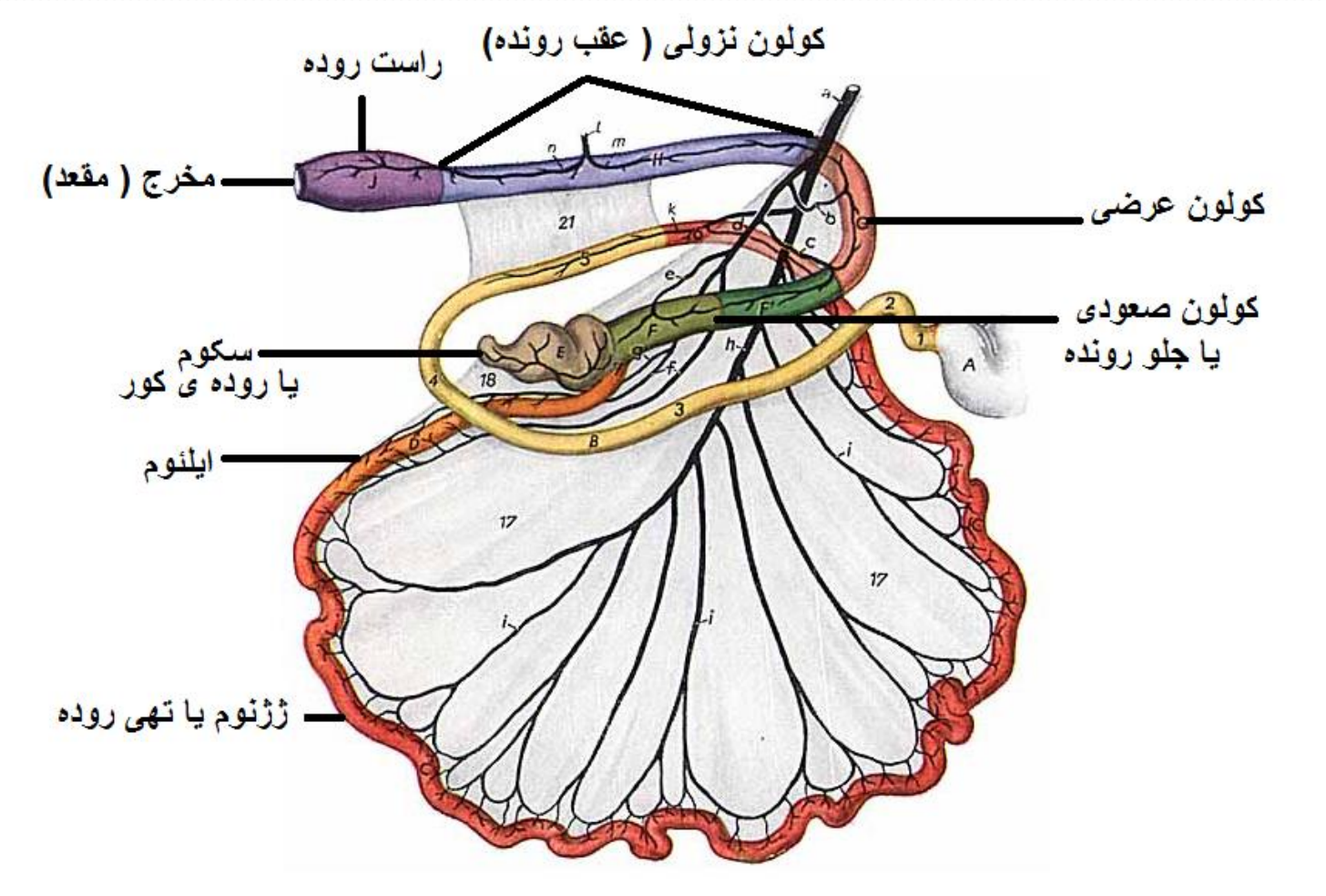
روده ی کور (سکوم)

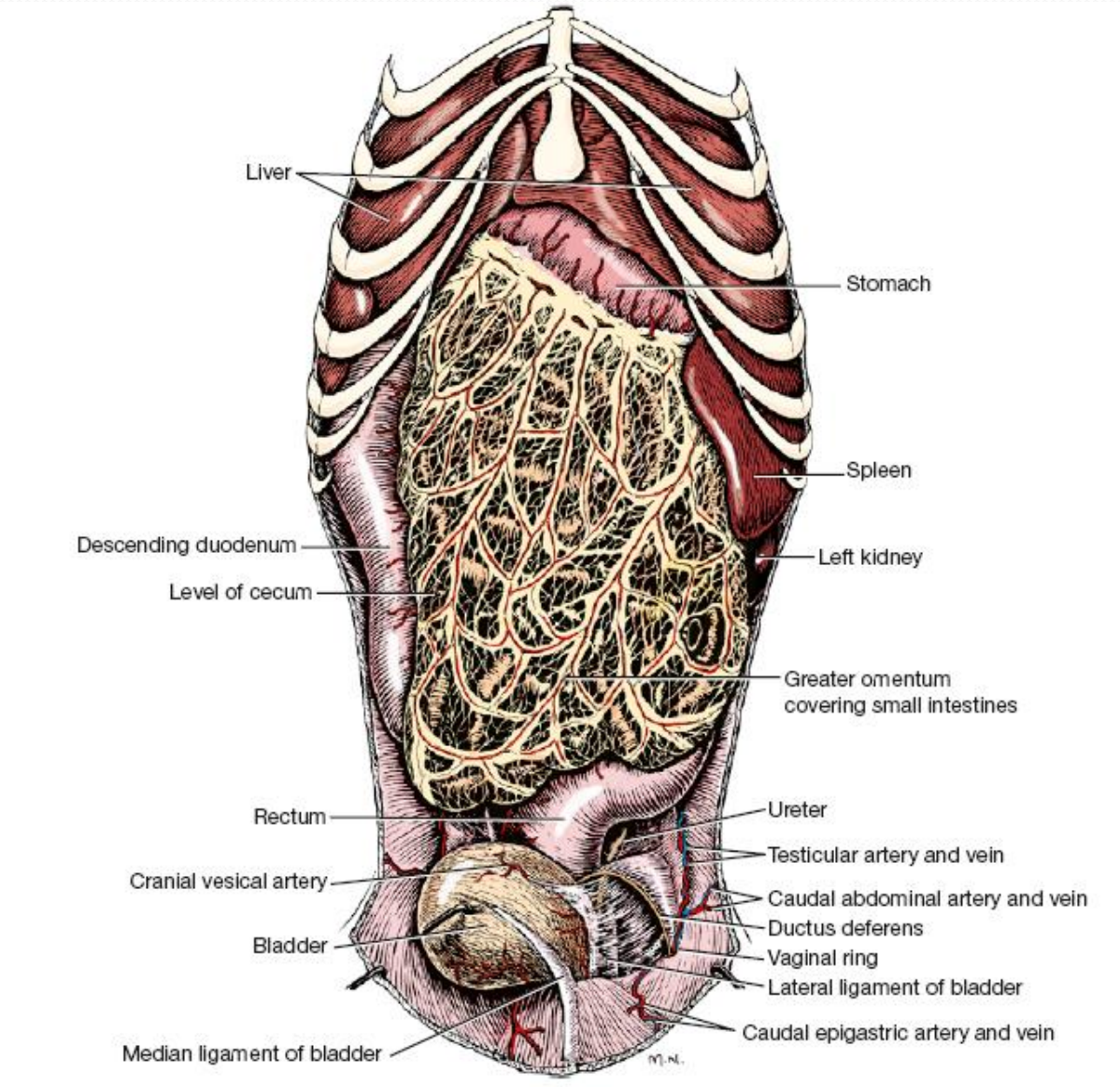
کولون ها

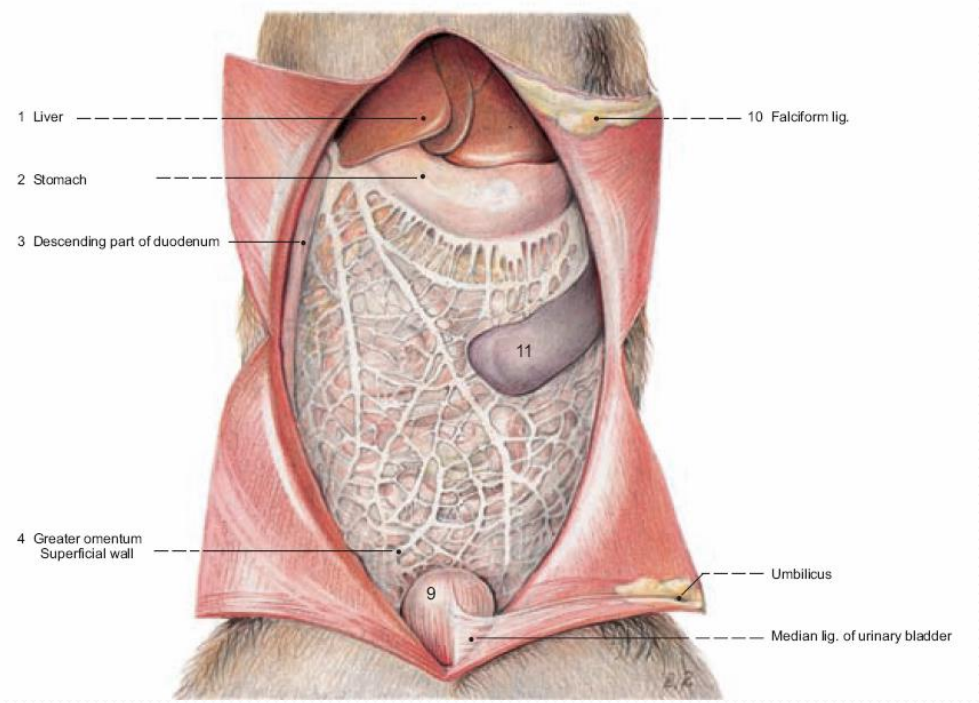
راست روده (رکتوم)

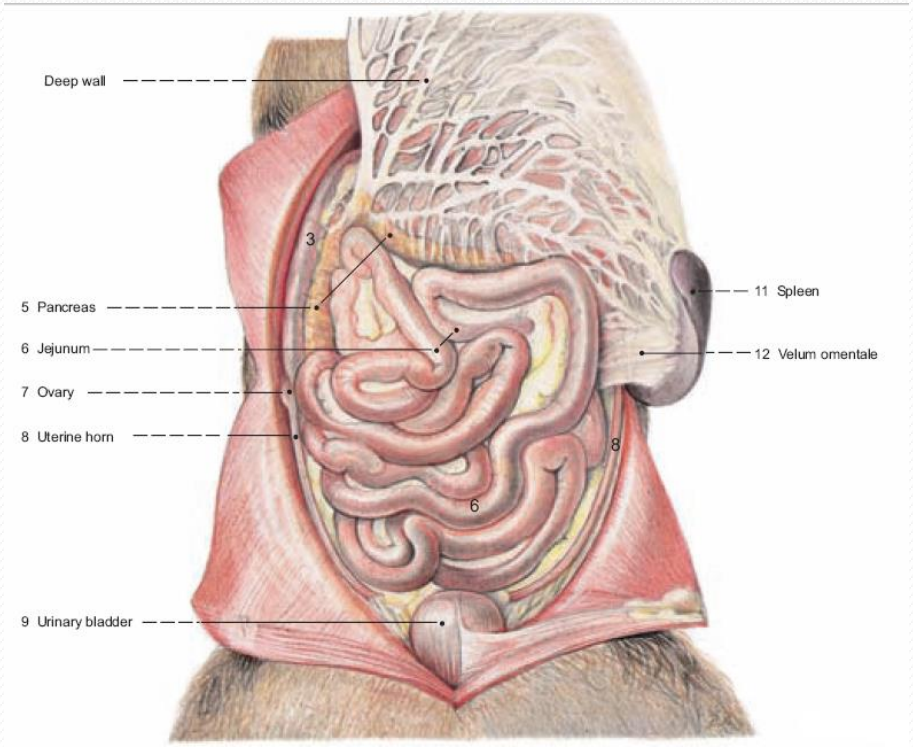
مقعد

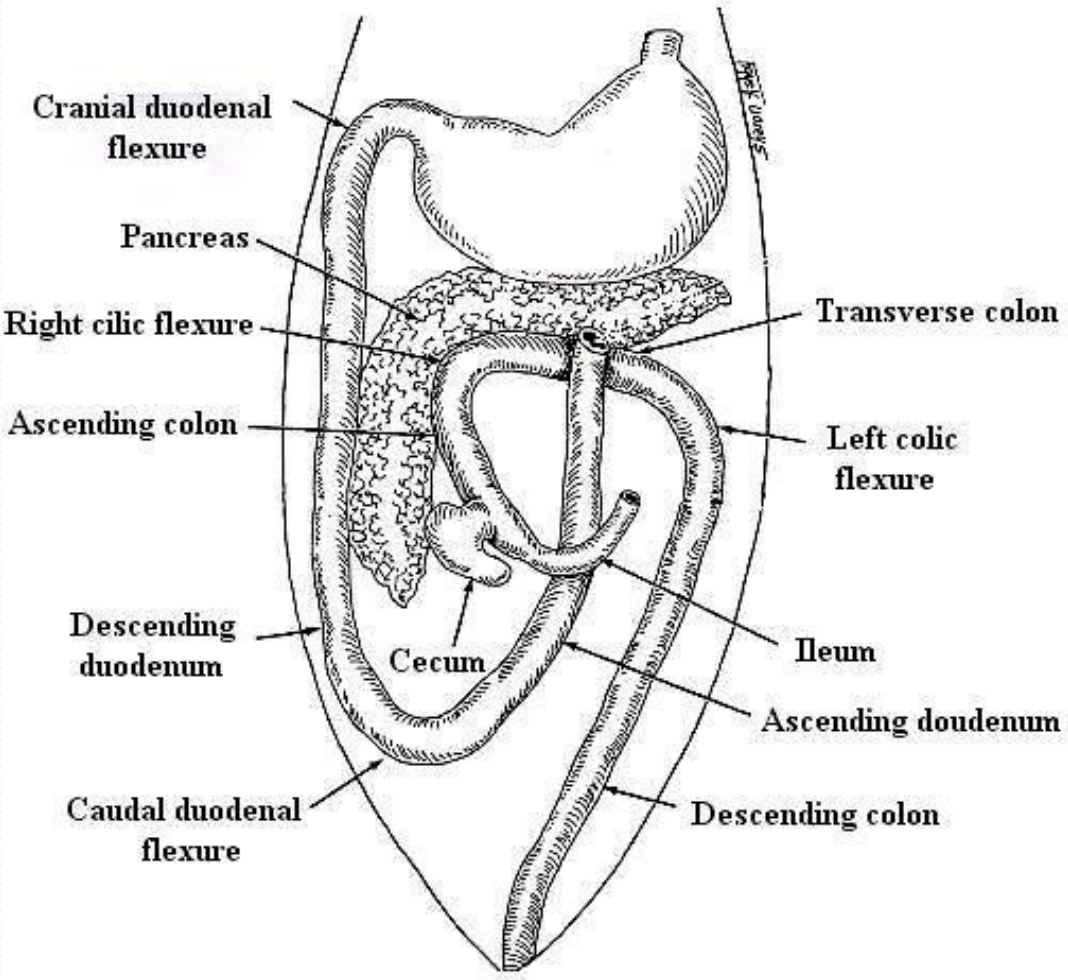
Small intestine - Car.

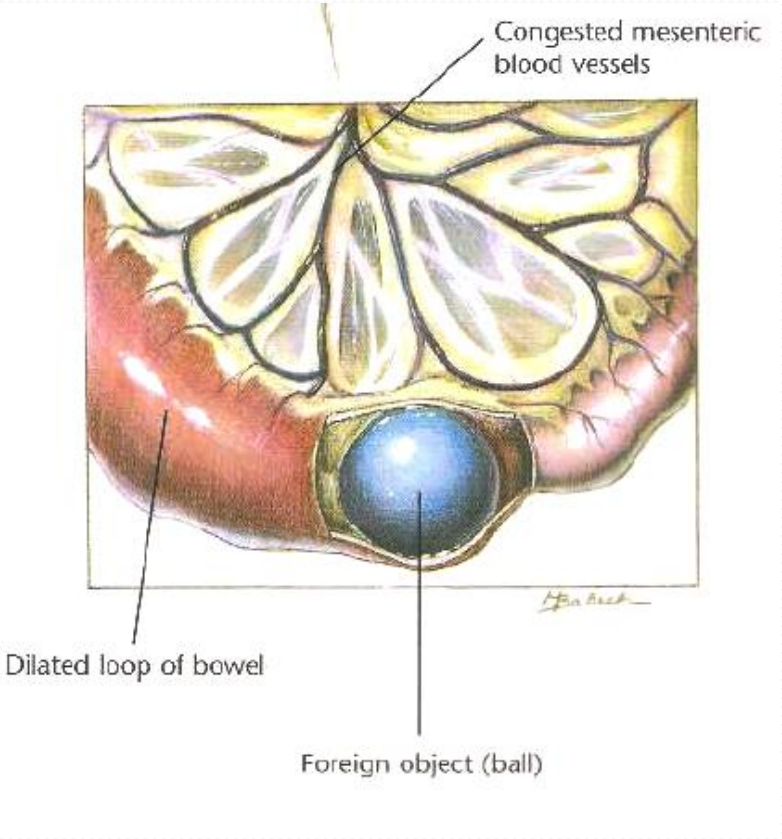


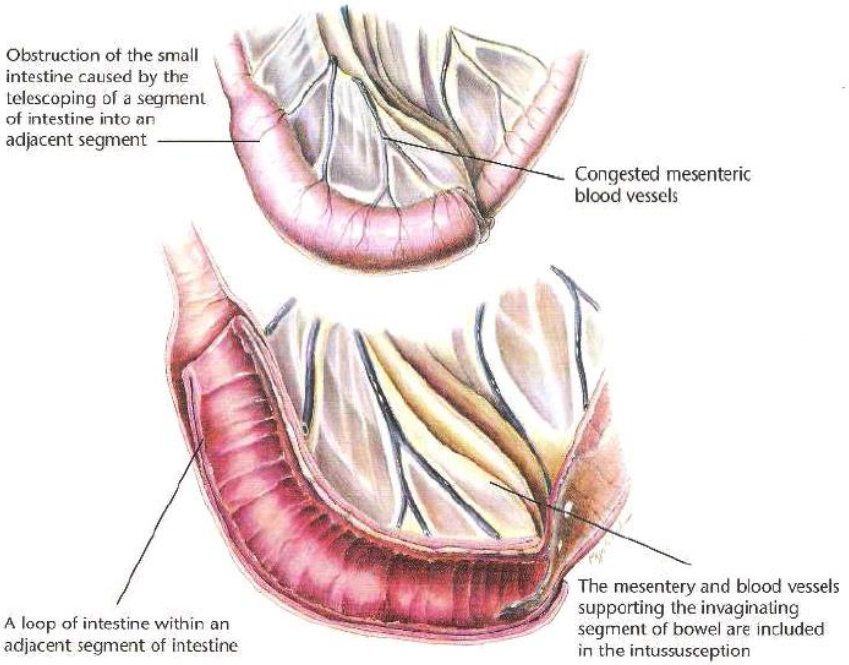

Liver
Stomach
Spleen
Descending duodenum
Left kidney
Level of cecum
Greater omentum
covering small intestines
Rectum
Ureter
Testicular artery and vein
Cranial vesical artery
Caudal abdominal artery and vein
Ductus deferens
Bladder
Vaginal ring
Lateral ligament of bladder
Caudal epigastric artery and vein
Median ligament of bladder


1 Liver
2 Stomach
3 Descending part of duodenum
4 Greater omentum
Superficial wall
10 Falciform lig.
11
9
Umbilicus
Median lig. of urinary bladder

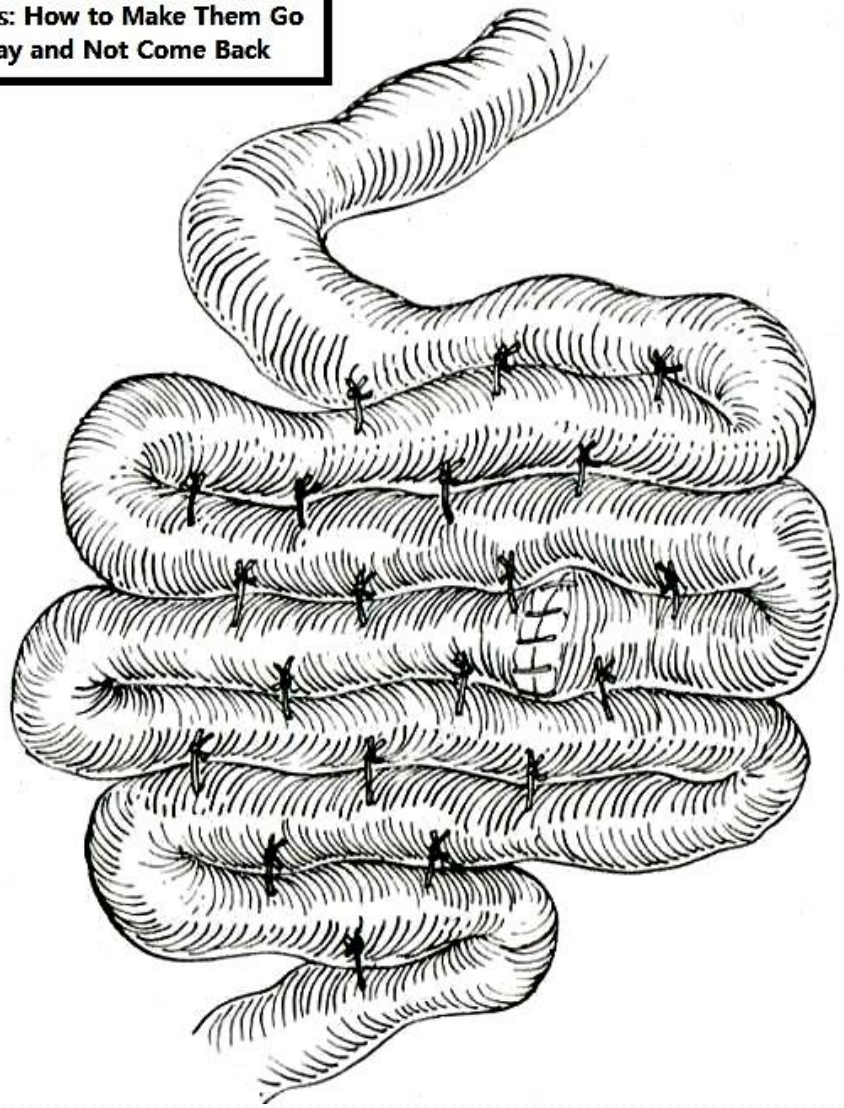

Deep wall
3
5 Pancreas
6 Jejunum
7 Ovary
8 Uterine horn
9 Urinary bladder
11 Spleen
12 Velum omentale
8
6


Cranial duodenal flexure
Pancreas
Right cilic flexure
Ascending colon
Transverse colon
Left colic flexure
Descending duodenum
Cecum
Ileum
Ascending doudenum
Caudal duodenal flexure
Descending colon

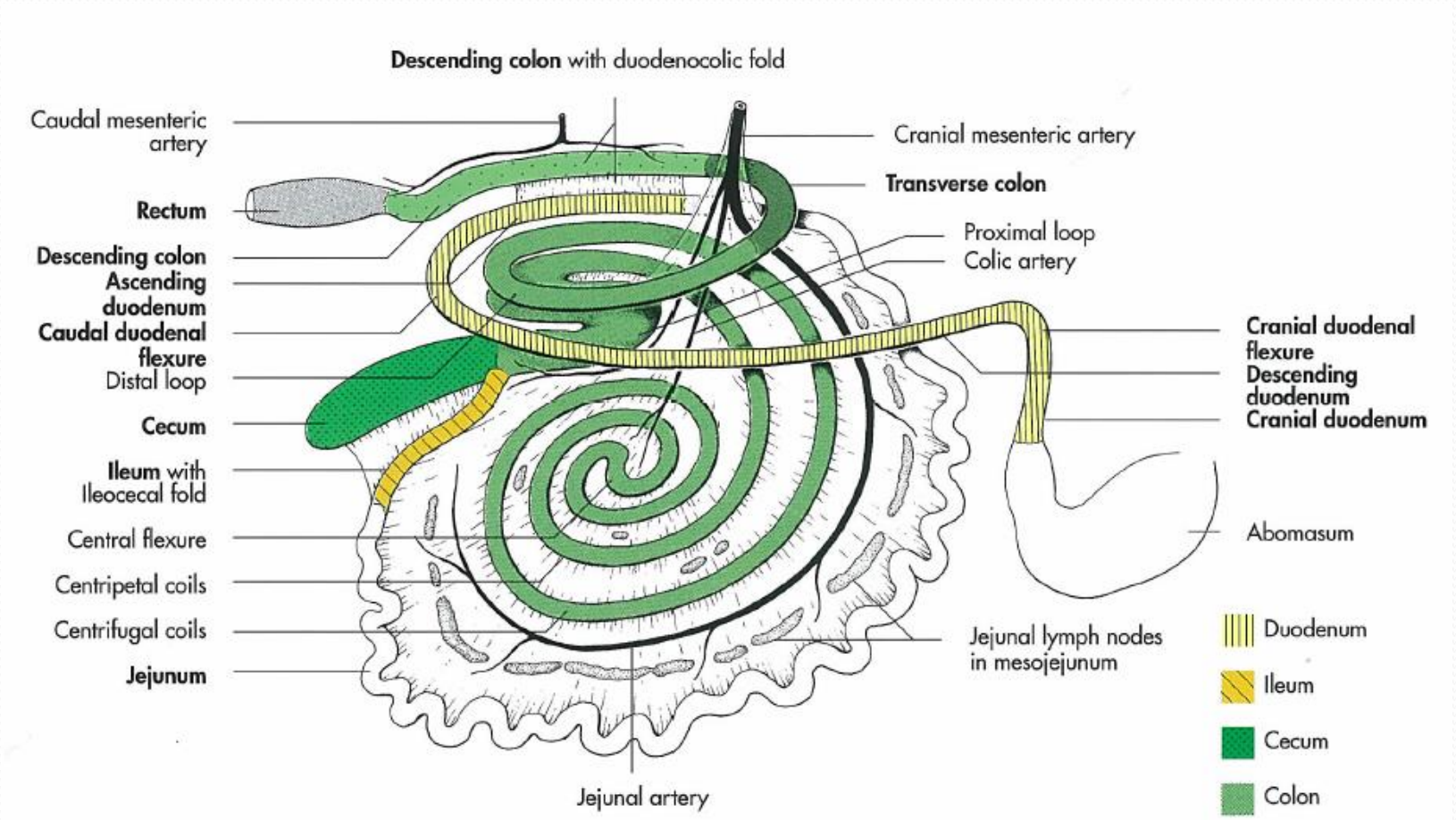

Congested mesenteric blood vessels
Dilated loop of bowel
Foreign object (ball)

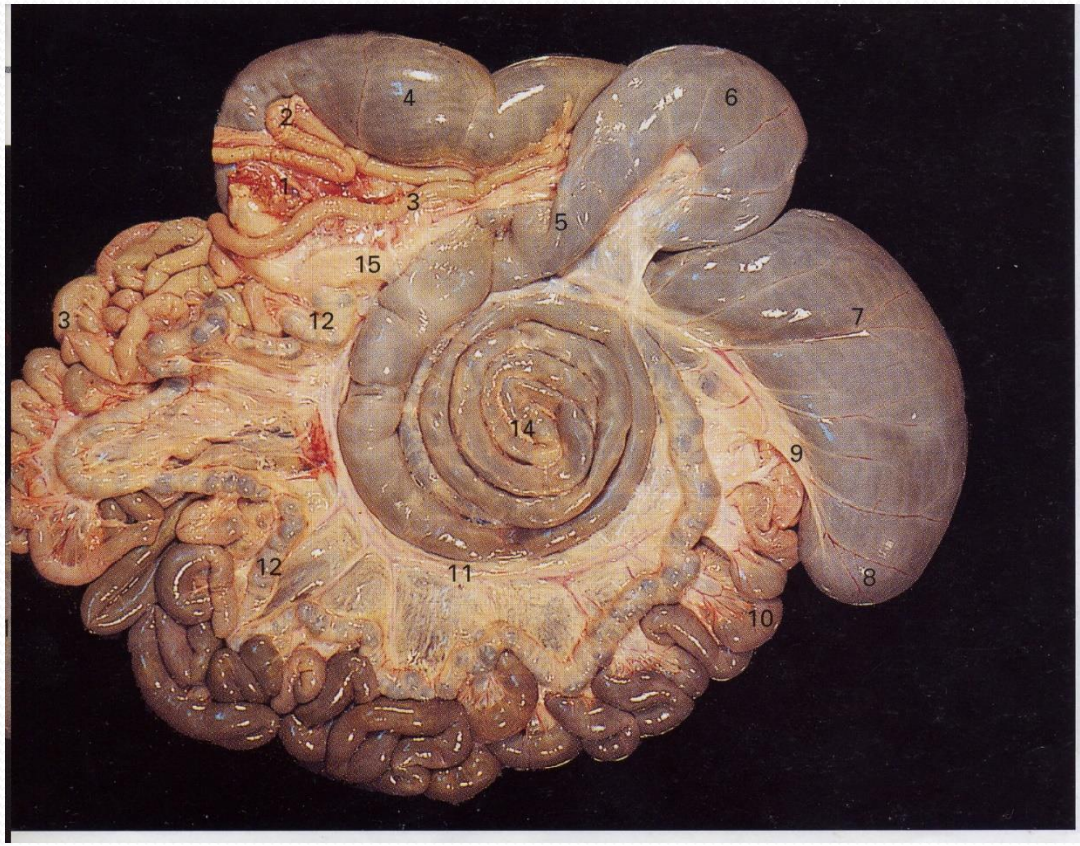

Obstruction of the small intestine caused by the telescoping of a segment of intestine into an adjacent segment
Congested mesenteric blood vessels
A loop of intestine within an adjacent segment of intestine
The mesentery and blood vessels supporting the invaginating segment of bowel are included in the intussusception

Intussusception in Dogs and Cats: How to Make Them Go Away and Not Come Back



Small intestine - Rum.

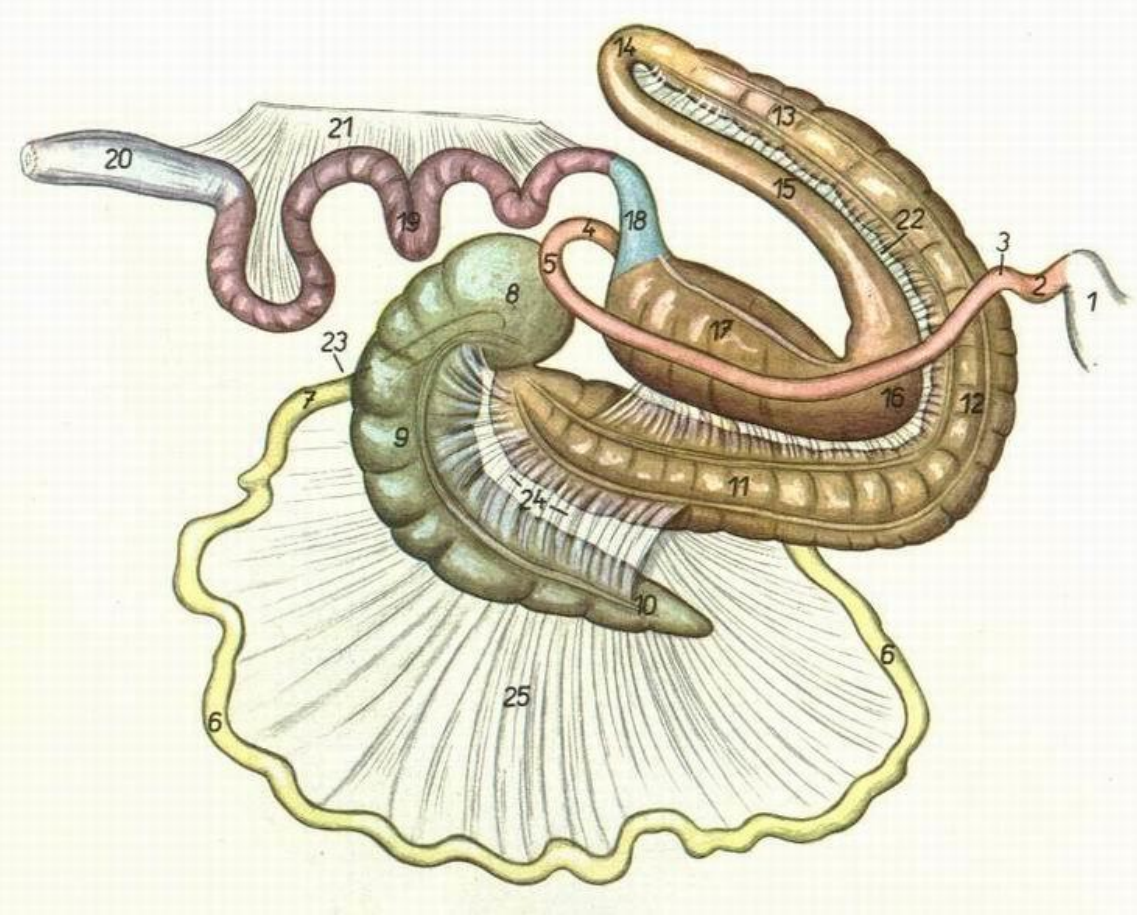




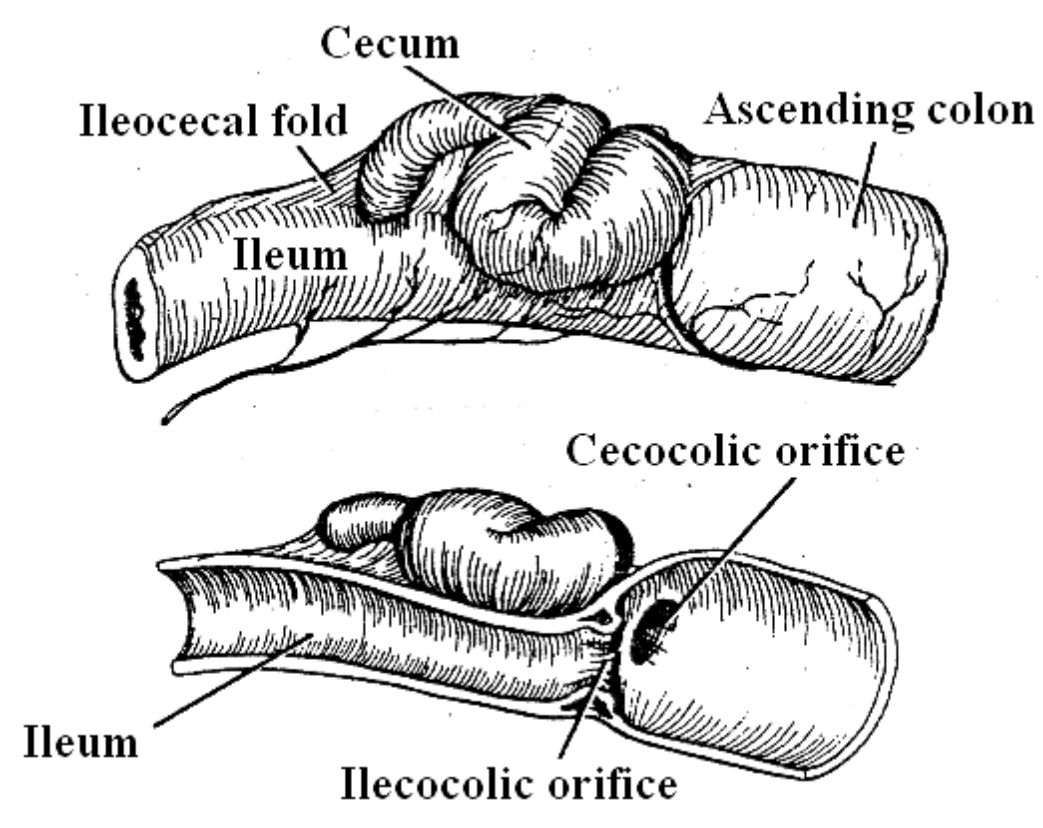
286. Left view of the intestinal mass of a sheep. The transverse colon and the descending colon were retained within the abdomen and are not seen in the specimen.

1 Cut root of the mesentery
2 Ascending duodenum
3 Descending duodenum
4 Proximal loop of the ascending colon
5 Beginning of the outermost centripetal coil of the spiral loop
6 Terminal part of the proximal loop of the ascending colon
7 Body of the caecum
8 Apex of the caecum
9 Free edge of the ileocaecal fold
10 Distal part of the jejunum
11 Mesenteric vessels
12 Outermost centrifugal coil of the spiral loop
13 Proximal part of the jejunum
14 Centre of the spiral loop of the ascending colon
15 Beginning of the distar loop of the ascending colon

Small intestine - Equ.



Large Intestine – Car.



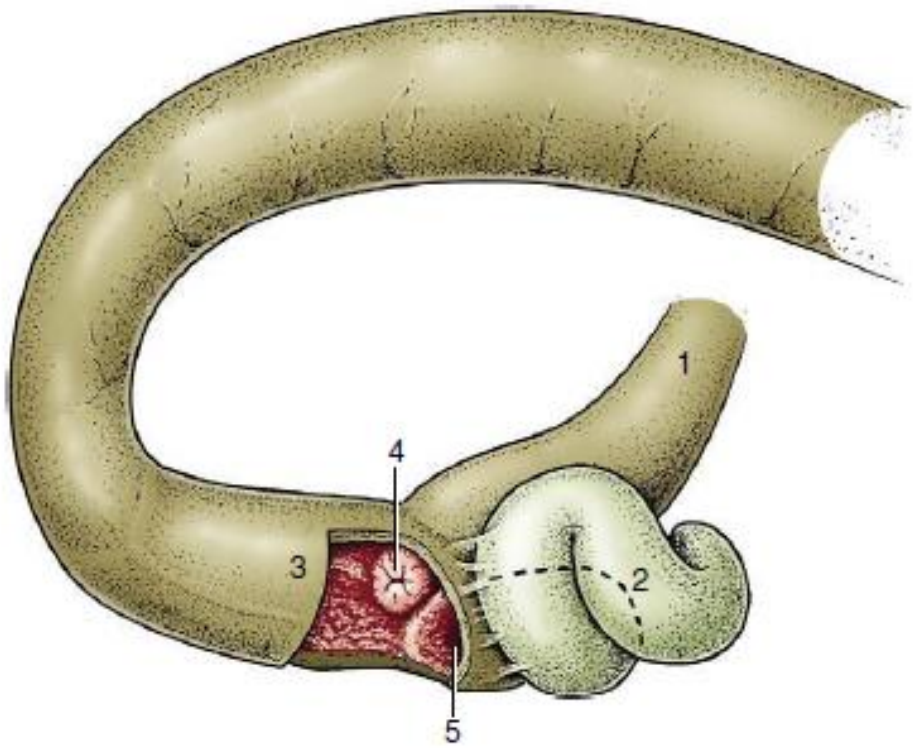


Figure 3–46 The ileocolic junction and its relation to the cecum in the dog. *1,* Ileum; *2,* cecum; *3,* ascending colon; *4,* ileal orifice surrounded by annular fold; *5,* cecocolic orifice.

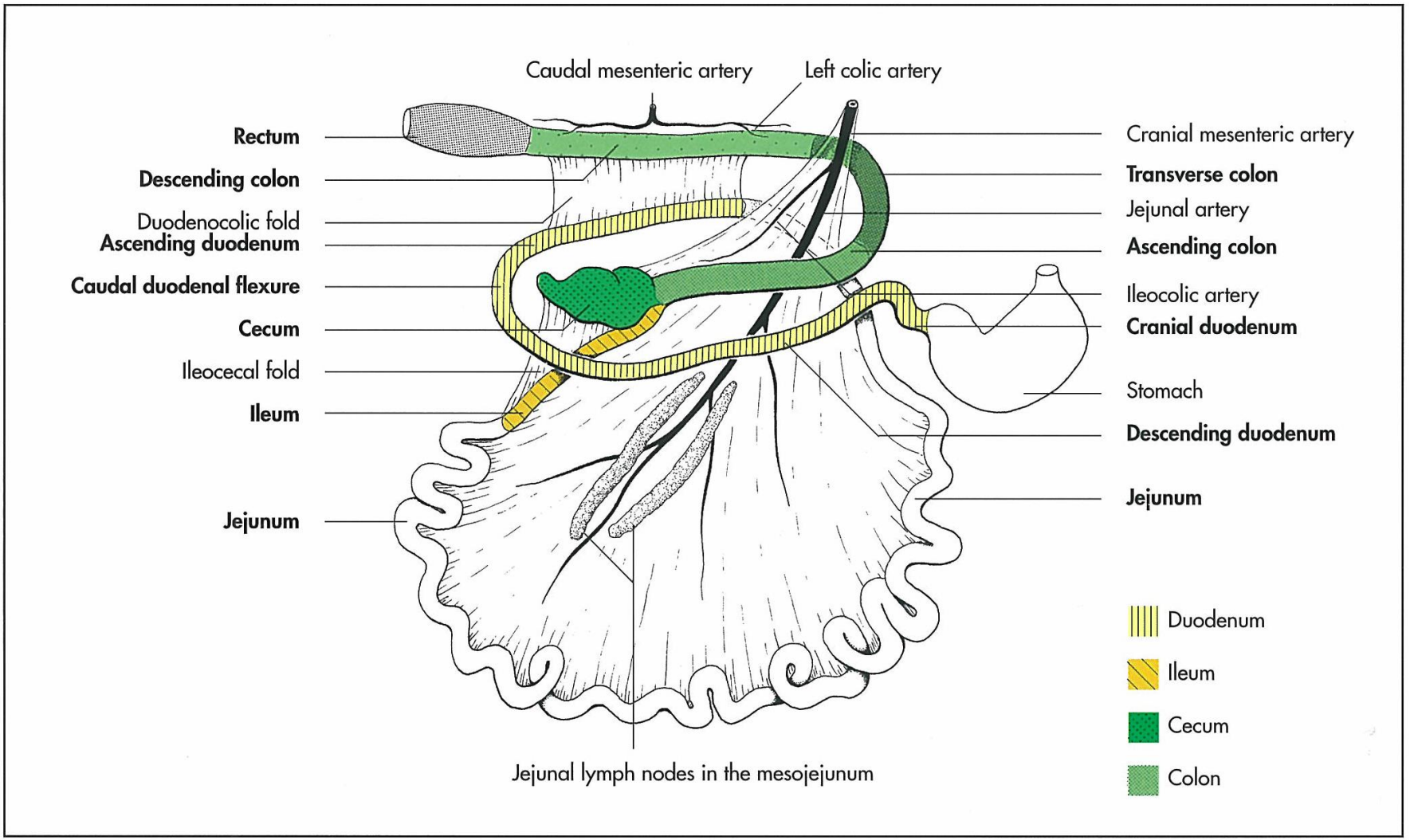
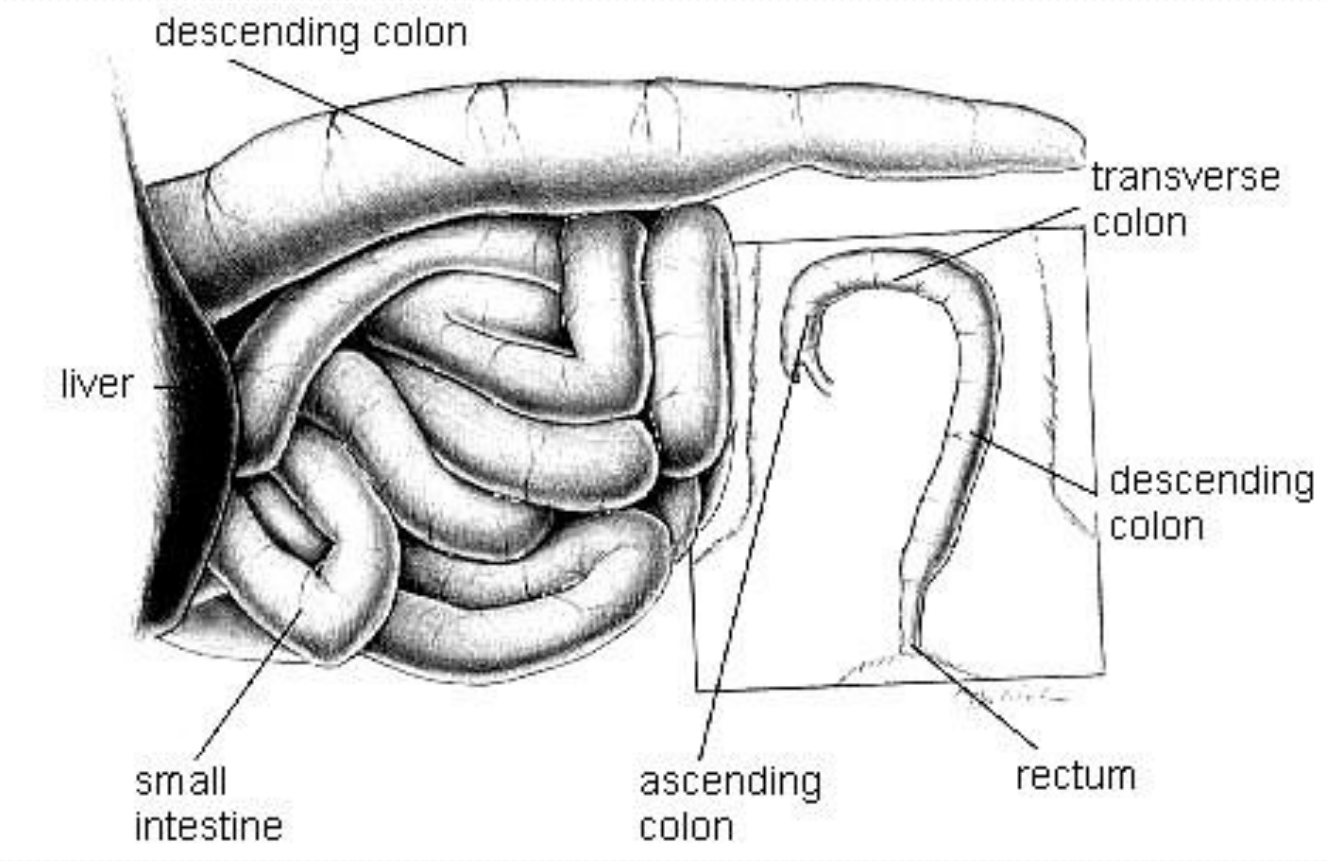
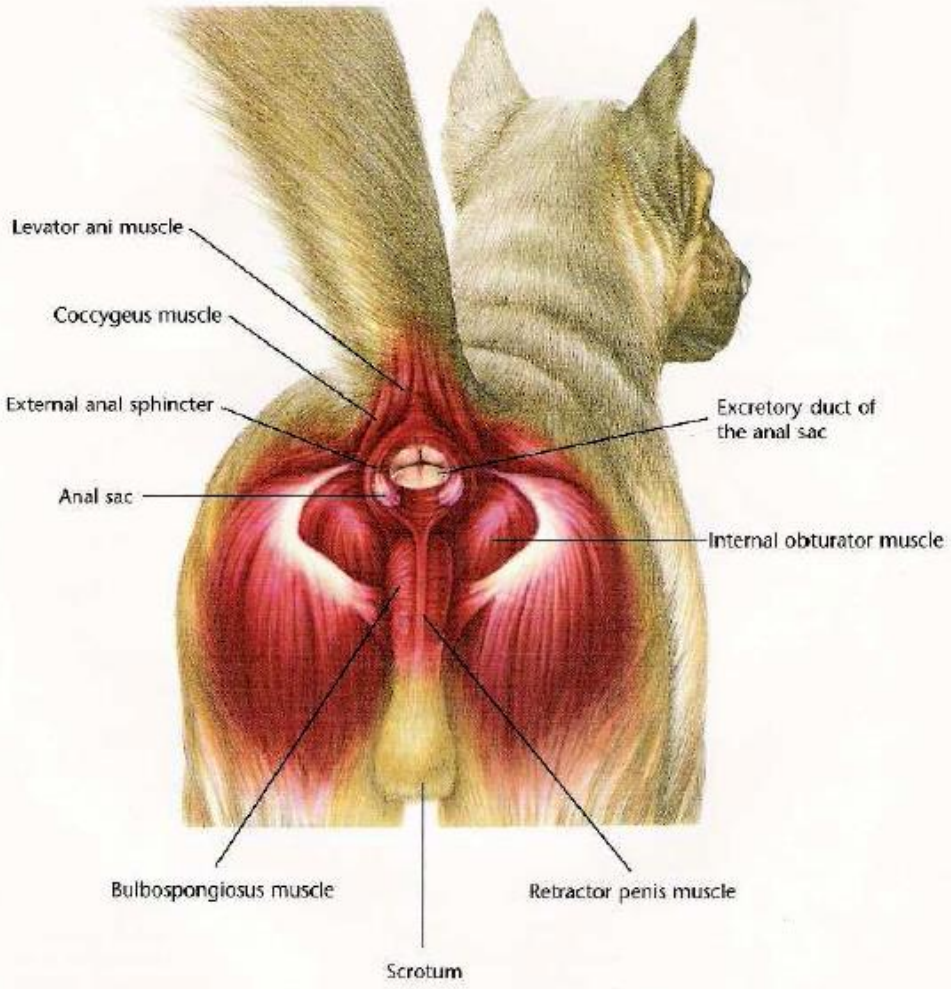


Fig 7-85. Intestinal tract of the dog, schematic (Ghetie, 1958).


descending colon
transverse colon
liver
descending colon
small intestine
ascending colon
rectum


Levator ani muscle
Coccygeus muscle
External anal sphincter
Anal sac
Excretory duct of the anal sac
Internal obturator muscle
Bulbospongiosus muscle
Retractor penis muscle
Scrotum

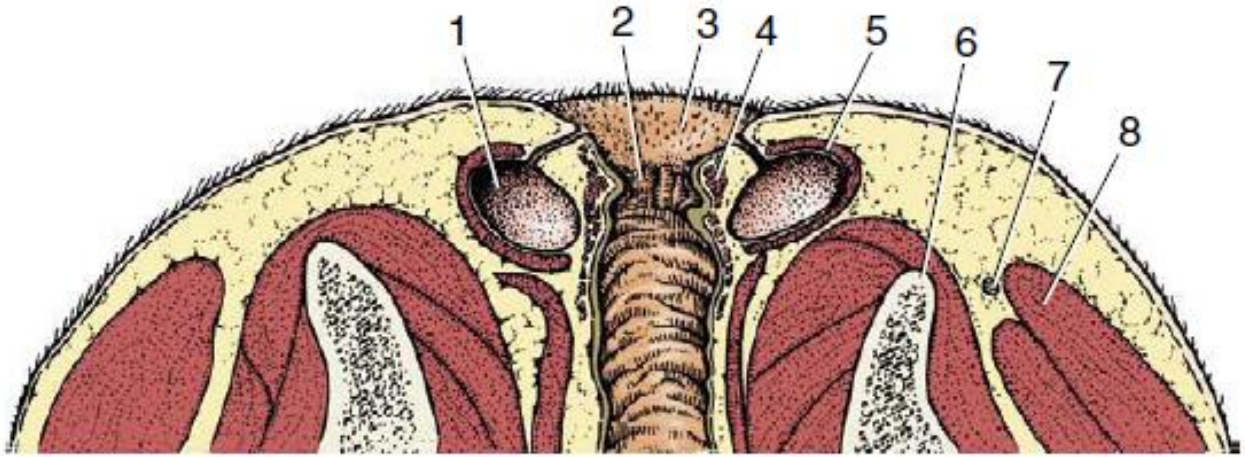
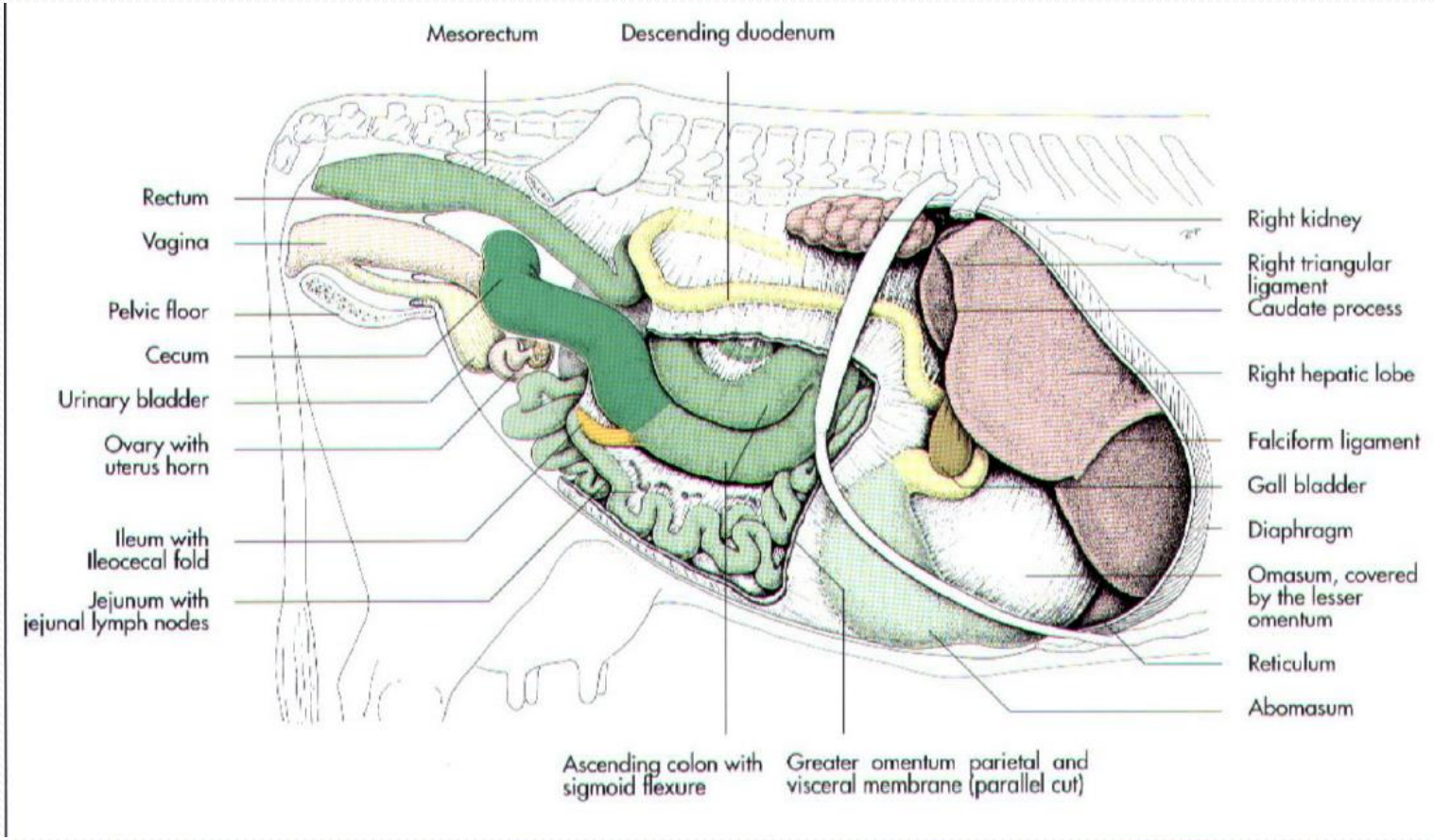
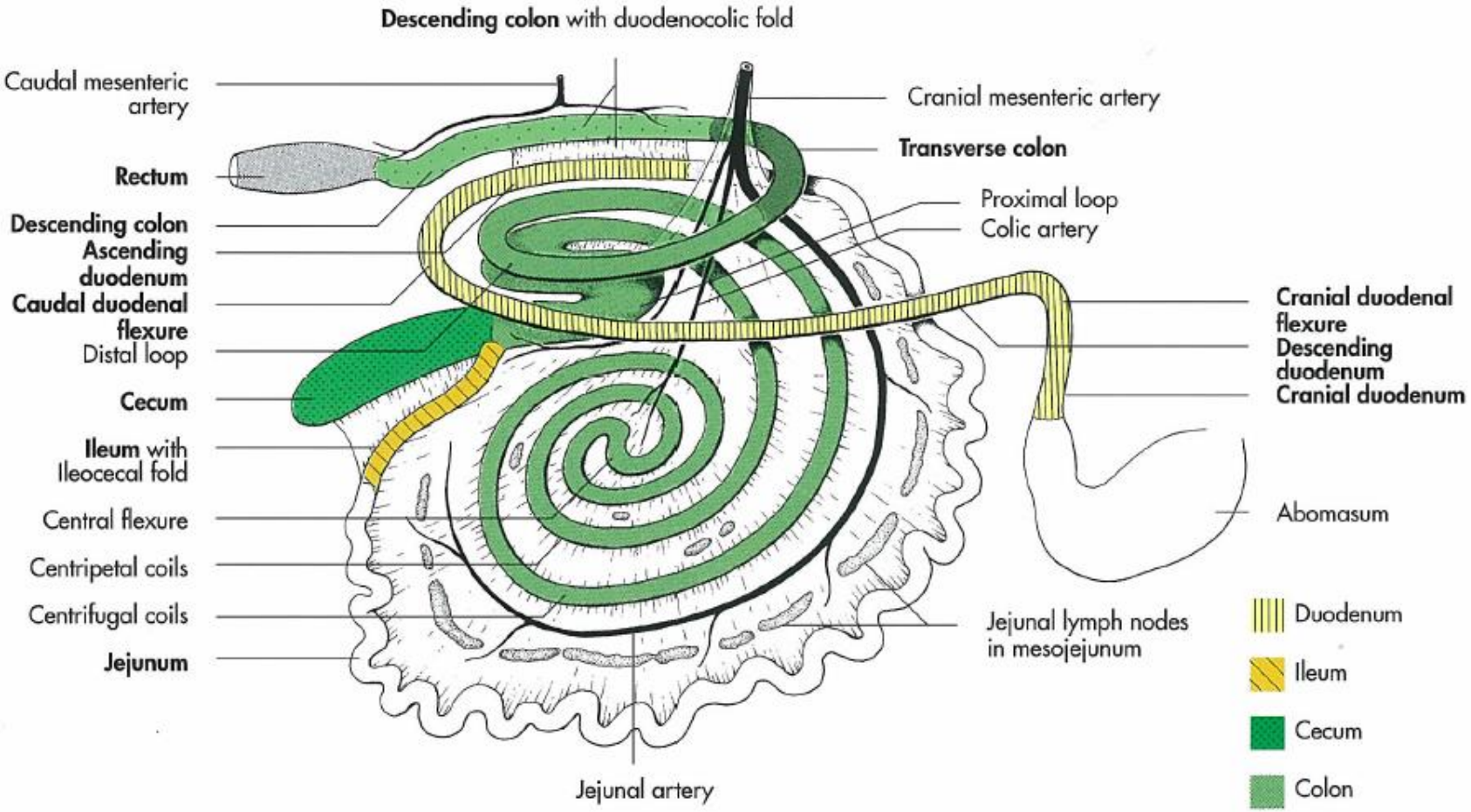
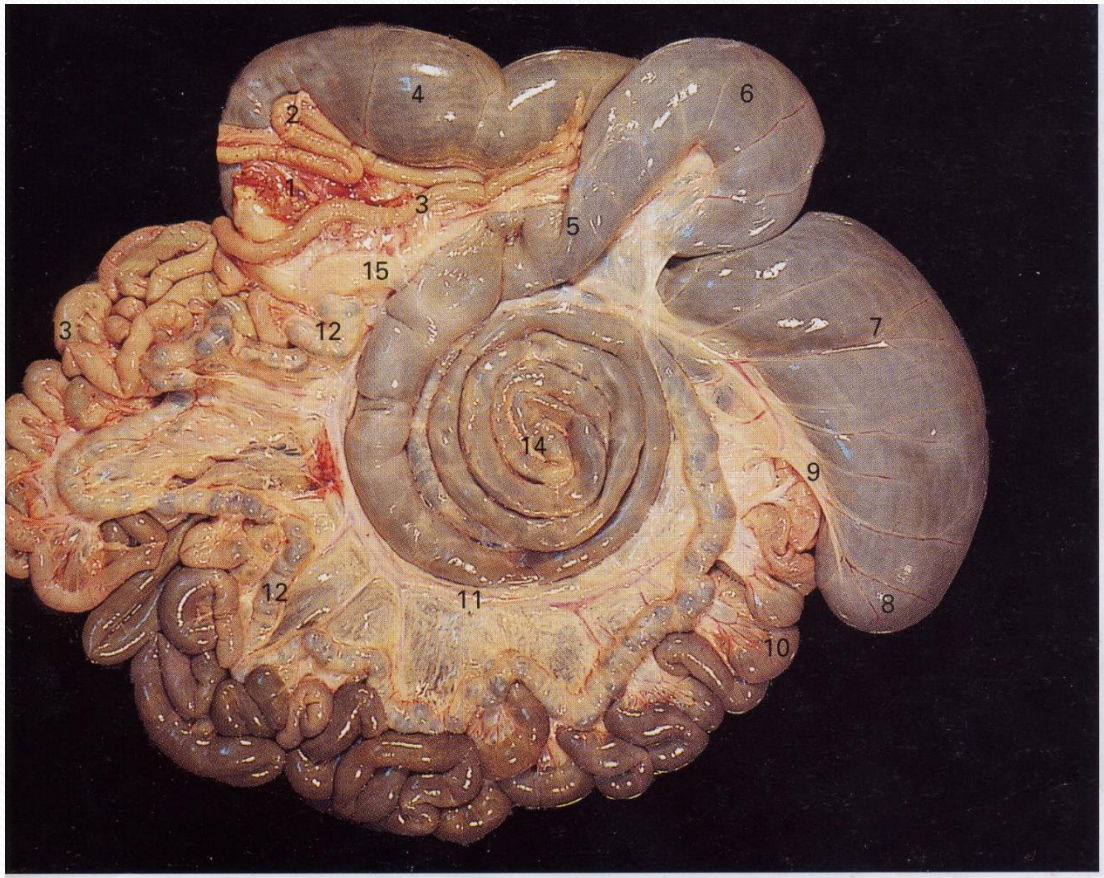


Figure 3–47 Dorsal (horizontal) section through the canine anal canal. *1,* Anal sac; *2,* columnar zone of the anal canal; *3,* cutaneous zone; *4,* internal anal sphincter; *5,* external anal sphincter; *6,* ischium; *7,* sacrotuberous ligament; *8,* gluteus superficialis.

Large Intestine – Rum.

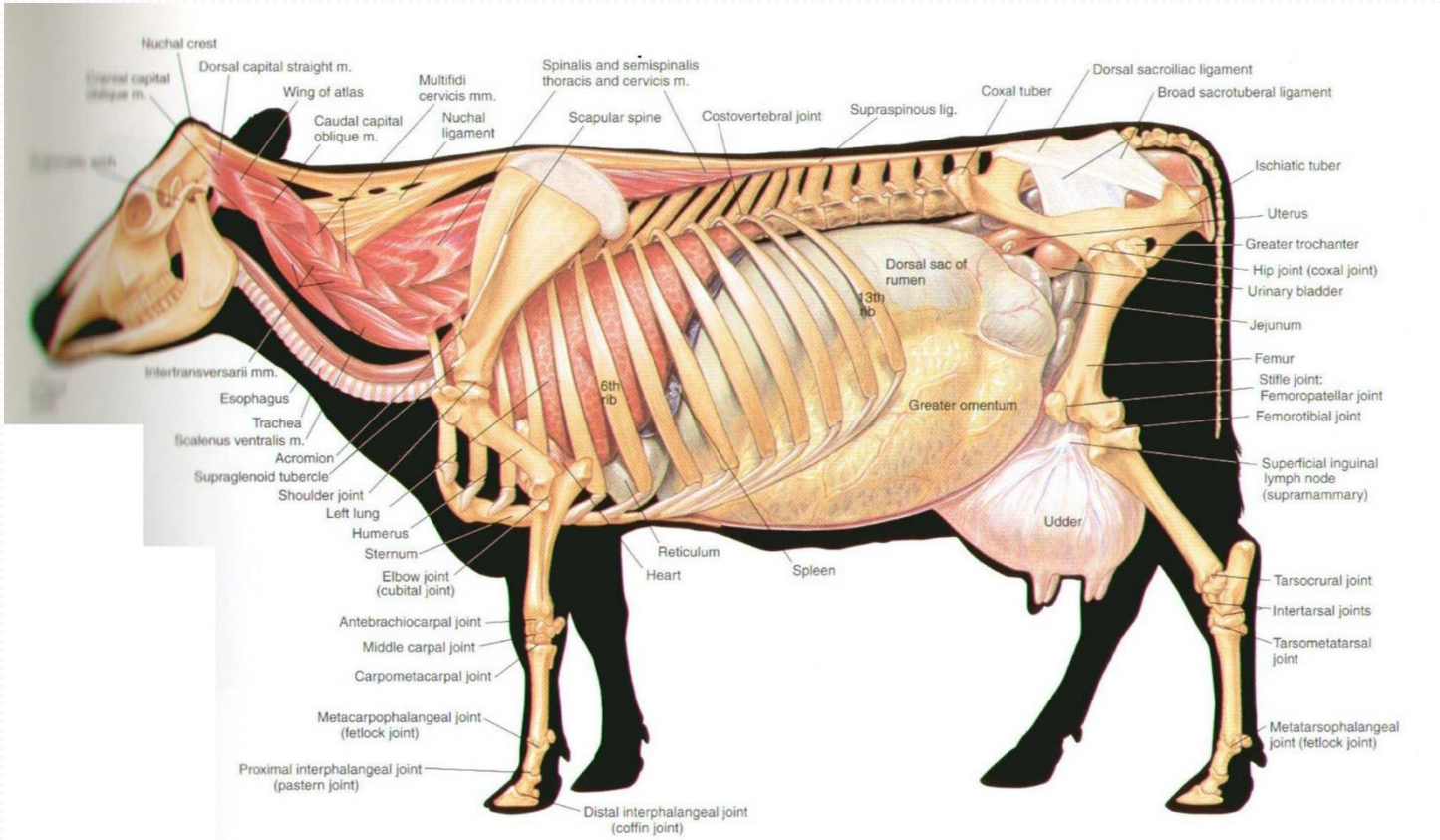


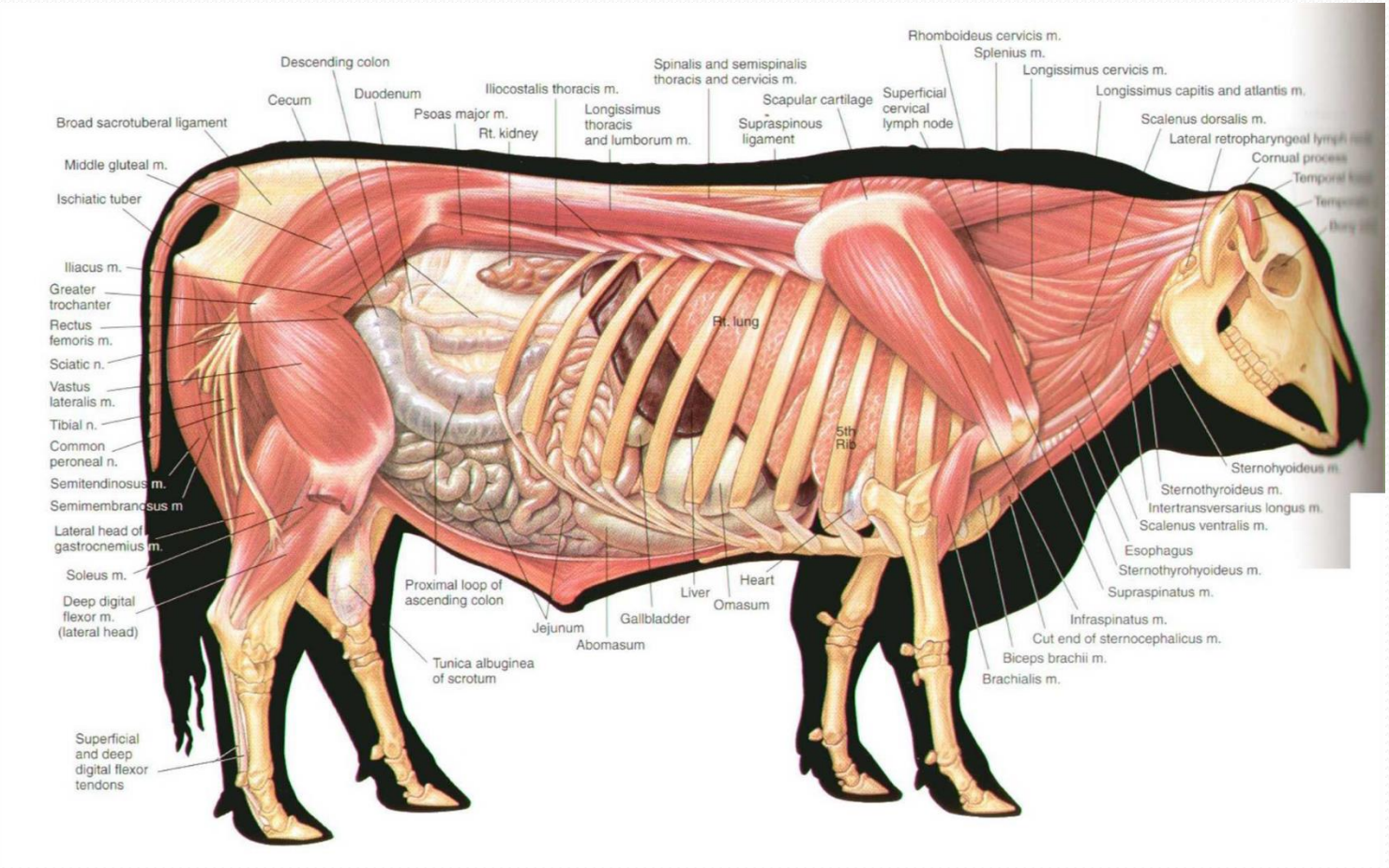

Descending colon with duodenocolic fold
Caudal mesenteric artery
Rectum
Descending colon
Ascending duodenum
Caudal duodenal flexure
Distal loop
Cecum
Ileum with Ileocecal fold
Central flexure
Centripetal coils
Centrifugal coils
Jejunum
Jejunal artery
Cranial mesenteric artery
Transverse colon
Proximal loop
Colic artery
Cranial duodenal flexure
Descending duodenum
Cranial duodenum
Abomasum
Jejunal lymph nodes in mesojejunum
Duodenum
Ileum
Cecum
Colon



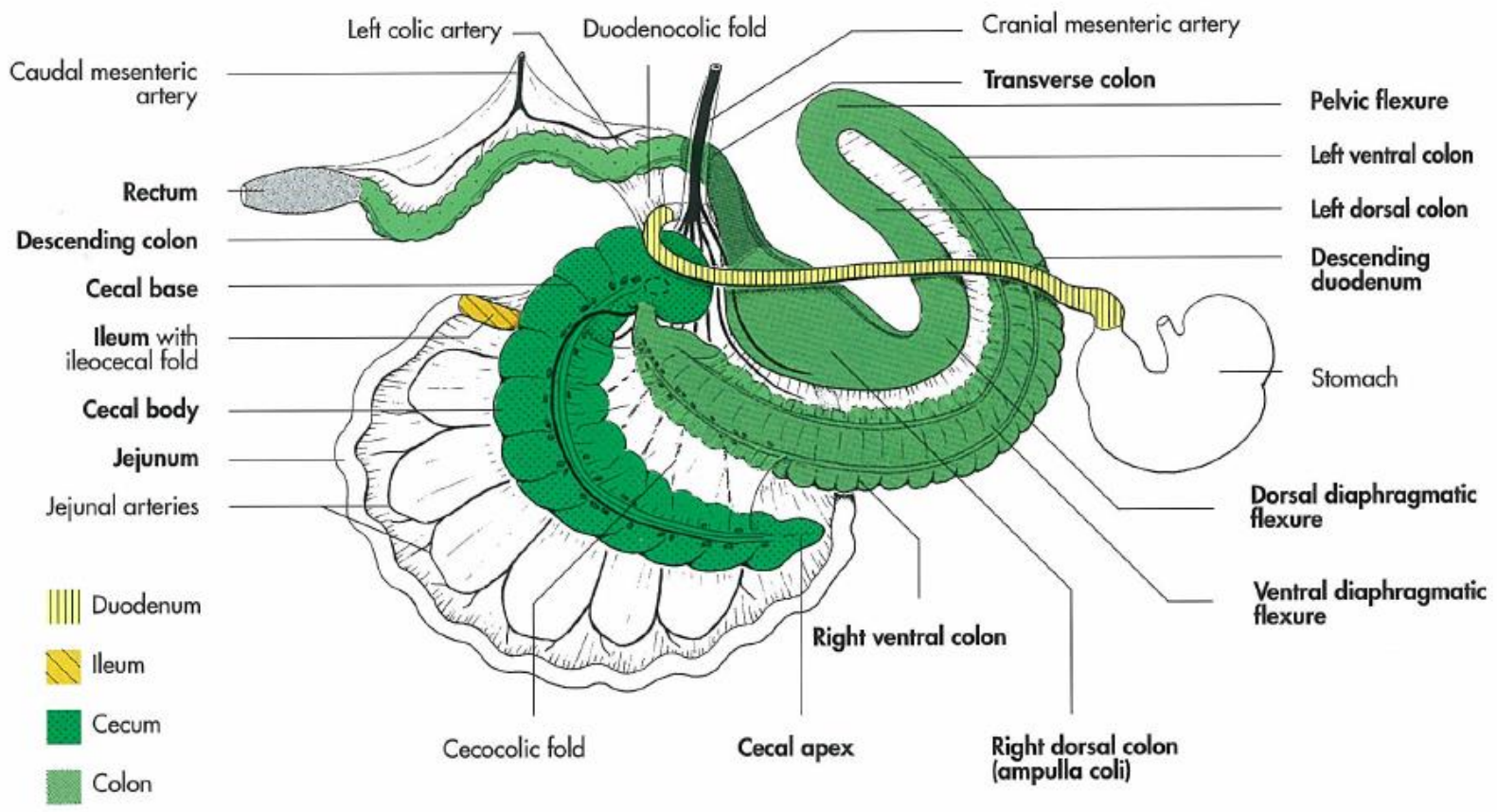
286. Left view of the intestinal mass of a sheep. The transverse colon and the descending colon were retained within the abdomen and are not seen in the specimen.

1 Cut root of the mesentery
2 Ascending duodenum
3 Descending duodenum
4 Proximal loop of the ascending colon
5 Beginning of the outermost centripetal coil of the spiral loop
6 Terminal part of the proximal loop of the ascending colon
7 Body of the caecum
8 Apex of the caecum
9 Free edge of the ileocaecal fold
10 Distal part of the jejunum
11 Mesenteric vessels
12 Outermost centrifugal coil of the spiral loop
13 Proximal part of the jejunum
14 Centre of the spiral loop of the ascending colon
15 Beginning of the distar loop of the ascending colon


Nuchal crest
Dorsal capital straight m.
Wing of atlas
Multifidi cervicis mm.
Spinalis and semispinalis thoracis and cervicis m.
Caudal capital oblique m.
Nuchal ligament
Scapular spine
Costovertebral joint
Supraspinous lig.
Coxal tuber
Dorsal sacroiliac ligament
Broad sacrotuberal ligament
Ischiatic tuber
Uterus
Greater trochanter
Hip joint (coxal joint)
Urinary bladder
Jejunum
Femur
Stifle joint: Femoropatellar joint
Femorotibial joint
Superficial inguinal lymph node (supramammary)
Udder
Tarsocrural joint
Intertarsal joints
Tarsometatarsal joint
Metatarsophalangeal joint (fetlock joint)
Dorsal sac of rumen
13th rib
6th rib
Greater omentum
Intertransversarii mm.
Esophagus
Trachea
Scalenus ventralis m.
Acromion
Supraglenoid tubercle
Shoulder joint
Left lung
Humerus
Sternum
Elbow joint (cubital joint)
Reticulum
Heart
Spleen
Antebrachiocarpal joint
Middle carpal joint
Carpometacarpal joint
Metacarpophalangeal joint (fetlock joint)
Proximal interphalangeal joint (pastern joint)
Distal interphalangeal joint (coffin joint)


Rhomboideus cervicis m.
Splenius m.
Longissimus cervicis m.
Longissimus capitis and atlantis m.
Scalenus dorsalis m.
Lateral retropharyngeal lymph node
Cornual process
Temporal bone
Descending colon
Cecum
Duodenum
Iliocostalis thoracis m.
Psoas major m.
Rt. kidney
Longissimus thoracis and lumborum m.
Spinalis and semispinalis thoracis and cervicis m.
Scapular cartilage
Supraspinous ligament
Superficial cervical lymph node
Broad sacrotuberal ligament
Middle gluteal m.
Ischiatic tuber
Iliacus m.
Greater trochanter
Rectus femoris m.
Sciatic n.
Vastus lateralis m.
Tibial n.
Common peroneal n.
Semitendinosus m.
Semimembranosus m.
Lateral head of gastrocnemius m.
Soleus m.
Deep digital flexor m. (lateral head)
Rt. lung
5th Rib
Sternohyoideus m.
Sternothyroideus m.
Intertransversarius longus m.
Scalenus ventralis m.
Esophagus
Sternothyrohyoideus m.
Supraspinatus m.
Infraspinatus m.
Cut end of sternocephalicus m.
Biceps brachii m.
Brachialis m.
Proximal loop of ascending colon
Jejunum
Gallbladder
Abomasum
Liver
Heart
Omasum
Tunica albuginea of scrotum
Superficial and deep digital flexor tendons

Large Intestine – Equ.



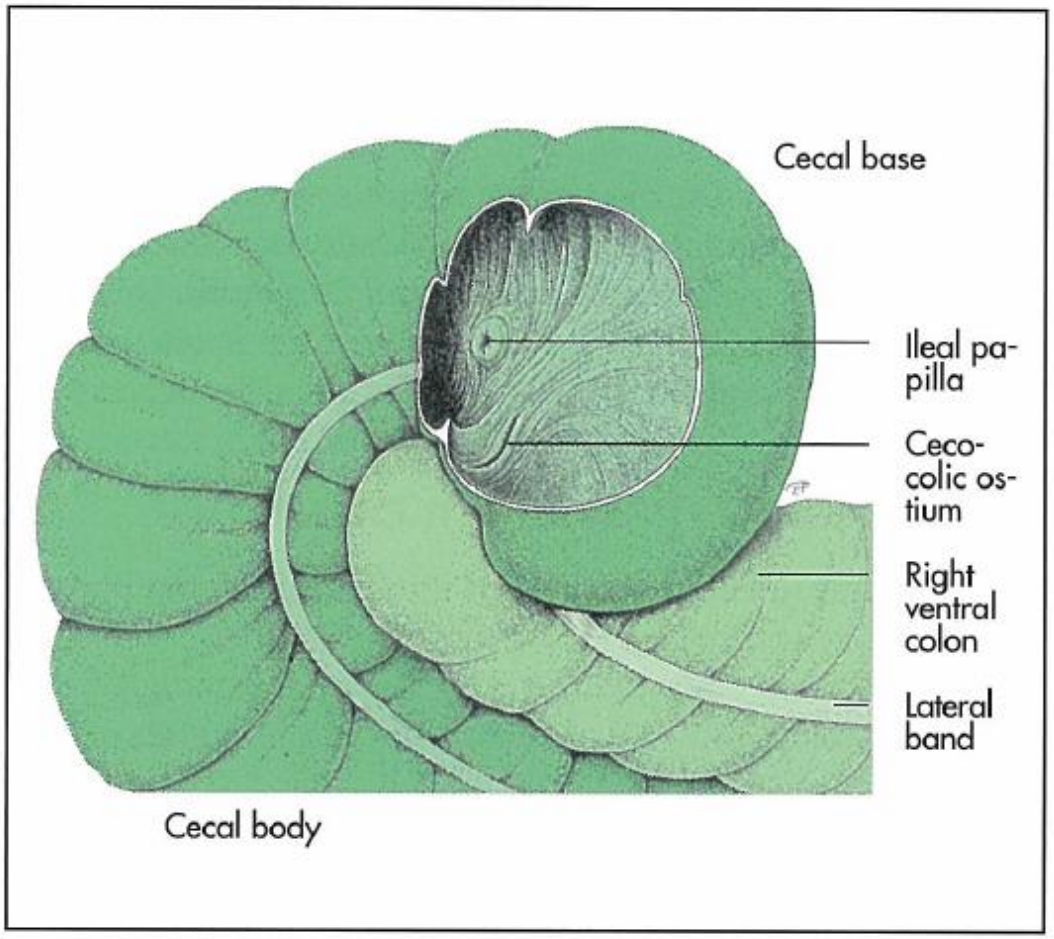
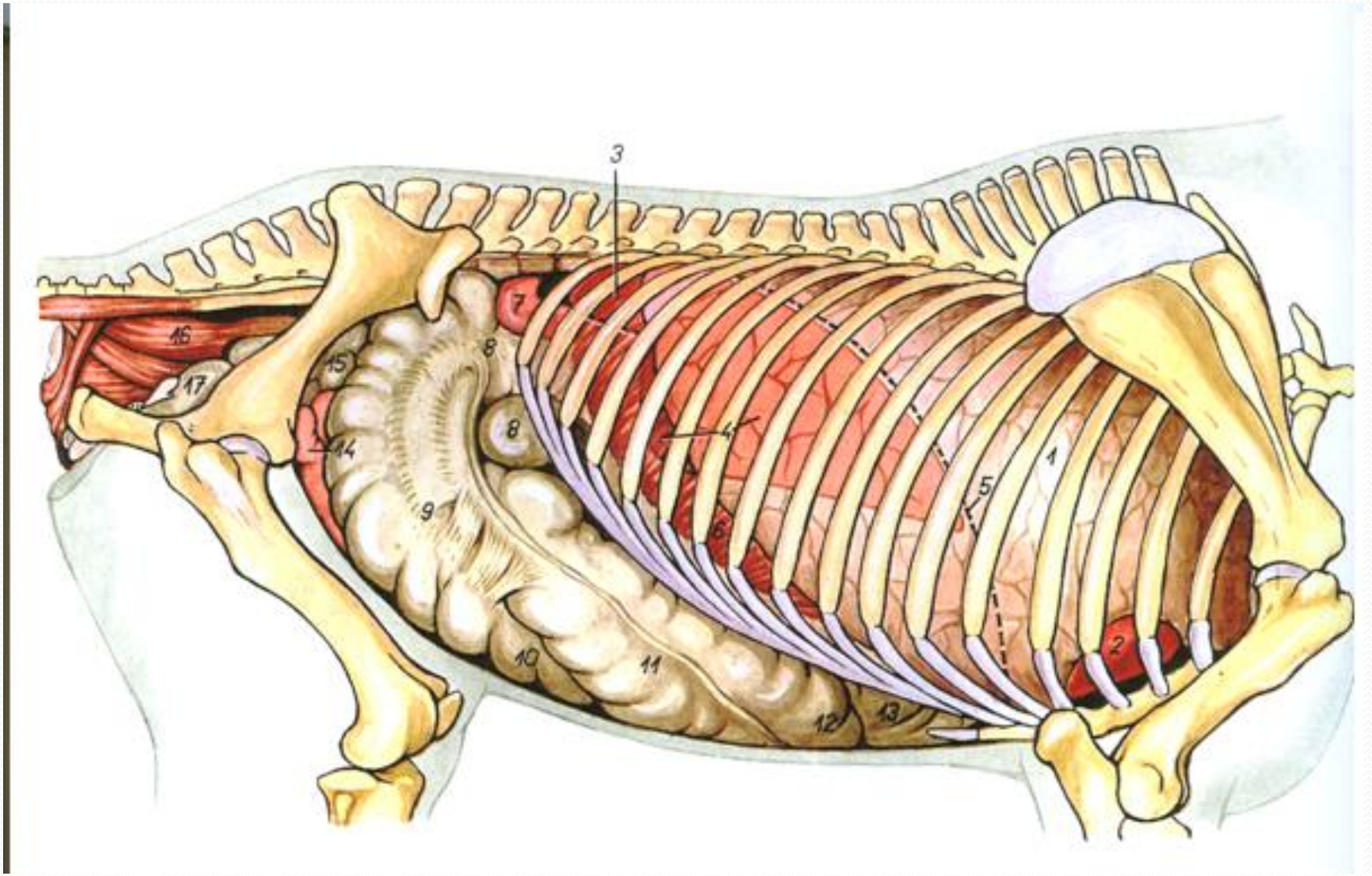


Fig. 7-92. Ileal papilla and cecocolic ostium in the horse, schematic.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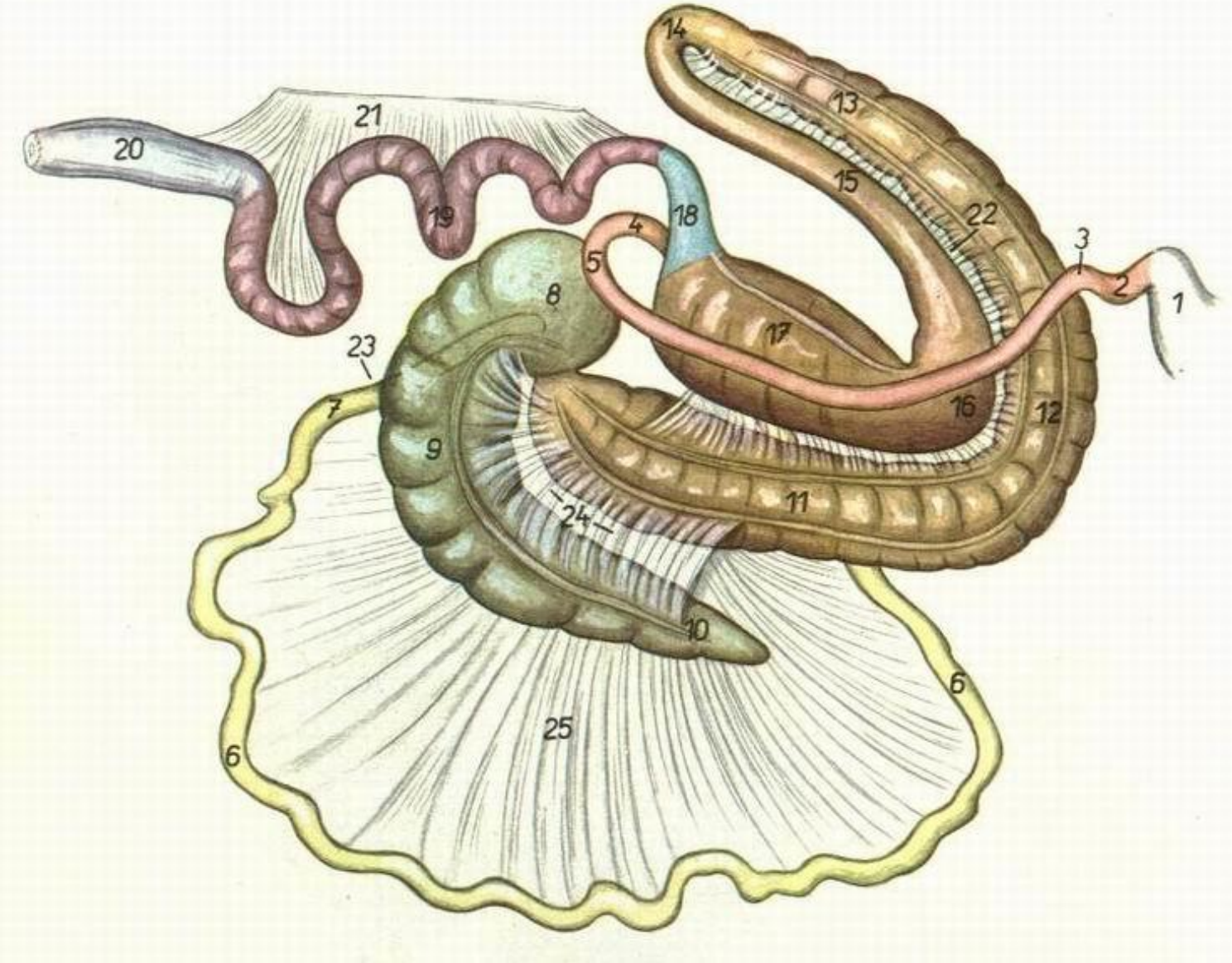
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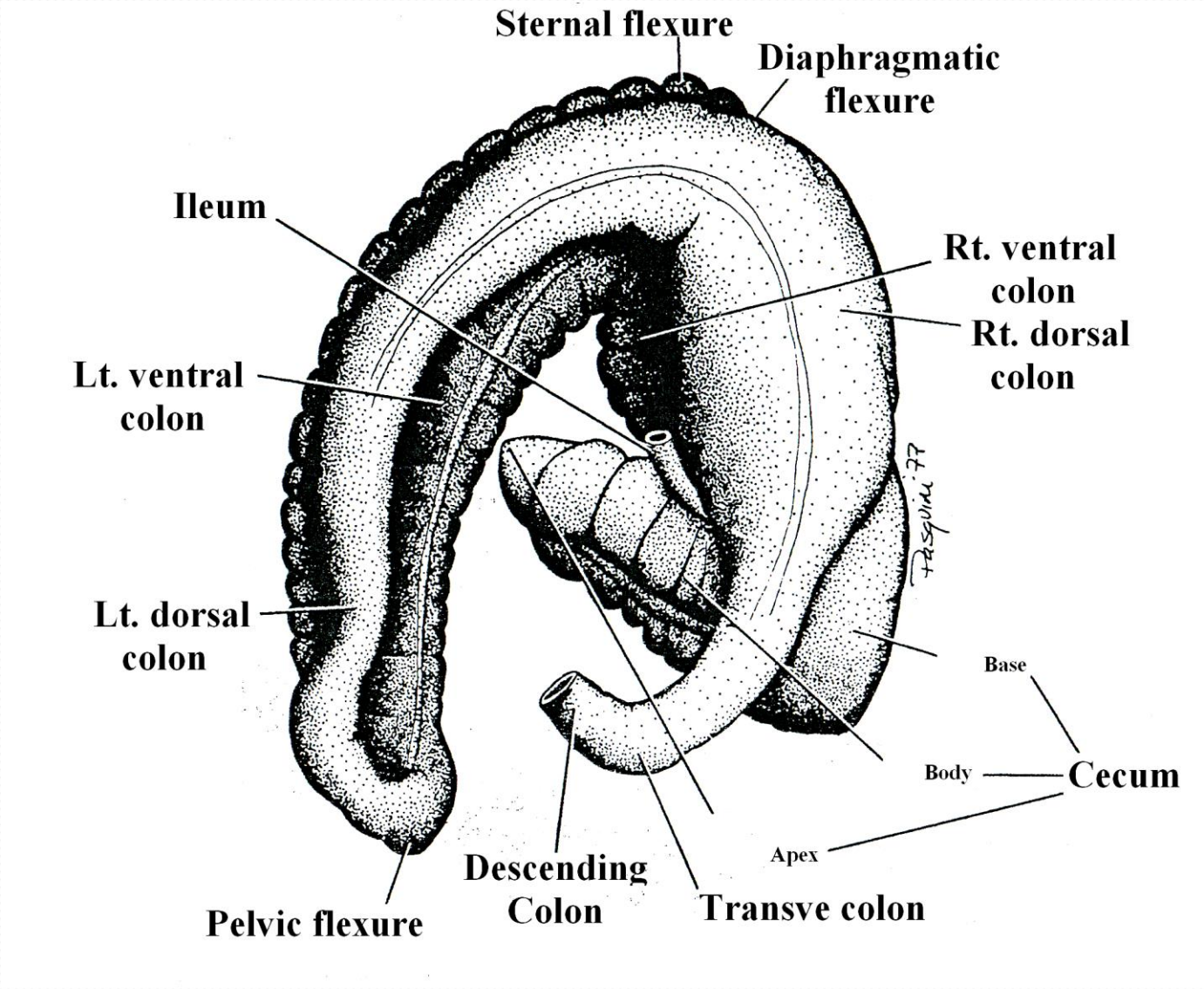
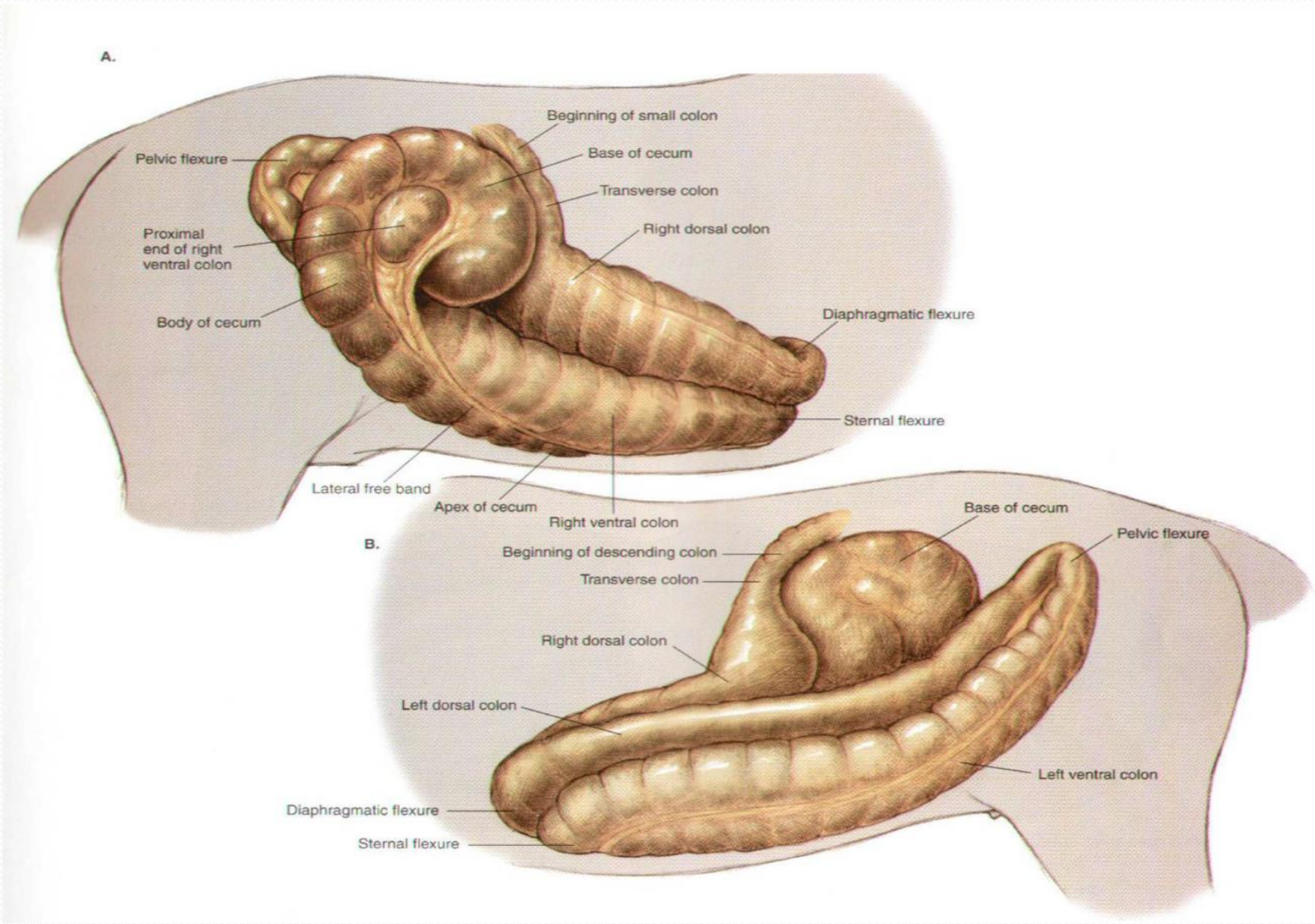

Sternal flexure
Diaphragmatic flexure
Ileum
Rt. ventral colon
Rt. dorsal colon
Lt. ventral colon
Lt. dorsal colon
Base
Body
Cecum
Apex
Descending Colon
Transve colon
Pelvic flexure


A.
Beginning of small colon
Pelvic flexure
Base of cecum
Transverse colon
Right dorsal colon
Proximal end of right ventral colon
Body of cecum
Diaphragmatic flexure
Sternal flexure
Lateral free band
Apex of cecum
Right ventral colon
B.
Base of cecum
Pelvic flexure
Beginning of descending colon
Transverse colon
Right dorsal colon
Left dorsal colon
Left ventral colon
Diaphragmatic flexure
Sternal flexure

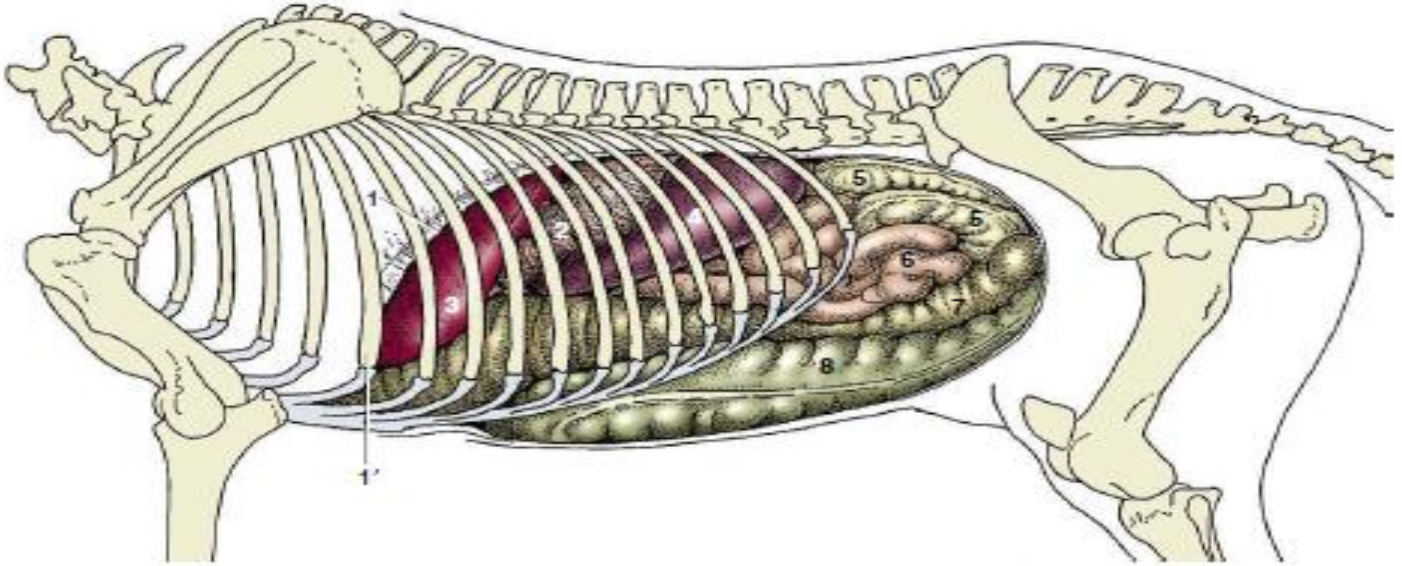


Figure 21–6 Visceral projections on the left abdominal wall (including the diaphragm). *1,* Cut edge of diaphragm; *1′,* rib 6; *2,* stomach; *3,* liver; *4,* spleen; *5,* descending colon (banded); *6,* jejunum (smooth); *7,* left dorsal colon; *8,* left ventral colon.

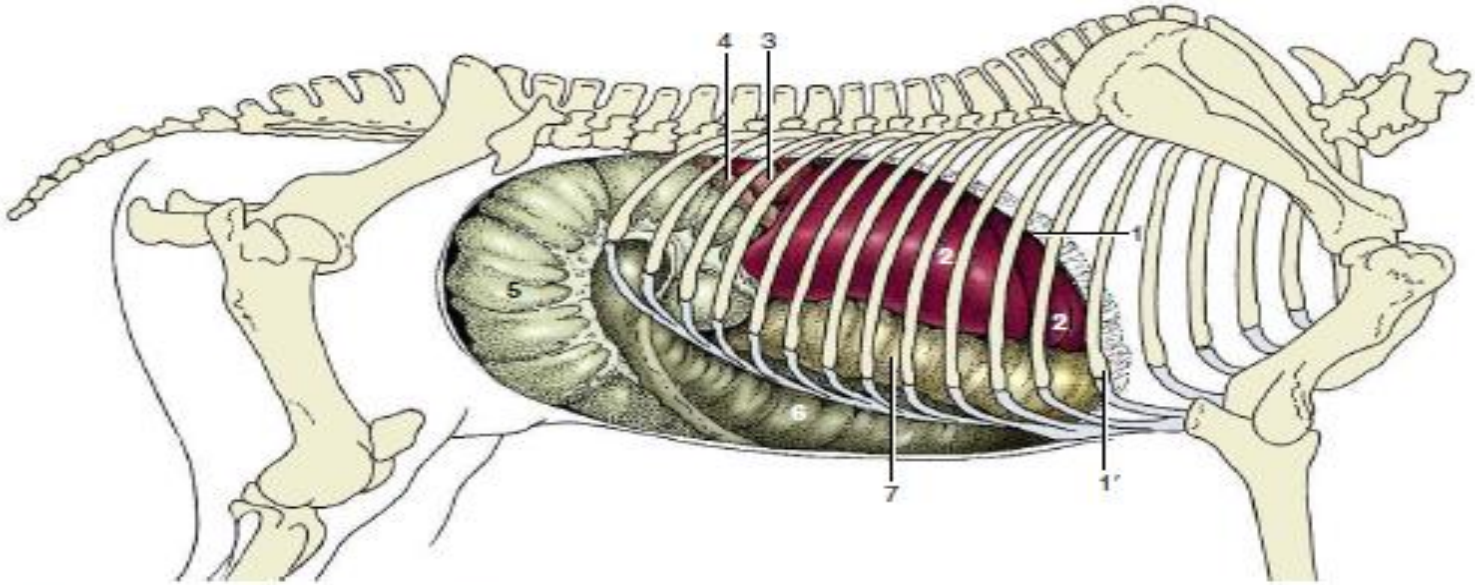
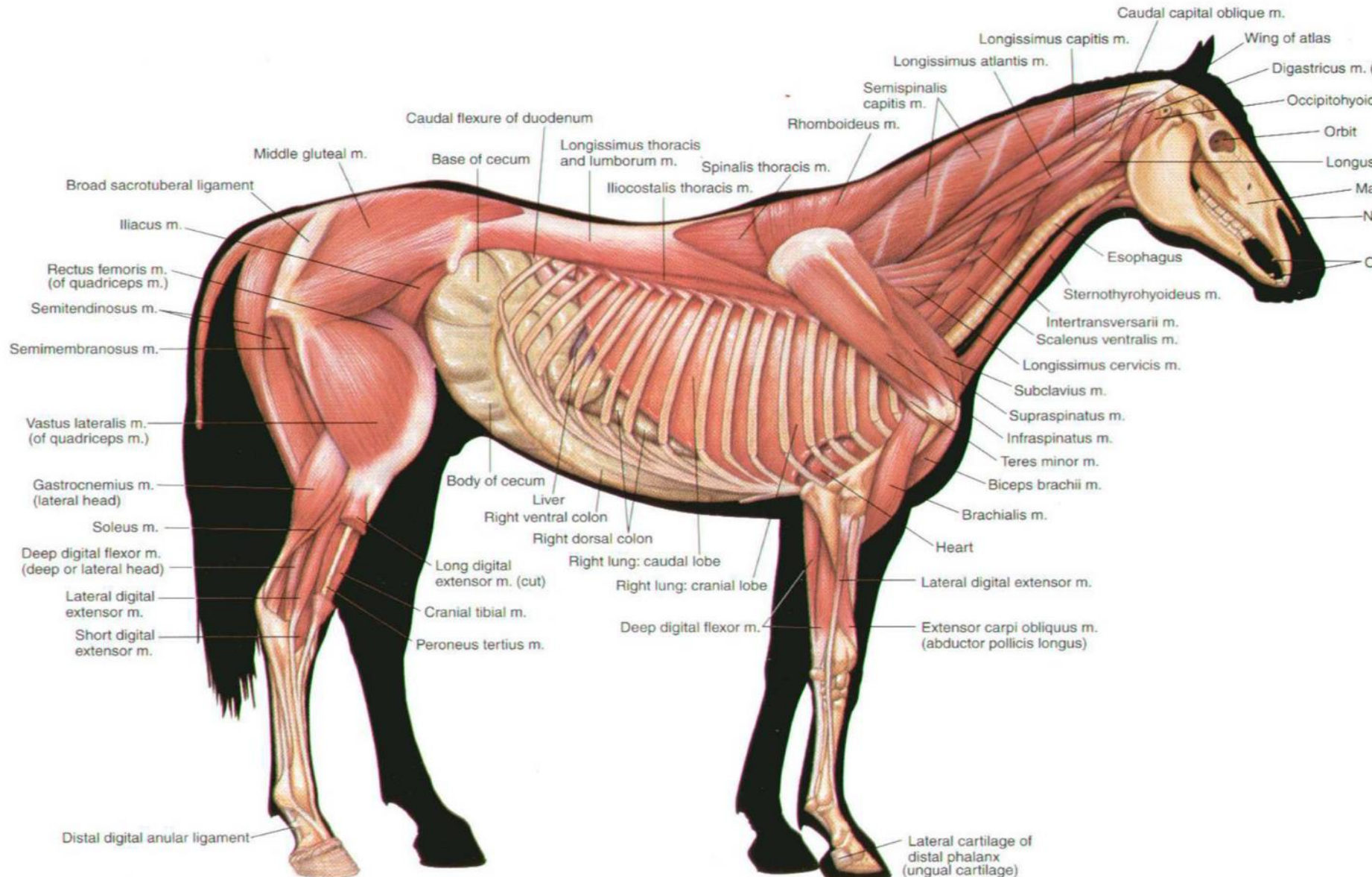
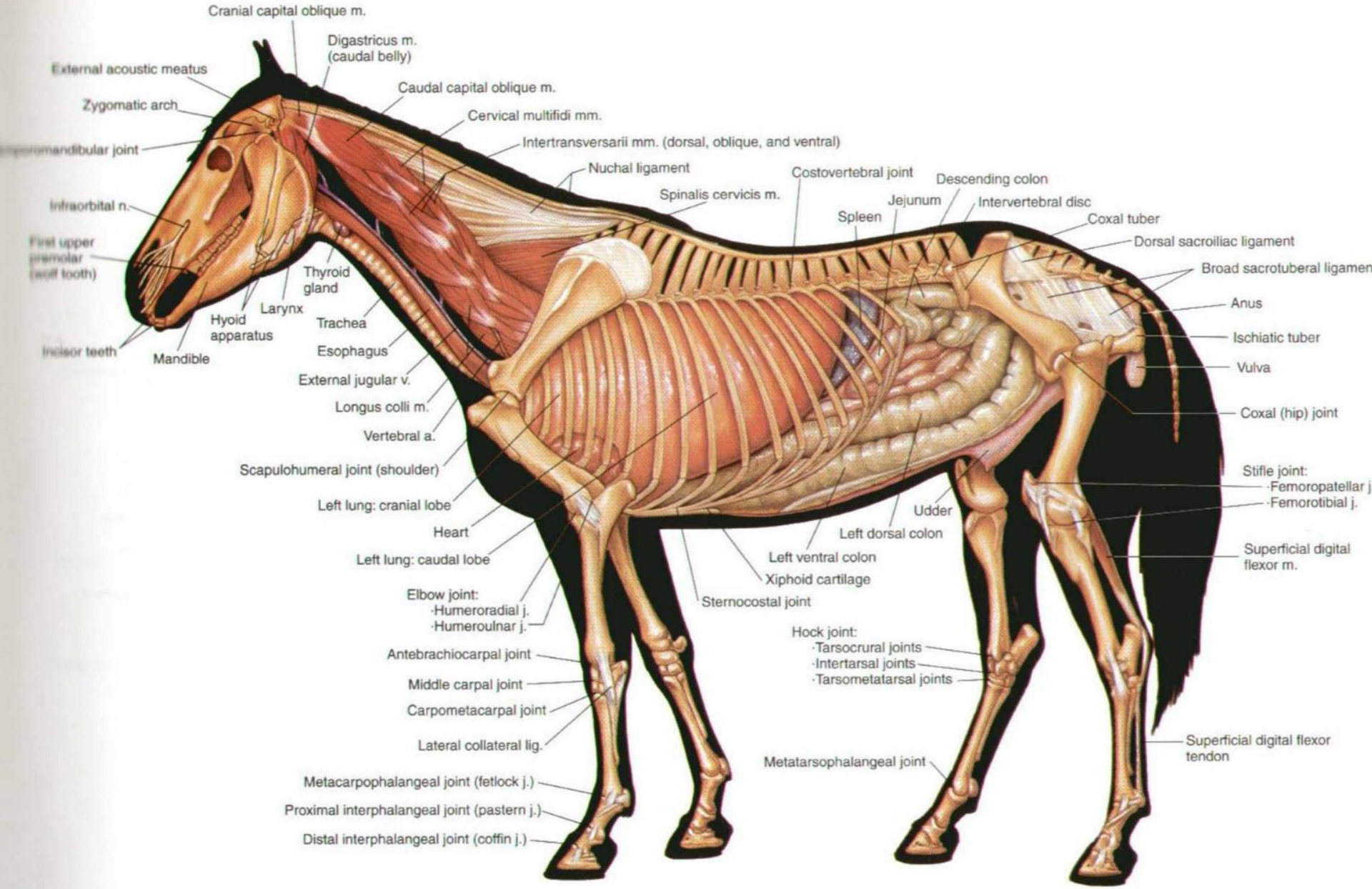
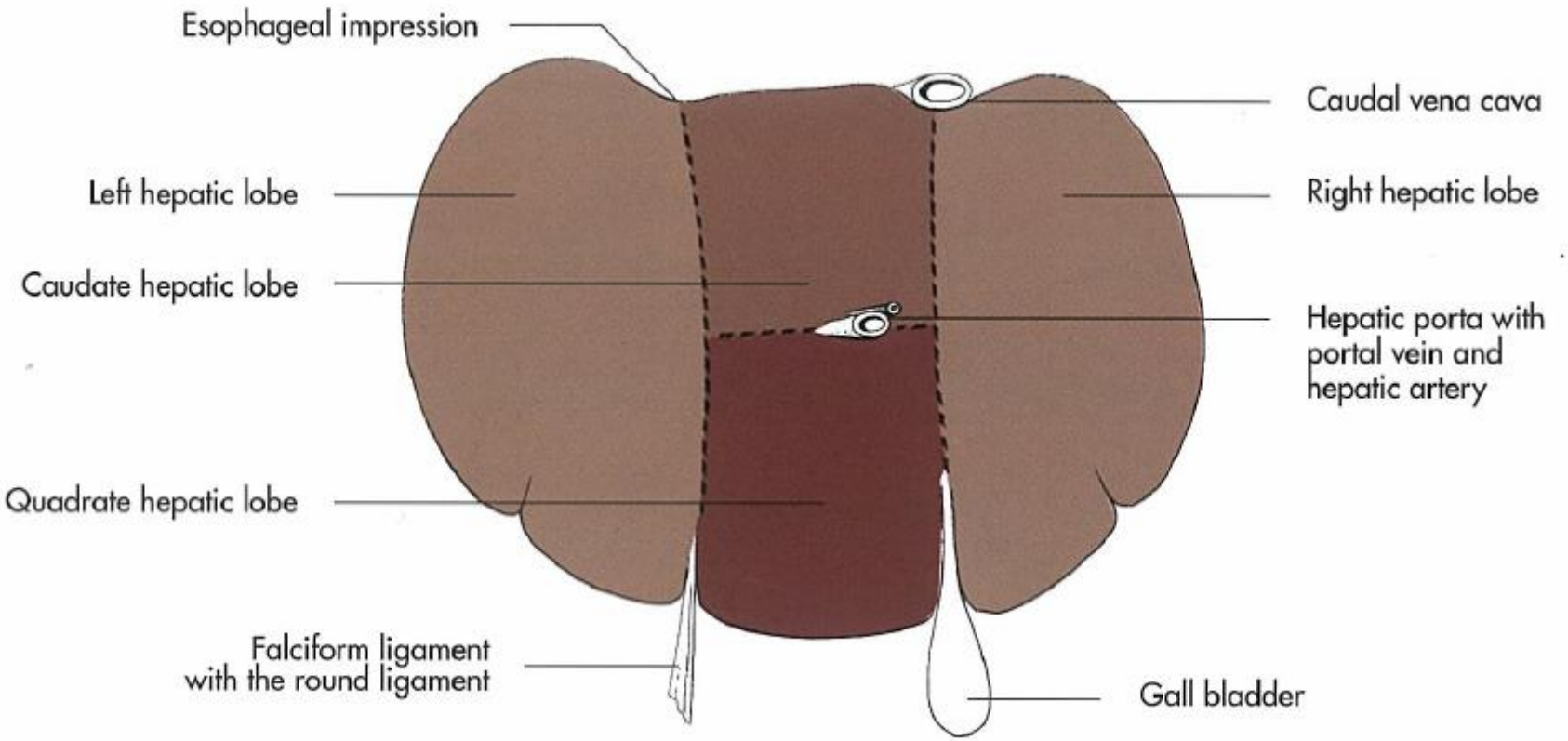


Figure 21–7 Visceral projections on the right abdominal wall (including the diaphragm). *1,* Cut edge of diaphragm; *1′,* rib 6; *2,* liver; *3,* right kidney; *4,* descending duodenum; *5,* body of cecum; *6,* right ventral colon; *7,* right dorsal colon.


Caudal capital oblique m.
Longissimus capitis m.
Wing of atlas
Longissimus atlantis m.
Digastricus m.
Semispinalis capitis m.
Occipitohyoid
Caudal flexure of duodenum
Rhomboideus m.
Orbit
Middle gluteal m.
Base of cecum
Longissimus thoracis and lumborum m.
Spinalis thoracis m.
Longus
Broad sacrotuberal ligament
Iliocostalis thoracis m.
Ma
Iliacus m.
N
Esophagus
Rectus femoris m. (of quadriceps m.)
Sternothyrohyoideus m.
Semitendinosus m.
Intertransversarii m.
Scalenus ventralis m.
Semimembranosus m.
Longissimus cervicis m.
Subclavius m.
Vastus lateralis m. (of quadriceps m.)
Supraspinatus m.
Infraspinatus m.
Teres minor m.
Body of cecum
Gastrocnemius m. (lateral head)
Biceps brachii m.
Liver
Brachialis m.
Right ventral colon
Soleus m.
Right dorsal colon
Heart
Deep digital flexor m. (deep or lateral head)
Long digital extensor m. (cut)
Right lung: caudal lobe
Lateral digital extensor m.
Right lung: cranial lobe
Lateral digital extensor m.
Cranial tibial m.
Deep digital flexor m.
Extensor carpi obliquus m. (abductor pollicis longus)
Short digital extensor m.
Peroneus tertius m.
Distal digital anular ligament
Lateral cartilage of distal phalanx (ungual cartilage)


Cranial capital oblique m.
Digastricus m. (caudal belly)
External acoustic meatus
Caudal capital oblique m.
Zygomatic arch
Cervical multifidi mm.
Intertransversarii mm. (dorsal, oblique, and ventral)
Nuchal ligament
Costovertebral joint
Descending colon
Spinalis cervicis m.
Jejunum
Intervertebral disc
Infraorbital n.
Spleen
Coxal tuber
First upper premolar (wolf tooth)
Dorsal sacroiliac ligament
Broad sacrotuberal ligamen
Thyroid gland
Larynx
Anus
Hyoid apparatus
Trachea
Ischiatic tuber
Incisor teeth
Mandible
Esophagus
Vulva
External jugular v.
Longus colli m.
Coxal (hip) joint
Vertebral a.
Scapulohumeral joint (shoulder)
Stifle joint:
·Femoropatellar j
Left lung: cranial lobe
·Femorotibial j.
Udder
Heart
Left dorsal colon
Left lung: caudal lobe
Superficial digital flexor m.
Left ventral colon
Xiphoid cartilage
Elbow joint:
·Humeroradial j.
·Humeroulnar j.
Sternocostal joint
Hock joint:
·Tarsocrural joints
·Intertarsal joints
·Tarsometatarsal joints
Antebrachiocarpal joint
Middle carpal joint
Carpometacarpal joint
Lateral collateral lig.
Superficial digital flexor tendon
Metatarsophalangeal joint
Metacarpophalangeal joint (fetlock j.)
Proximal interphalangeal joint (pastern j.)
Distal interphalangeal joint (coffin j.)

Liver


Esophageal impression
Caudal vena cava
Left hepatic lobe
Right hepatic lobe
Caudate hepatic lobe
Hepatic porta with portal vein and hepatic artery
Quadrate hepatic lobe
Falciform ligament with the round ligament
Gall bladder

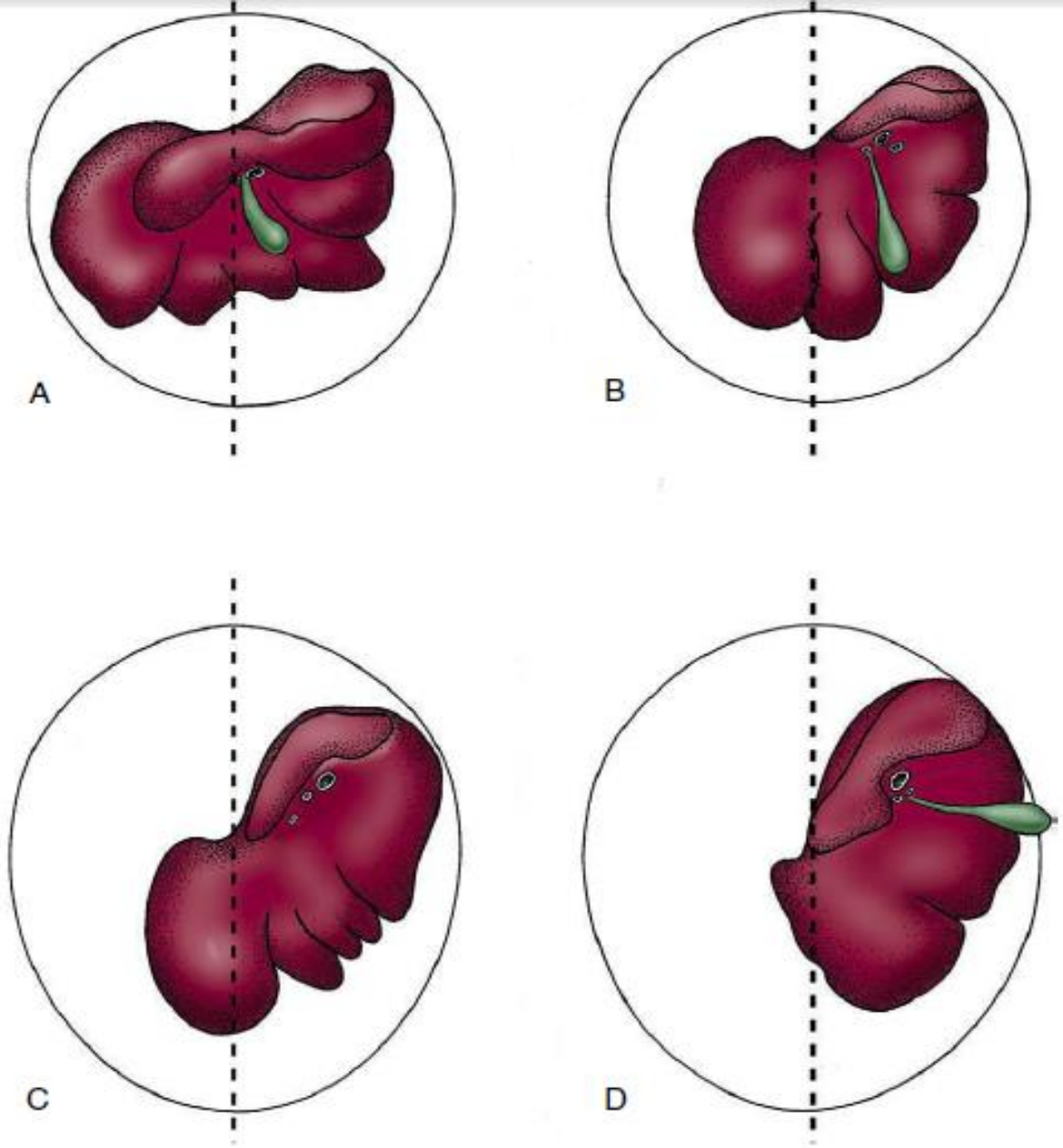


Figure 3–51 Caudal surface of the liver of the dog (**A**), pig (**B**), horse (**C**), and cattle (**D**). The median planes are indicated. The liver is asymmetrical, less so in the dog, more so in the pig and horse, and most in cattle, in which the bulk of the organ is displaced to the right. Note the absence of a gallbladder from the horse liver.

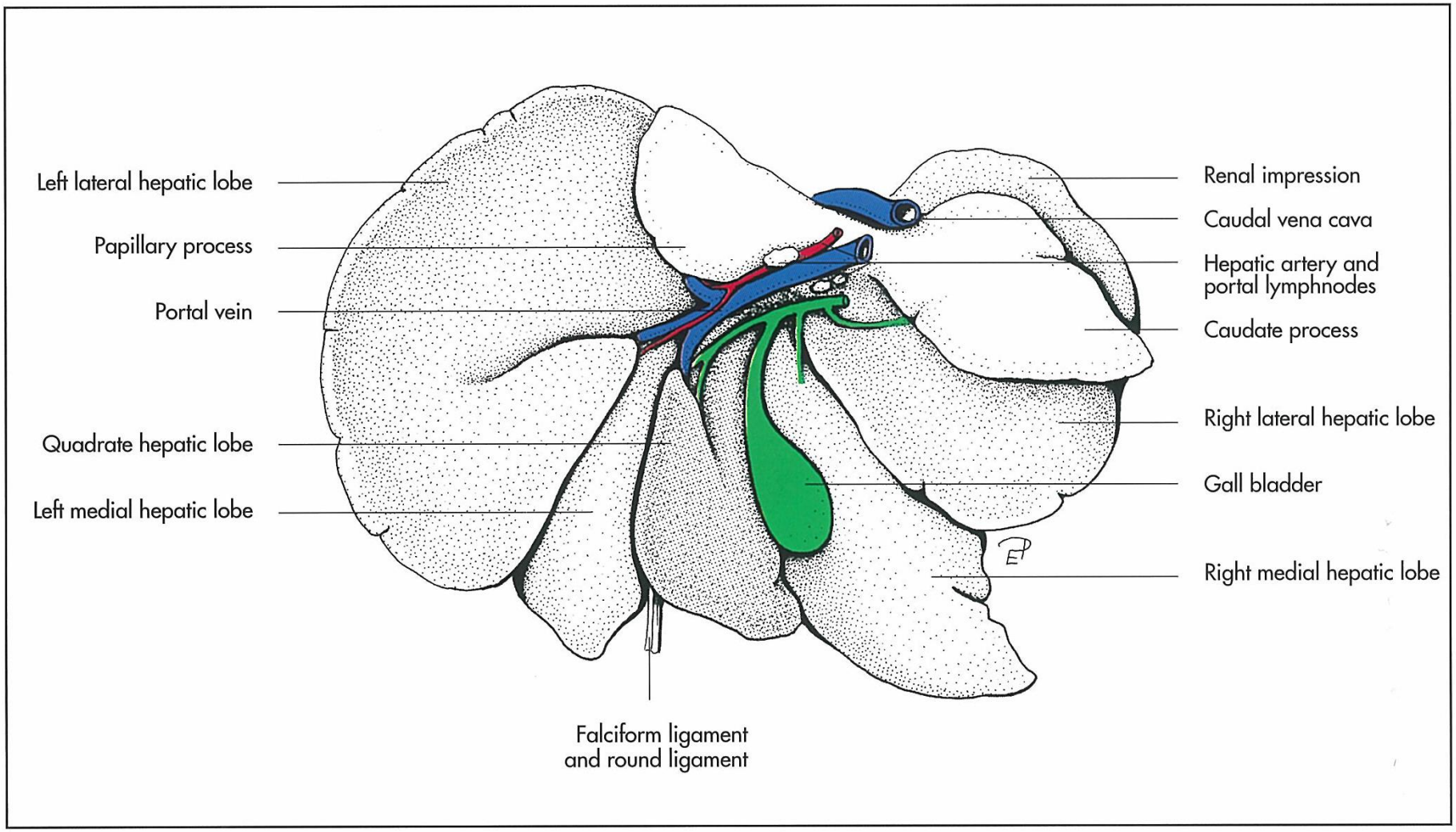


Fig 7-97. Liver of the dog, schematic, visceral surface.

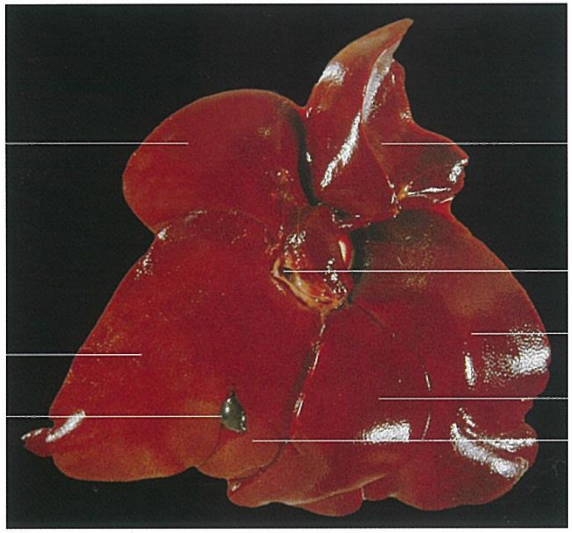


Fig 7-101. Liver of a cat, diaphragmatic surface (König, 1992).

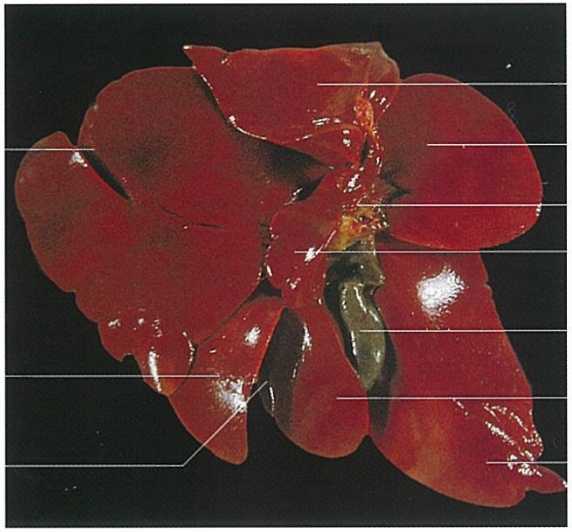
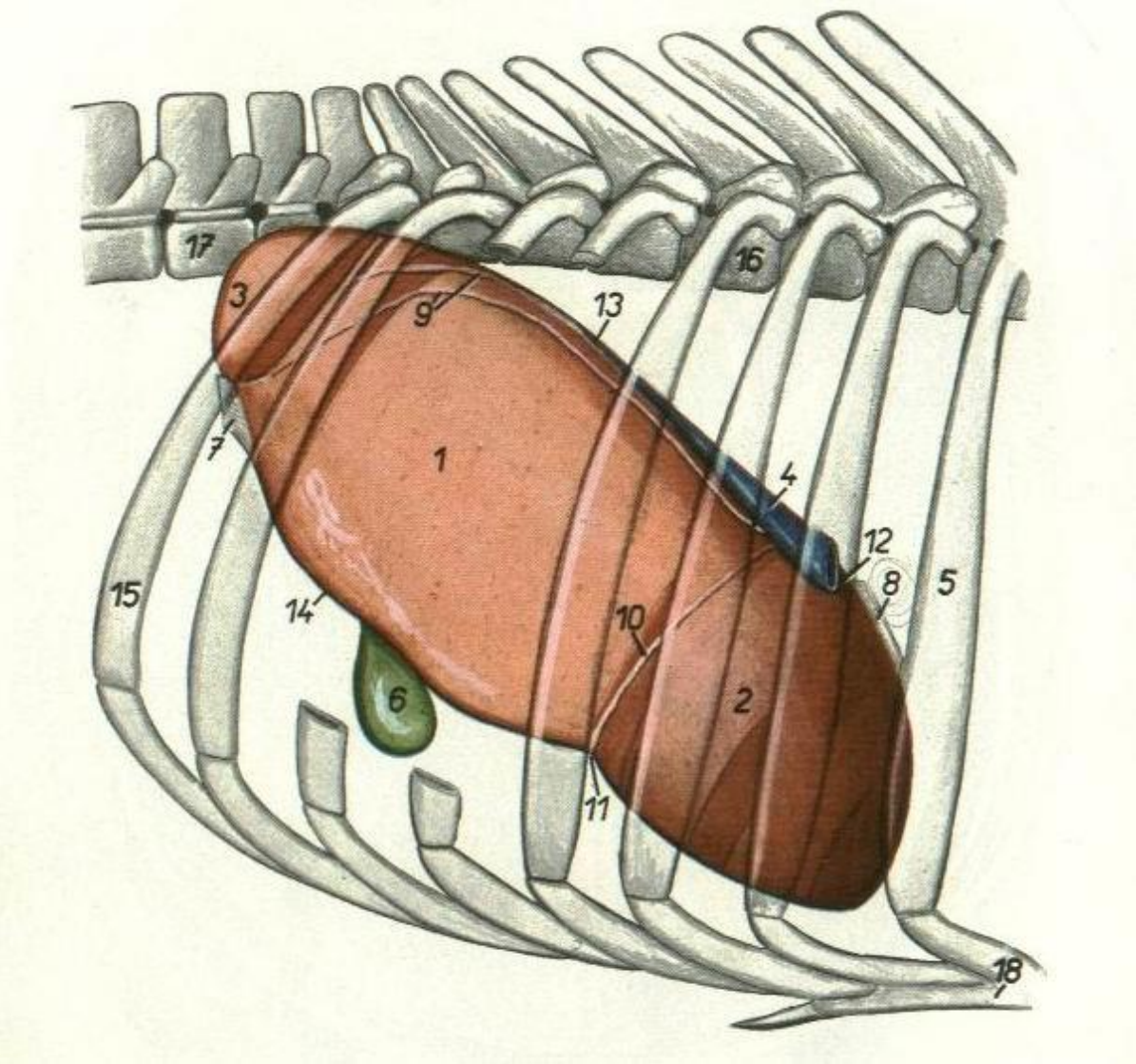
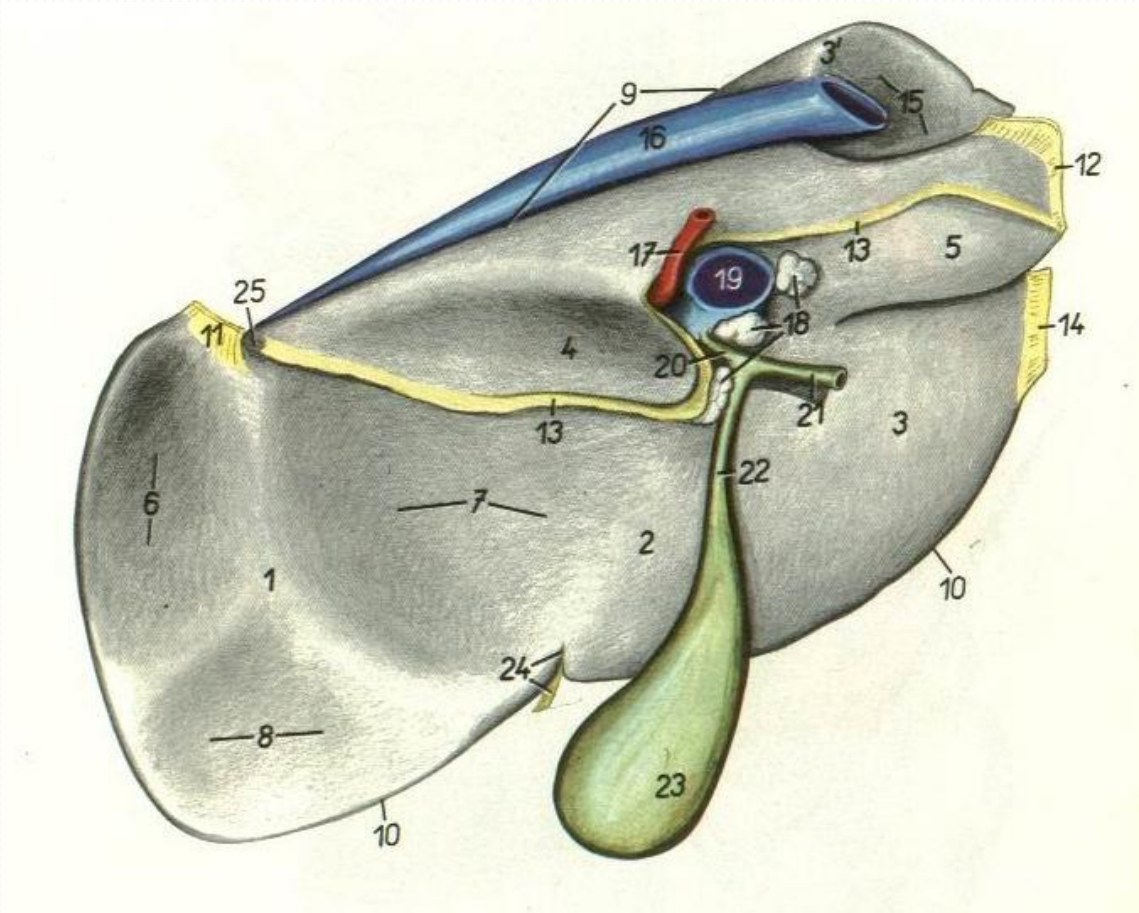


Fig 7-102. Liver of a cat, visceral surface (König, 1992).


17
16
3
9
13
7
1
4
12
8
5
15
14
10
6
2
11
18



1. *lobus hepatis sinister* – left hepatic lobe
2. *lobus quadratus* – quadrate lobe
3, 3'. *lobus hepatis dexter* – right hepatic lobe
4, 5. *lobus caudatus* – caudate lobe
4. *processus papillaris* – papillary process
5. *processus caudatus* – caudate process
6. *impressio reticularis* – reticular process
7. *impressio renalis* – renal impression
8. *impressio abdominalis* – abdominal impression
9. *margo dorsalis* – dorsal margin
10. *margo ventralis* – ventral margin
11. *lig. triangulare sinistrum* – left triangular ligament
12. *lig. hepatorenale* – hepatorenal ligament
13. *omentum minus (lig. hepatogastricum et hepatoduodenale)* – lesser omentum (hepatogastric and hepatoduodenal ligament)
14. *lig. triangulare dextrum* – right triangular ligament
15. *impressio renalis* – renal impression
16. *v. cava caudalis* – caudal vena cava
17. *a. hepatica* – hepatic artery
18. *lnn. hepatici* – hepatic lymph nodes
19. *v. portae* – portal vein
20. *ductus hepaticus* – hepatic duct
21. *ductus choledochus* – ductus choledochus
22. *ductus cysticus* – cystic duct
23. *vesica fellea* – gallbladder
24. *fissura lig. teretis, lig. teres hepatis* – fissure for round ligament, round ligament of liver
25. *impressio oesophagea* – esophageal impression

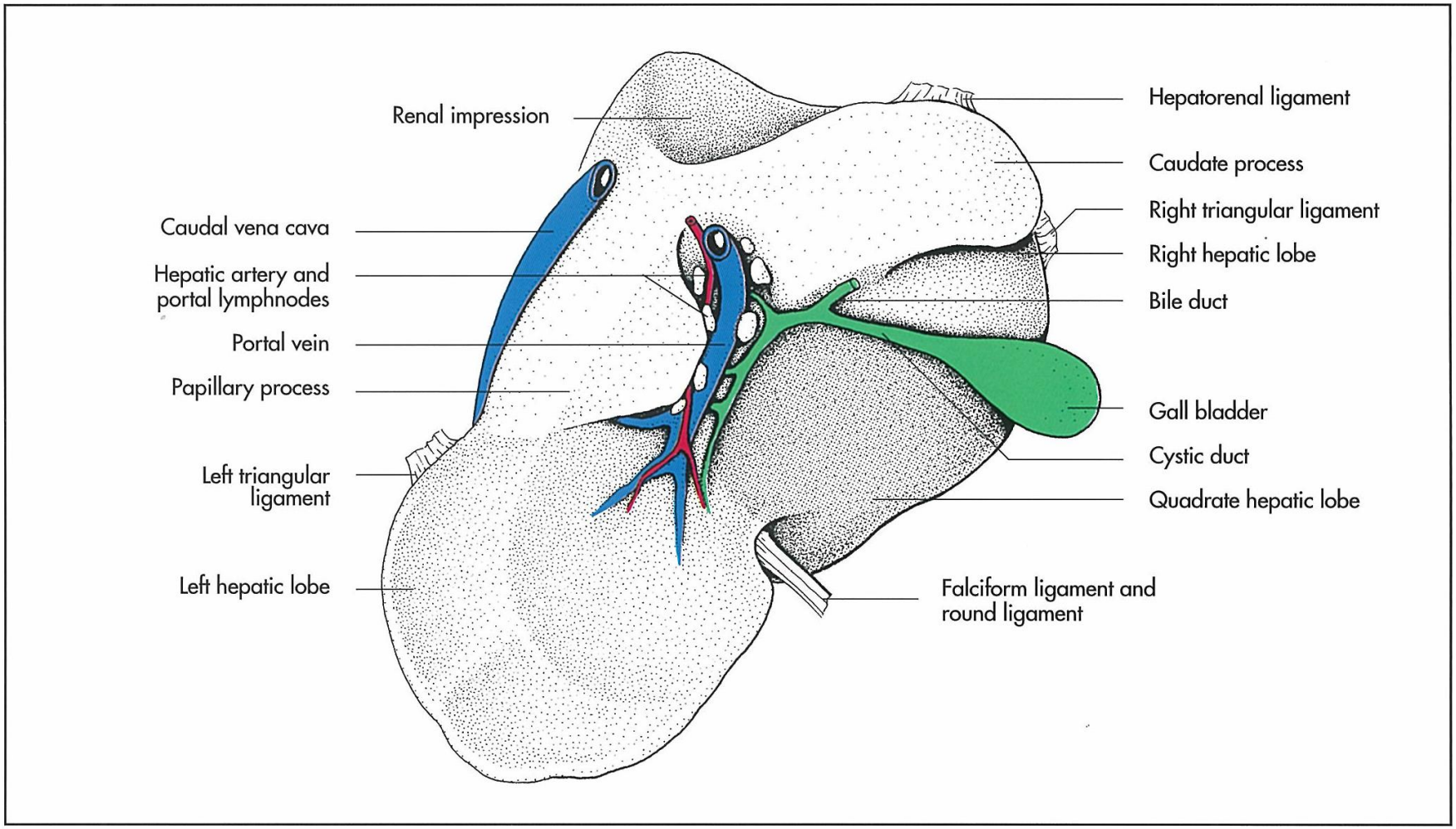
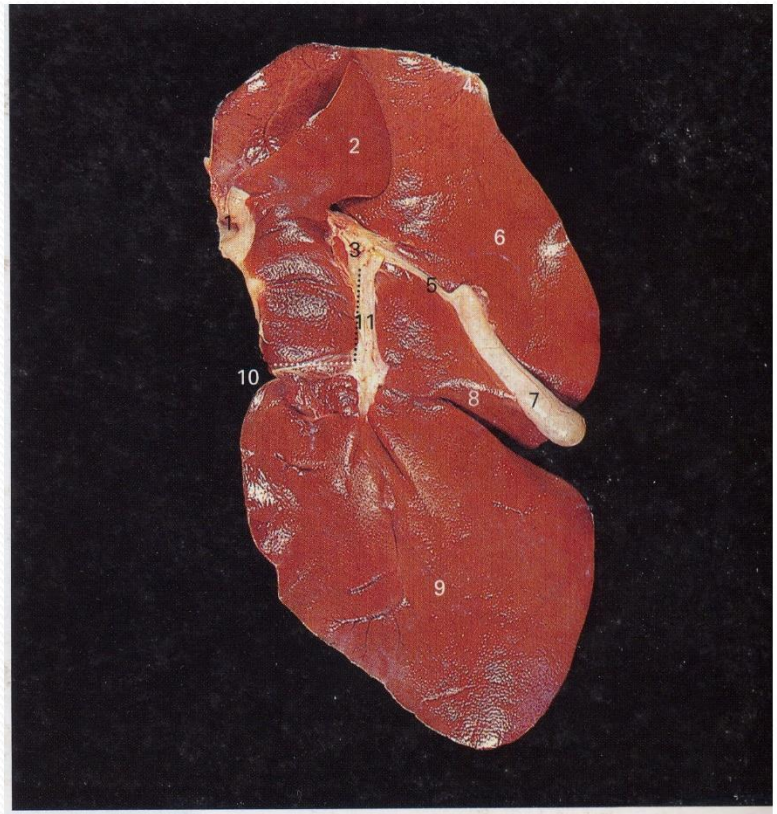
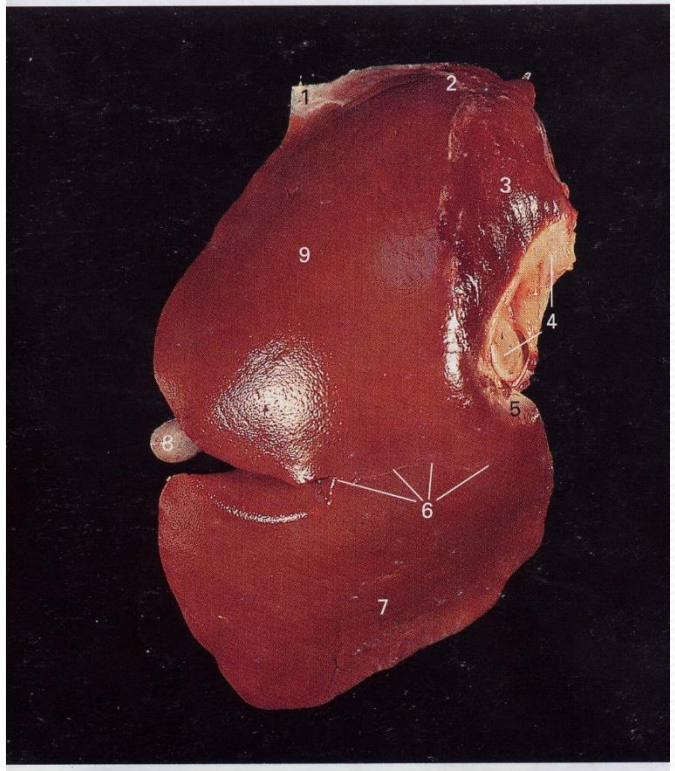


Fig 7-99. Liver of the ox, schematic, visceral surface.



311. The visceral surface of the liver of a sheep.

1 Caudal vena cava
2 Caudate lobe
3 Porta of the liver
4 Right triangular ligament
5 Cystic duct
6 Right lobe
7 Gall bladder
8 Quadrate lobe
9 Left lobe
10 Oesphageal notch
11 Line of attachment of lesser omentum

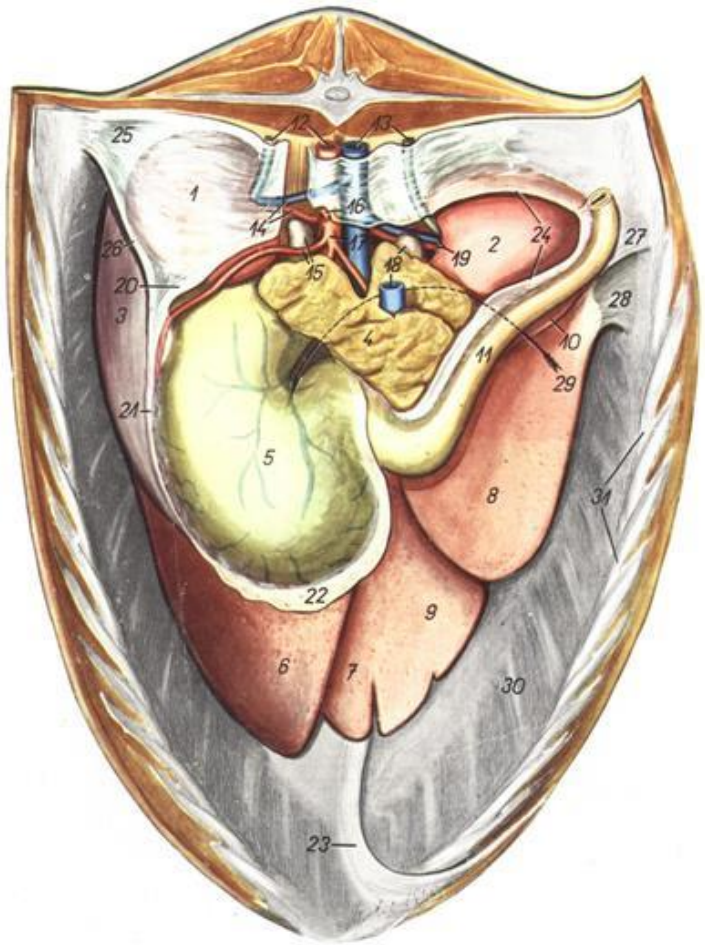


310. The diaphragmatic surface of the liver of a sheep.

1 Right triangular ligament
2 Coronary ligament
3 Area of the liver adherent to the diaphragm
4 Caudal vena cava
5 Oesphageal notch
6 Line of attachment of the falciform ligament
7 Left lobe
8 Gall bladder
9 Right lobe

Horse. Topographic anatomic relations of organs adjacent to the diaphragm. Ventrocaudal view.

Figure 147



1. *ren sinister* — left kidney
2. *ren dexter* — right kidney
3. *lien* — spleen
4. *pancreas* — pancreas
5. *ventriculus (gaster)* — ventriculus (stomach)
6. *lobus hepatis sinister lateralis* — left lateral lobe of liver
7. *lobus hepatis sinister medialis* — left medial lobe of liver
8. *lobus hepatis dexter* — right lobe of liver
9. *lobus quadratus hepatis* — quadrate lobe of liver
10. *processus caudatus hepatis* — caudate process of liver
11. *duodenum* — duodenum
12. *aorta, ureter sinister* — aorta, left ureter
13. *v. cava caudalis, ureter dexter* — caudal vena cava, right ureter
14. *a. et v. renalis sinistra* — left renal artery and vein
15. *a. lienalis, glandula suprarenalis sinistra* — splenic artery, left suprarenal gland
16. *a. mesenterica cranialis* — cranial mesenteric artery
17. *a. celiaca* — celiac artery
18. *v. portae, glandula suprarenalis dextra* — portal vein, right suprarenal gland
19. *a. et v. renalis dextra* — right renal artery and vein
20. *lig. renodienale* — renosplenic ligament
21. *lig. gastrodienale* — gastrosplenic ligament
22. *omentum majus* — greater omentum
23. *lig. falciforme et lig. teres* — falciform ligament and round ligament
24. *zona adhesionis basis ceci* — site of adhesion of base of cecum
25. *lig. phrenicorenale sinistrum* — left phrenicorenal ligament
26. *lig. phrenicolienale* — phrenicolienal ligament
27. *lig. phrenicorenale dextrum* — right phrenicorenal ligament
28. *lig. triangulare dextrum* — right triangular ligament
29. *foramen epiploicum* — epiploic foramen
30. *diaphragma* — diaphragm
31. *arcus costalis* — costal arch

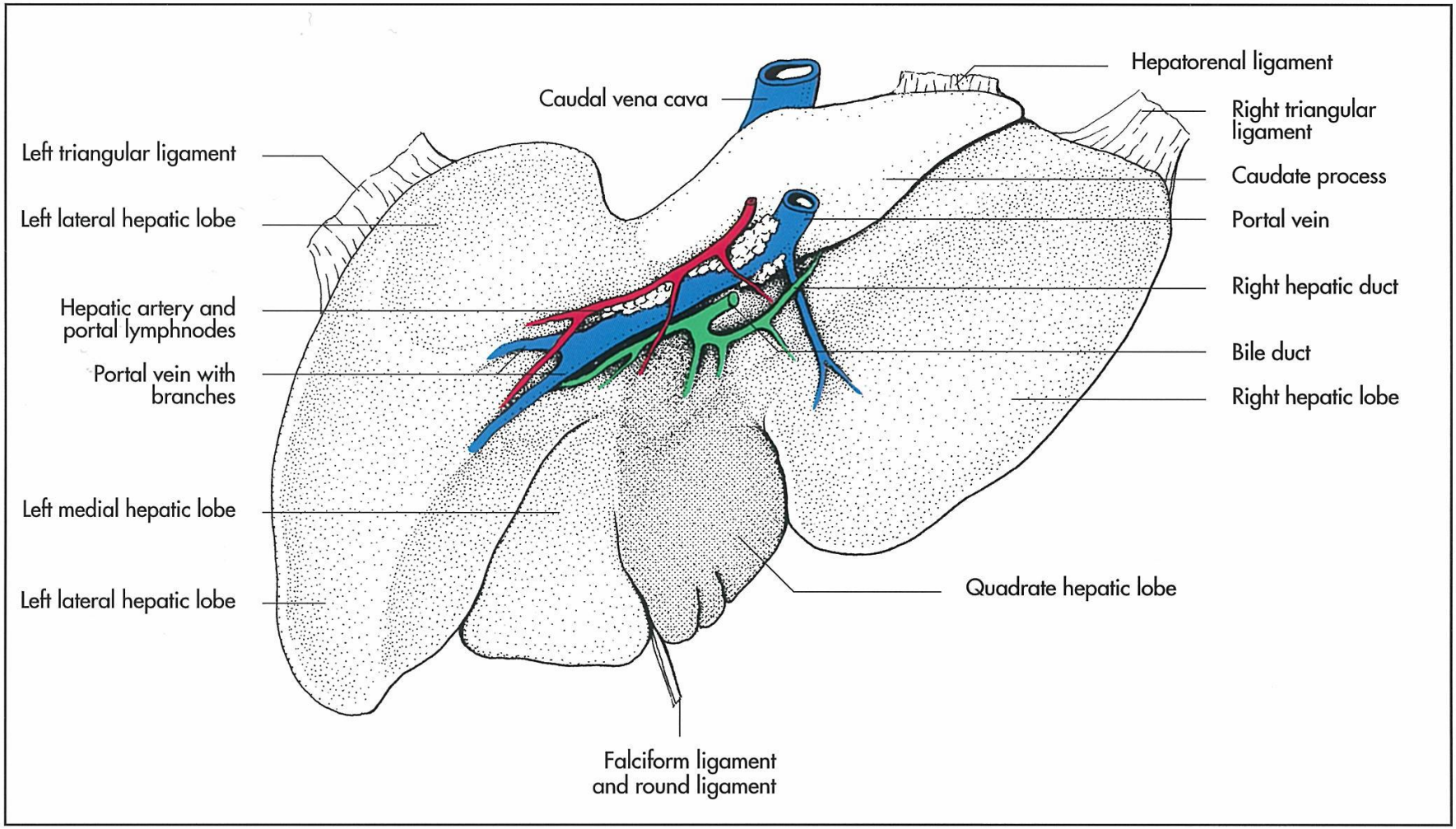
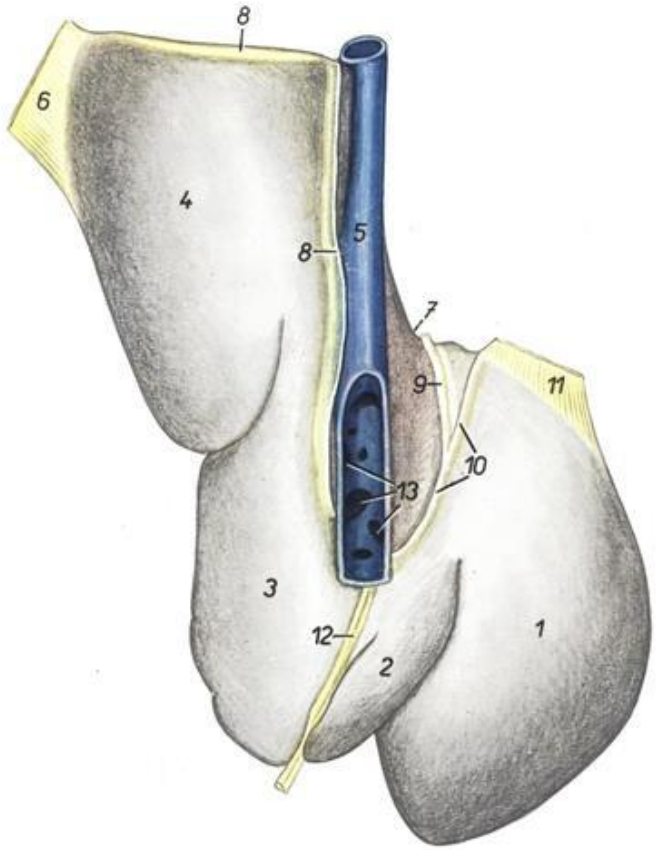


Fig 7-100. Liver of the horse, schematic, visceral surface.

Horse. Liver. View of diaphragmatic surface.

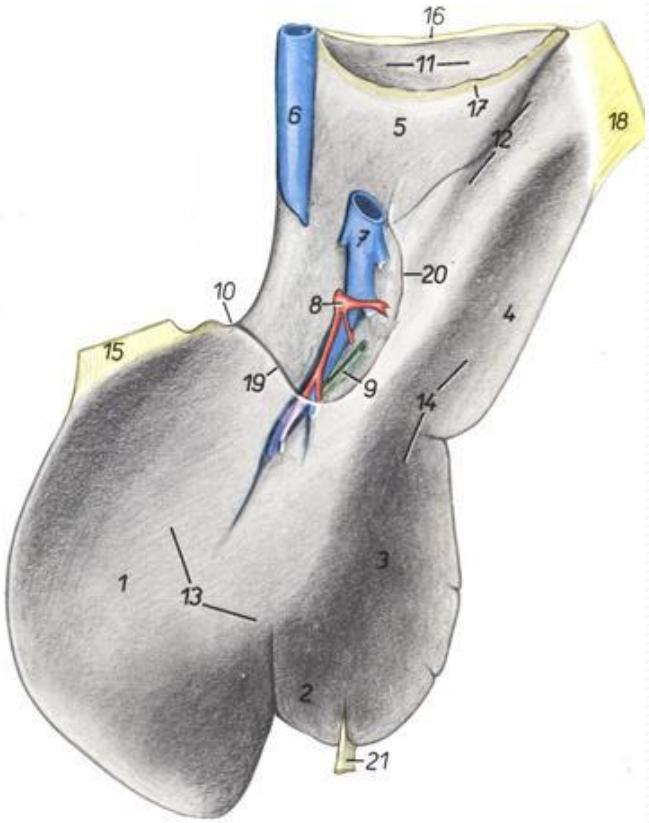
Figure 164



1. *lobus sinister lateralis* — left lateral lobe
2. *lobus sinister medialis* — left medial lobe
3. *lobus quadratus* — quadrate lobe
4. *lobus dexter* — right lobe
5. *v. cava caudalis* — caudal vena cava
6. *lig. triangulare dextrum* — right triangular ligament
7. *impressio esophagea* — esophageal impression
8. *lig. coronarium dextrum* — right coronary ligament
9. *lig. coronarium intermedium* — intermediate coronary ligament
10. *lig. coronarium sinistrum* — left coronary ligament
11. *lig. triangulare sinistrum* — left triangular ligament
12. *lig. falciforme et lig. teres* — falciform and round ligaments
13. *vv. hepaticae* — hepatic veins

Horse. Liver. View of visceral surface.

Figure 165



1. *lobus sinister lateralis* — left lateral lobe
2. *lobus sinister surdialis* — left medial lobe
3. *lobus quadratus* — quadrate lobe
4. *lobus dexter* — right lobe
5. *processus caudatus lobi caudati* — caudate process of caudate lobe
6. *v. cava caudalis* — caudal vena cava
7. *v. portae* — portal vein
8. *a. hepatica* — hepatic artery
9. *ductus hepaticus* — hepatic duct
10. *impressio esophagea* — esophageal impression
11. *impressio renalis* — renal impression
12. *impressio duodenalis* — duodenal impression
13. *impressio gastrica* — gastric impression
14. *impressio colica* — colic impression
15. *lig. triangulare sinistrum* — left triangular ligament
16. *lig. coronarium dextrum* — right coronary ligament
17. *lig. hepatorenale* — hepatorenal ligament
18. *lig. triangulare dextrum* — right triangular ligament
19., 20. *omentum minus* — lesser omentum
19. *lig. hepatogastricum* — hepatogastric ligament
20. *lig. hepatoduodenale* — hepatoduodenal ligament
21. *lig. teres et lig. falciforme* — round and falciform ligaments

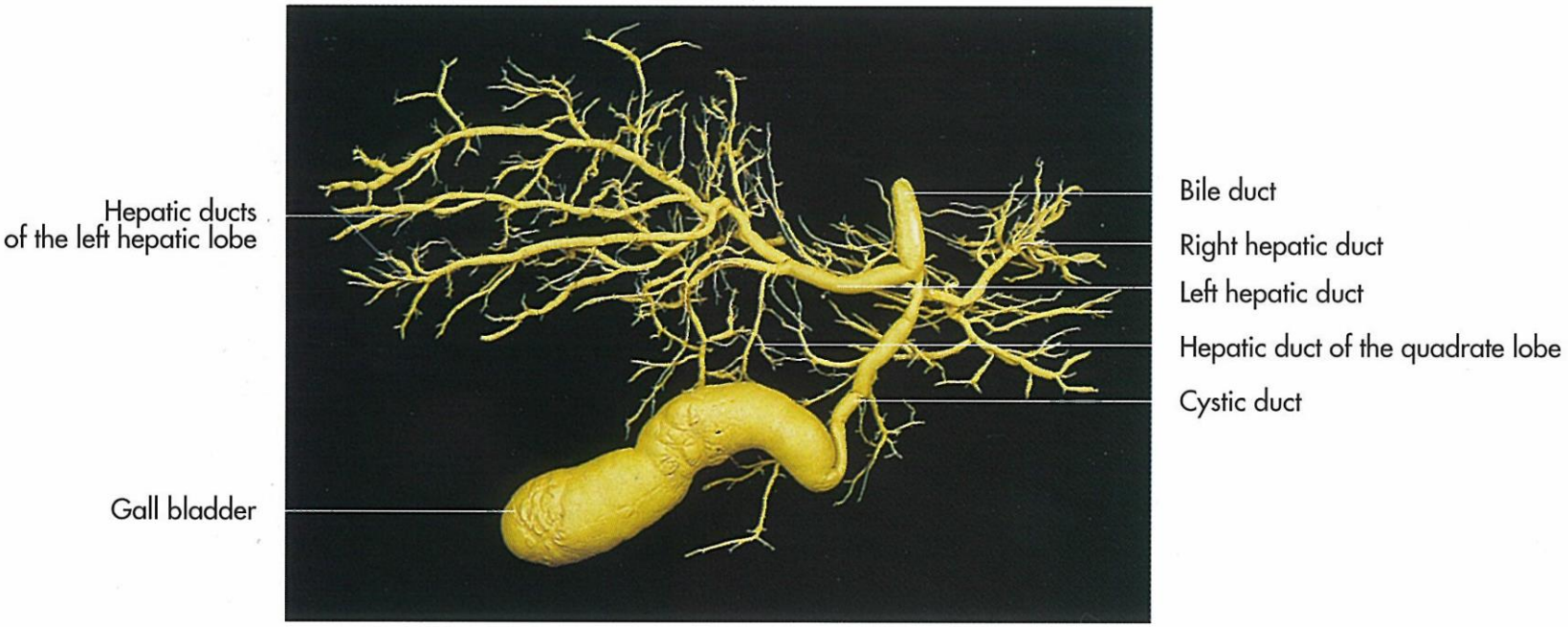
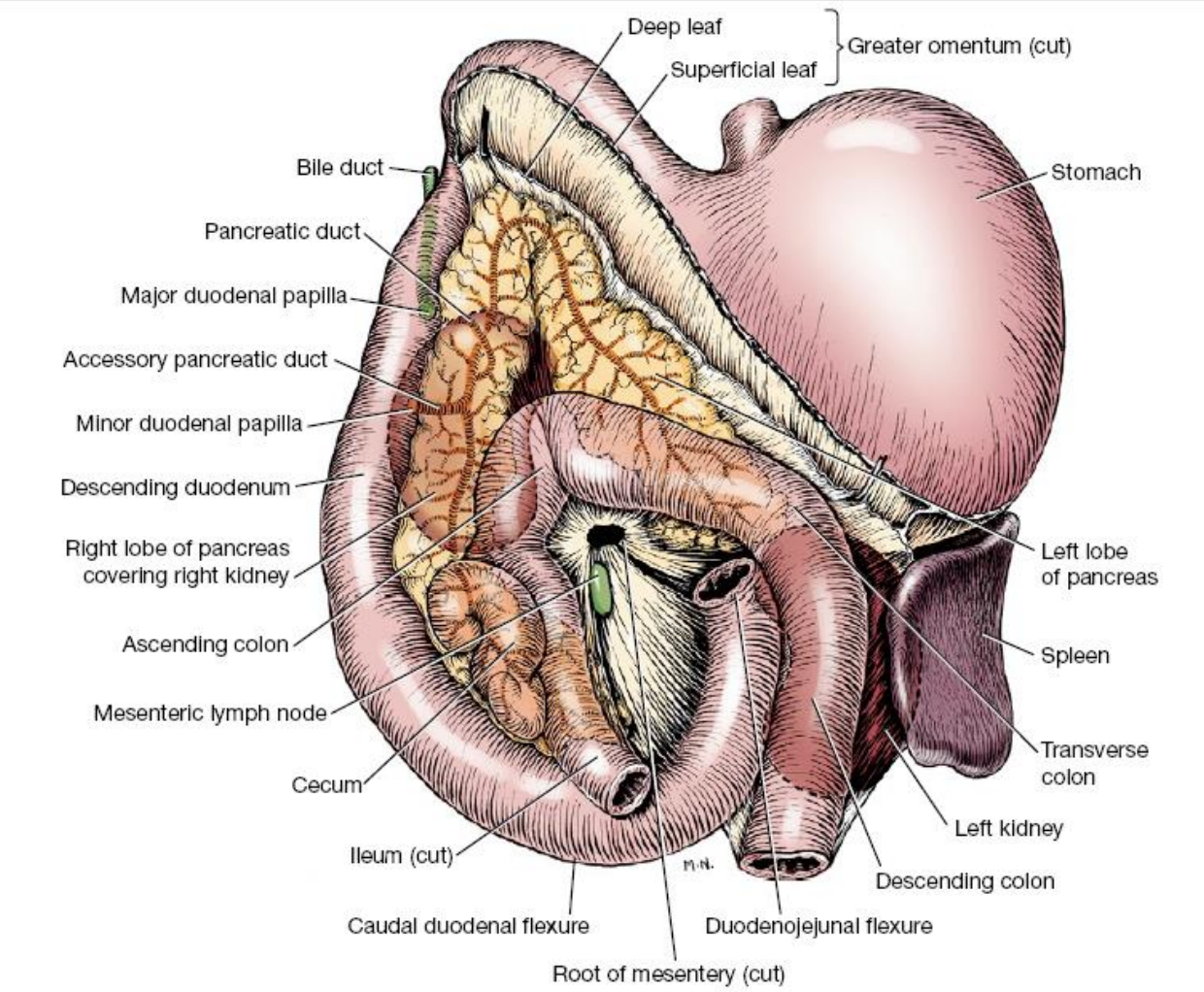
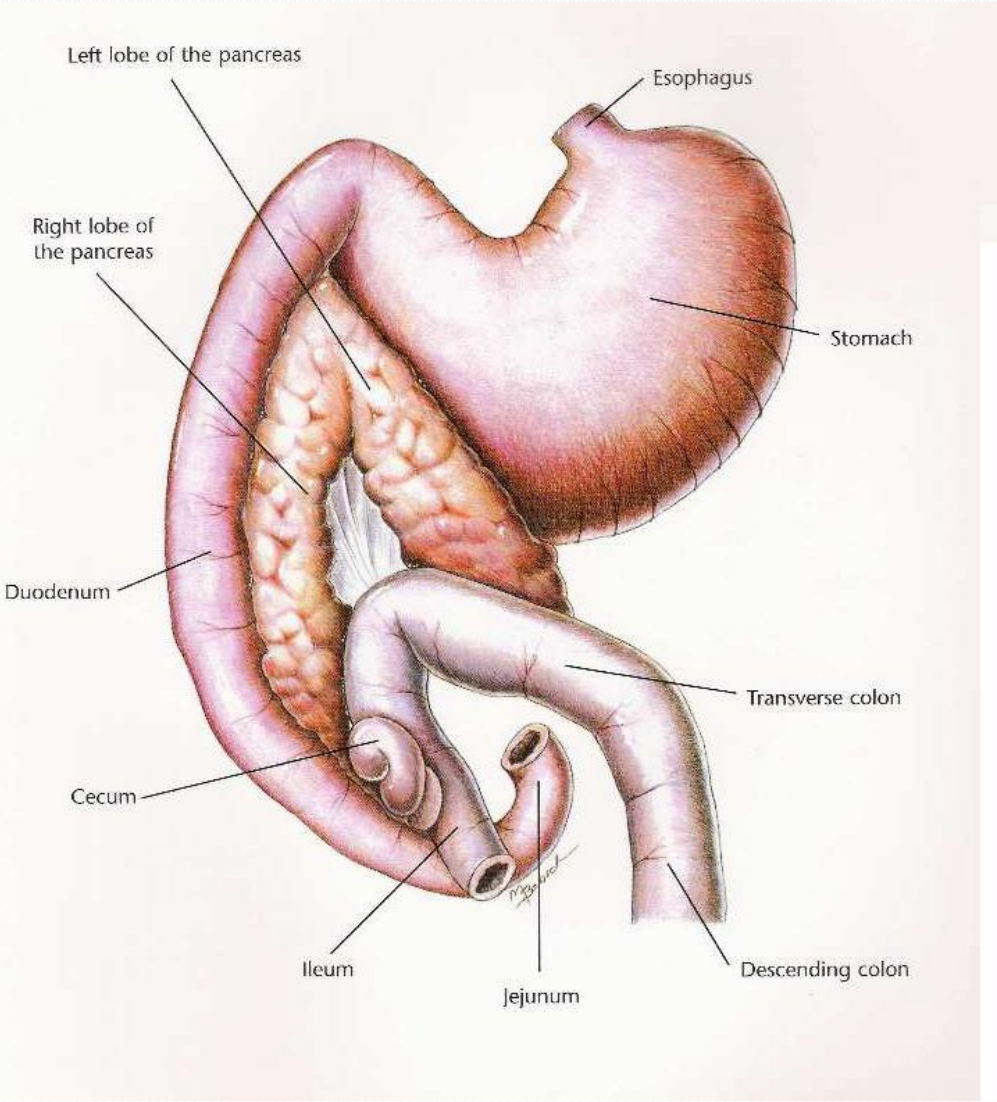
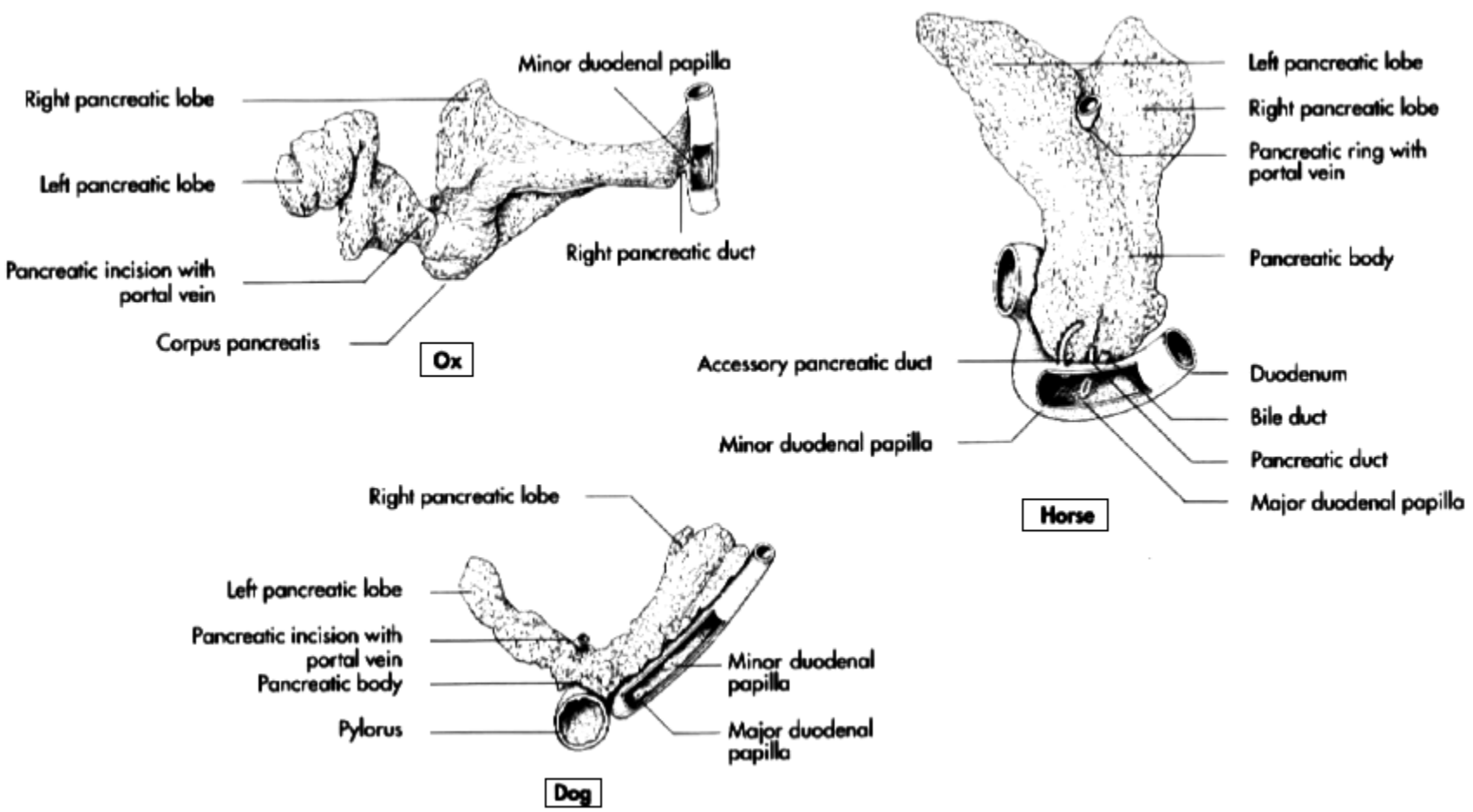


Fig 7-109. Bile drainage system of a sheep, corrosion cast (courtesy of Prof. Dr. Ana Carretero, Barcelona).

Pancreas


Deep leaf
Superficial leaf
Greater omentum (cut)
Bile duct
Stomach
Pancreatic duct
Major duodenal papilla
Accessory pancreatic duct
Minor duodenal papilla
Descending duodenum
Right lobe of pancreas covering right kidney
Left lobe of pancreas
Ascending colon
Spleen
Mesenteric lymph node
Transverse colon
Cecum
Left kidney
Ileum (cut)
Descending colon
Caudal duodenal flexure
Duodenojejunal flexure
Root of mesentery (cut)


Left lobe of the pancreas
Esophagus
Right lobe of the pancreas
Stomach
Duodenum
Transverse colon
Cecum
Ileum
Jejunum
Descending colon


Minor duodenal papilla
Right pancreatic lobe
Left pancreatic lobe
Pancreatic incision with portal vein
Right pancreatic duct
Corpus pancreatis
Ox
Left pancreatic lobe
Right pancreatic lobe
Pancreatic ring with portal vein
Pancreatic body
Accessory pancreatic duct
Duodenum
Bile duct
Minor duodenal papilla
Pancreatic duct
Major duodenal papilla
Horse
Right pancreatic lobe
Left pancreatic lobe
Pancreatic incision with portal vein
Pancreatic body
Minor duodenal papilla
Pylorus
Major duodenal papilla
Dog

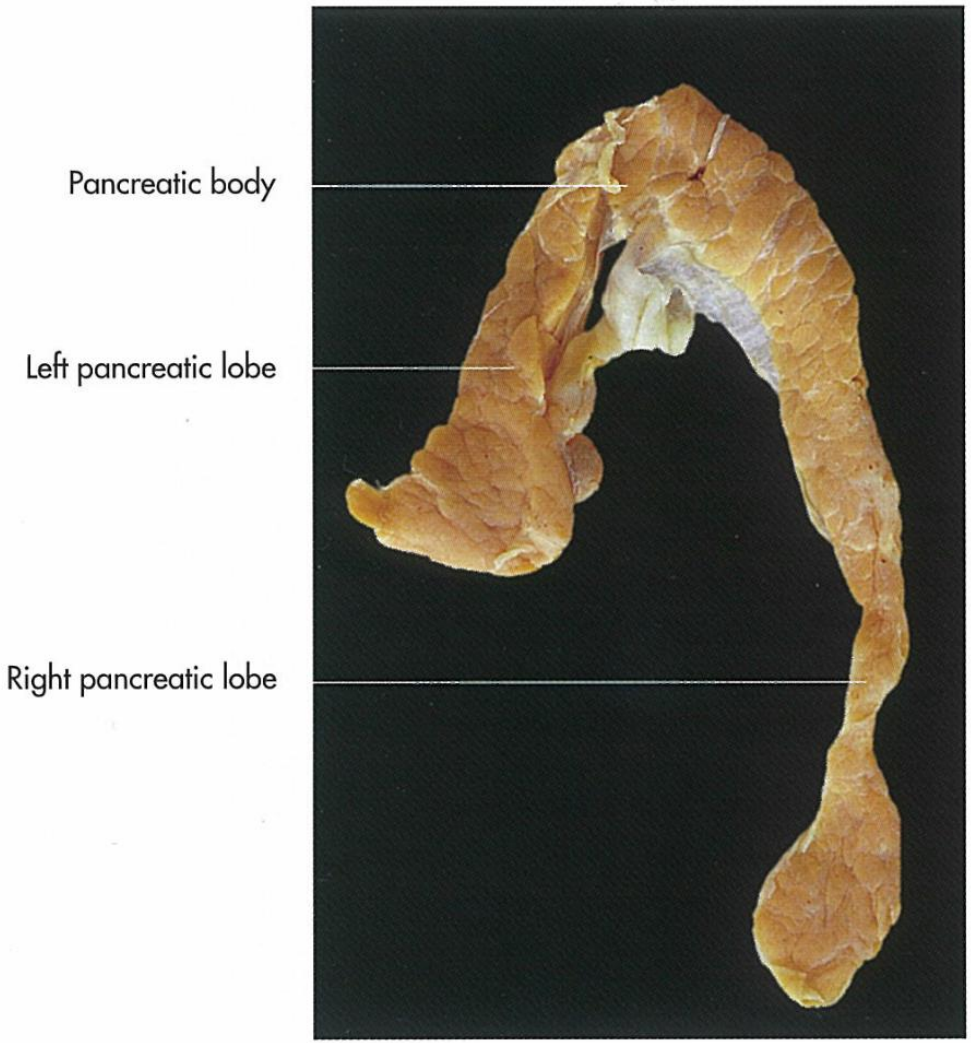
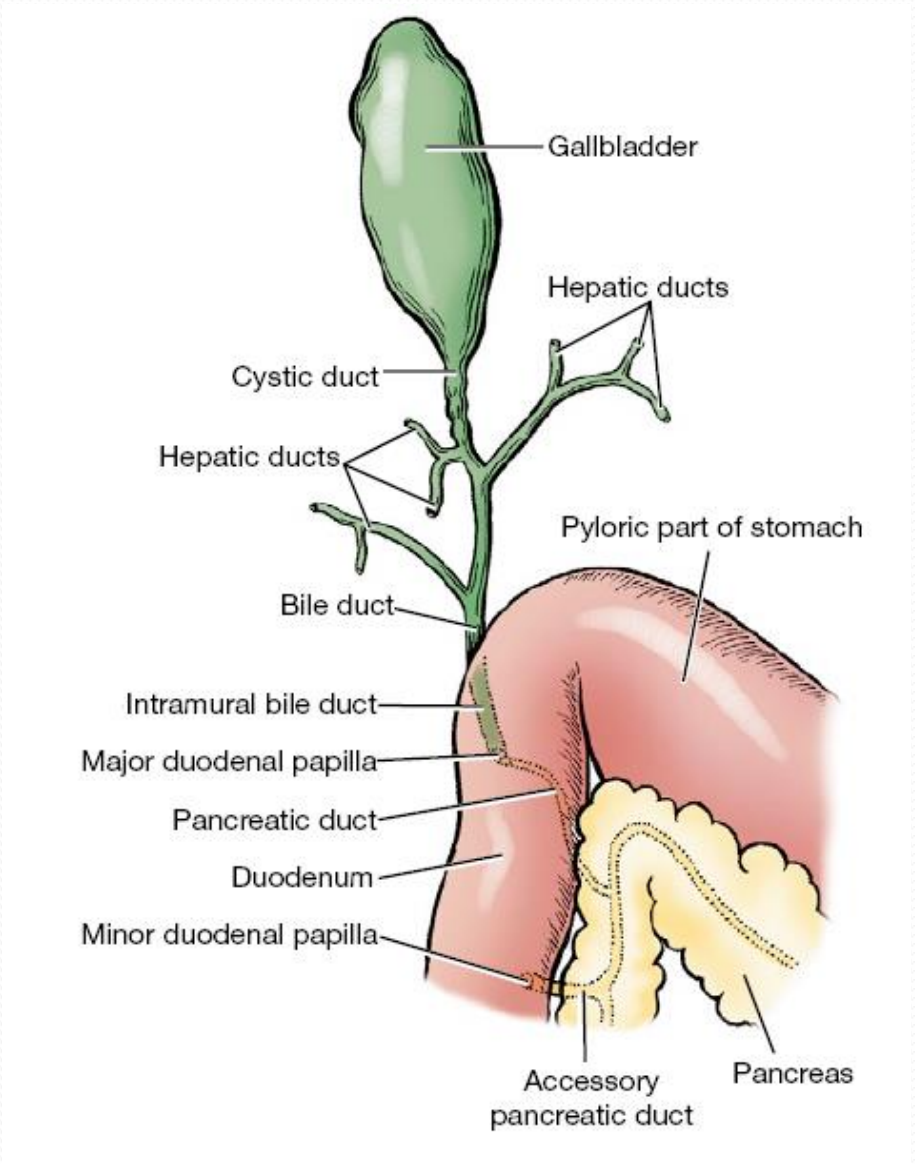
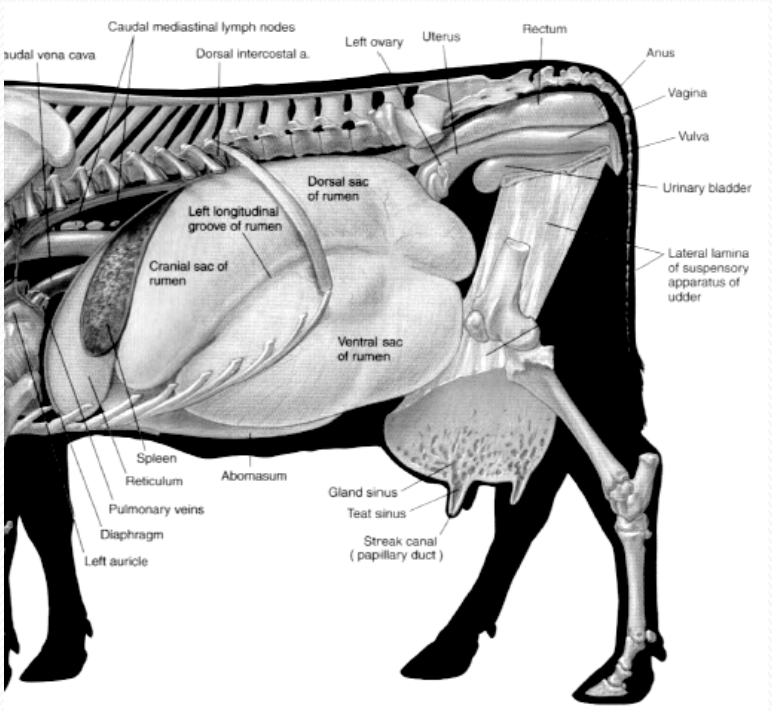
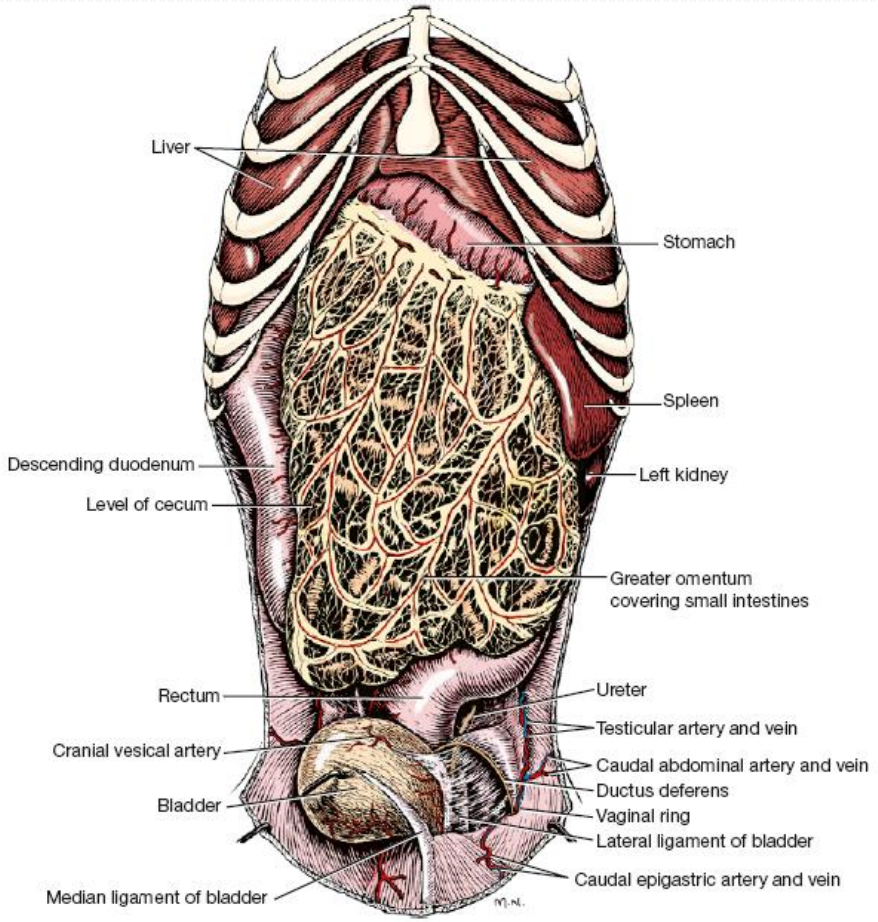


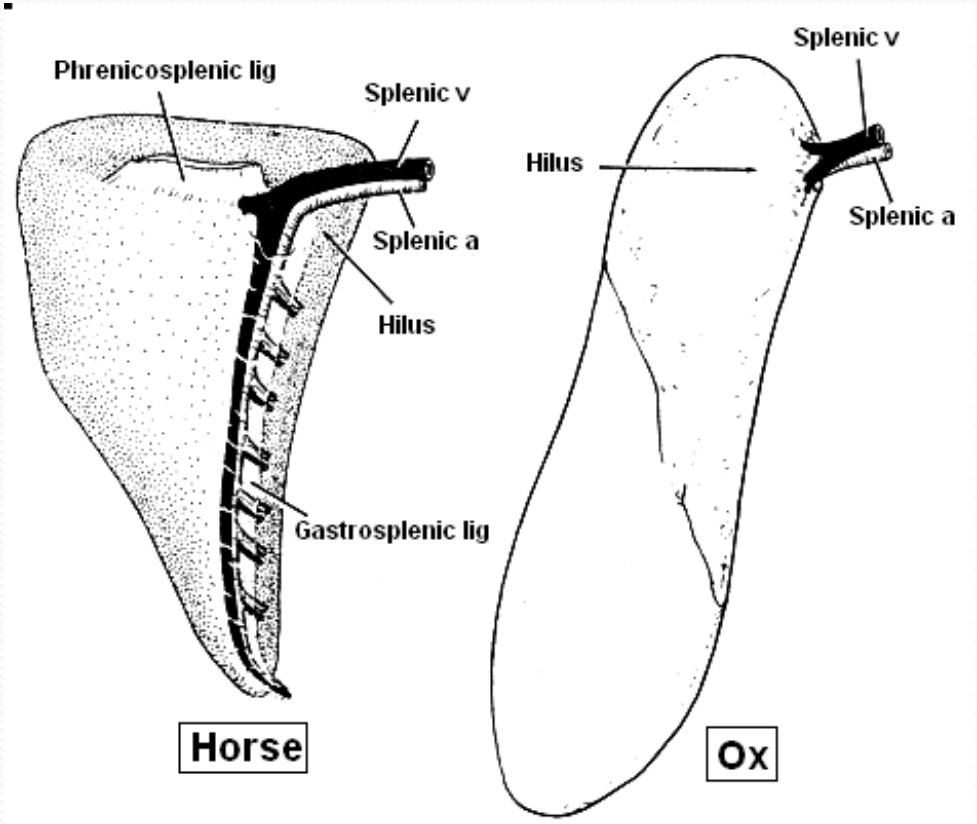
Fig 7-111. Pancreas of a dog, dorsal aspect.

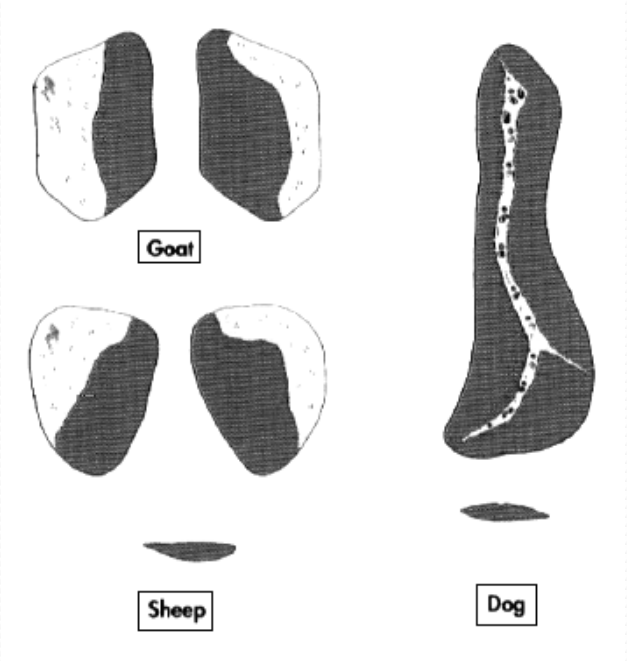

Gallbladder
Hepatic ducts
Cystic duct
Hepatic ducts
Pyloric part of stomach
Bile duct
Intramural bile duct
Major duodenal papilla
Pancreatic duct
Duodenum
Minor duodenal papilla
Accessory pancreatic duct
Pancreas

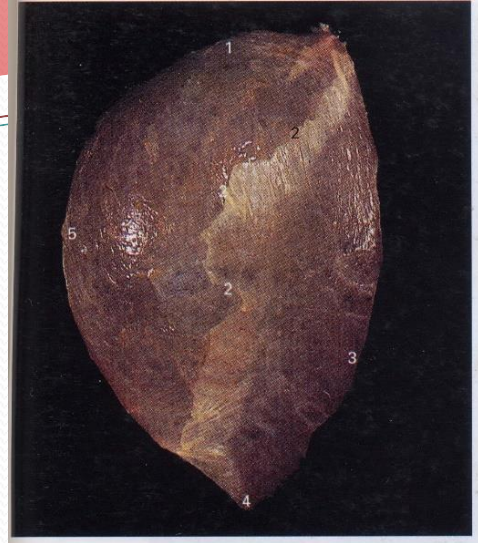
Spleen


Caudal mediastinal lymph nodes
udal vena cava
Dorsal intercostal a.
Left ovary
Uterus
Rectum
Anus
Vagina
Vulva
Urinary bladder
Dorsal sac of rumen
Left longitudinal groove of rumen
Cranial sac of rumen
Lateral lamina of suspensory apparatus of udder
Ventral sac of rumen
Spleen
Reticulum
Abomasum
Pulmonary veins
Diaphragm
Left auricle
Gland sinus
Teat sinus
Streak canal (papillary duct)


Liver
Stomach
Spleen
Descending duodenum
Left kidney
Level of cecum
Greater omentum covering small intestines
Rectum
Ureter
Testicular artery and vein
Cranial vesical artery
Caudal abdominal artery and vein
Ductus deferens
Bladder
Vaginal ring
Lateral ligament of bladder
Caudal epigastric artery and vein
Median ligament of bladder


Phrenicosplenic lig
Splenic v
Splenic a
Hilus
Gastrosplenic lig
Horse
Splenic v
Hilus
Splenic a
Ox


Goat
Sheep
Dog



323. Parietal surface of the spleen of a sheep.

1 Dorsal end
2 Line of peritoneal reflection; the area ventral to this line has a peritoneal covering
3 Caudal border
4 Ventral end
5 Cranial border

324. Visceral surface of the spleen of a sheep.

1 Dorsal end
2 Hilus
3 Cranial border
4 Ventral end
5 Line of peritoneal reflection; the area ventral to this line has a peritoneal covering
6 Caudal border

325. Parietal surface of the spleen of a llama.

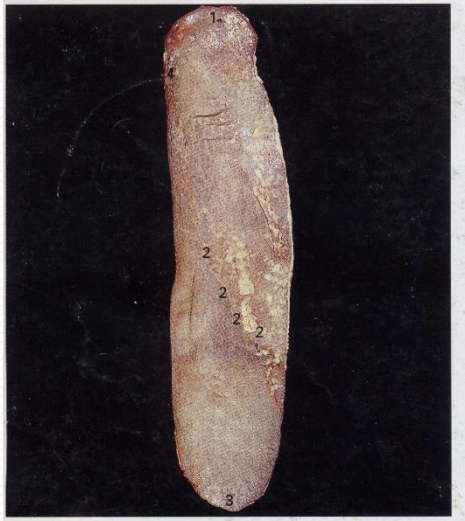
326. Visceral surface of the spleen of a llama.

319. Parietal surface of the spleen of a horse.

1 Dorsal end
2 Caudal border
3 Ventral end
4 Cranial border

320. Visceral surface of the spleen of a horse.

1 Caudal border
2 Dorsal end
3 Cranial border
4 Hilus
5 Ventral end



321. Parietal surface of the bovine spleen.

1 Dorsal end
2 Line of peritoneal reflection; the area ventral to this line has a peritoneal covering
3 Ventral end
4 The hilus is close to this point on the visceral surface

322. Visceral surface of the bovine spleen.

1 Dorsal end
2 Hilus
3 Line of peritoneal reflection; the area ventral to this line has a peritoneal covering
4 Ventral end