Errata and Corrigenda of *Vertebrate Dissection, 9th edition* (Homberger & Walker)

(as of 28 June 2013)

Page xvi, Figure N-1: *Horizontal plane* (not "*Frontal plane*")

Page xvi, left column, lines 2-3: Replace by:

tions are described as **posterior** and **anterior**. The codes of terminology recommend, however, that the terms "anterior" and "posterior"

Page 7, right column, paragraph 3, line 6: Replace by:

Continues forward from the rostral end of the ventral fin

Page 15, left column, line 1: Replace by:

ectoparasitic lifestyle, but the lamprey also retains the distinctive

Page 28, right column, paragraph 3, lines 11-14: Replace by:

ducts. In a male, a **urogenital papilla** can be seen caudo-dorsally within the cloaca. It ejects urine and sperm, which it has received from the accessory urinary duct and the archinephric duct, respectively (see Chapter 12). The **anus**, which is the exit of the intestine into the cloaca, is located cranial to the urinary papilla. In a female, the cloaca is subdivided by a transverse fold into the caudal **urodaeum** and the cranial **coprodaeum**. In the urodaeum, the papilla in the caudodorsal wall of the cloaca is a **urinary papilla**. The genital tracts, or oviducts, open separately into the cloaca; the eggs would be too large to pass through a papilla. The coprodaeum contains only the anus.

Page 28, right column, paragraph 4, line 3: Replace by:

counter shading, is common in vertebrates and espe-

Page 29, right column, paragraph 1, line 17: Replace by:

system. You may also want to consult Figure 8-5 (Chapter 8, page 189) for more details on the distribution of ampullae of Lorenzini, pit organs, and lateral line organs.

Page 30, Anatomy in Action 3-1, paragraph 2, line 4: Replace by:

group of early actinopterygians, retain thick scales capped with

Page 30, Anatomy in Action 3-1, paragraph 2, lines 11-12: Replace by:

ctenoid scales if their caudal edge that reaches the surface of the skin bears minute processes called **ctenes.**

Page 34, Anatomy in Action 3-3, right column, line 1: Replace by:

also results in a cranially pointing hind foot so the ankle joint

Page 35, left column, line 10: Replace by:

tended (see Fig. 6-15**C** and **D**). Try to spread apart the toes and observe
that the skin between the toes is only sparsely furred.

Page 37, Anatomy in Action 3-4, B: Cornified epidermis (not “epidemis)

Page 39, left column, Table 4-1, line 13: Replace by:

Median fins

Page 39, left column, paragraph 1, lines 2-3: Replace by:

that are distinct in some vertebrates, but combine into
conglomerates of various bones in most vertebrates: (1) The
chondrocranium[2];

Page 39, left column, paragraph 1, lines 9-10: Replace by:

which may have supported gills in early vertebrates. In many
vertebrates, part of the visceral skeleton also form or contribute to
the formation of the jaws, form ear ossicles that transmit sound
waves, contribute to the encasement of the brain, and suspend the
tongue. The dermal bones, which develop from the direct
ossification of connective tissue, cover the

Page 39, left column, paragraph 1, lines 15-16: Replace by:

contribute to the formation of the braincase, the jaws, and the
facial portion of the cranial skeleton.

Page 39, right column, paragraph 1, lines 14-15: Replace by:

Amia, whose skull has retained many characters of early
actinopterygian bony fishes.

Page 39, right column, paragraph 2, lines 1-4: Replace by:

The adult chondrocranium is a box with walls of cartilage or
cartilage-replacement bone and whose complex shape can be best
understood by briefly considering the major features of its
embryonic development (Fig. 4-11). The chondrocranium start to
develop from individual cartilages in order to be able to expand to
adjust to the growing brain. Two pairs of longitudinal cartilages
that lie

Page 39, right column, paragraph 2, line 15: Replace by:

of occipital arches, which resemble de-

Page 39, right column, paragraph 2, lines 25-27: Replace by:

cartilages, which coalesce with one another and with other parts of
the chondrocranium, except where cranial leave the brain to supply
organs and the body's tissues, thereby forming foramina

Page 40, right column, line 1: Replace by:

ets for the eyes, the shallow **orbits**, lie on the sides. Ventrally be-

Page 40, right column, paragraph 2, line 6: Replace by:

to the paired inner ears. The smaller rostral pair is the

Page 40, right column, paragraph 3, line 7: Replace by:

The small hole on the midline, rostral to the strand of cal-

Page 40, right column, paragraph 4, line 3: Replace by:

crest, and **postorbital process** form the rostral, dorsal,

Page 40, right column, paragraph 4, lines 8-9: Replace by:

lateral tubercles, called the basitrabecular processes. As will be seen
later (Fig. 4-5B), the upper jaw, which is not fused to the
chondrocranium in sharks, articulates

Page 41, Figure 4-2B: Postorbital process (not "Postorbital crest")

Page 41, Figure 4-2C: The naris should not have two holes. For a better picture, see Figures 4-4 and 4-5 on pages 45 and 46.

The pointer for the "Trigeminofacial foramen" should point to the large hole underneath the postorbital crest.

Page 42, left column, line 18: Replace by:

within the shallow, ventrally open orbit. It is a distinctive feature of the
Chon-

Page 42, left column, paragraph 1, line 8: Replace by:

to see its external opening, the **naris**. The opening within

Page 42, left column, paragraph 2, last line: Replace by:

inner ear and emerges through the glossopharyngeal fora-

Page 43, left column, line 5: Replace by:

also occurs in choanate or lobe-finned fishes, which are an-

Page 44, right column, paragraph 3, line 5: Replace by:

omandibular cartilage, or hyomandibula, continues to the otic capsule
of the chon-

Page 45, Figure 4-4A: Propterygium (not “Proterygium”)

Suprascapular cartilage (not “Suprascapular process”)

Page 45, Figure 4-4B: Rostral basibranchial cartilage (not “cranial” basibranchial cartilage)

Suprascapular cartilage (not “Suprascapular process”)

Page 46, Figure 4-5B: Rostral basibranchial cartilage (not “cranial” basibranchial cartilage)

Page 48, left, column, paragraph 2, line 14: Replace by

lower jaw. The caudal of this part of the mandibular arch ossifies as the ar-

Page 50, right column, paragraph 1, lines 1-3: Replace by:

The palate (Fig. 4-8**B**) is perforated rostrally by a pair of **choanae,** or
internal nostrils, which connect the nasal cavities with the rostral part of
the oral cavity and are part of the air

Page 53, Table 4-2, column 5, row 5: X (not “O”) [the alligator has a quadratojugal]

Page 54, right column, lines 11-12: Replace by:

parietal bone also has a narrow process that extends rostrolaterally to the
frontal bones. The **orbits** are located ventral to

Page 54, right column, paragraph 1, lines 3-4: Replace by:

very caudal angle of the skull and extends rostrally to a tiny window of
cartilage. The **prootic bone** lies rostral to

Page 54, right column, paragraph 1, line 8: Replace by:

which is a component of the original dermal roof. Rostral

Page 54, right column, paragraph 3, line 2: Replace by:

palate consists of two pairs of dermal bones. The rostral

Page 56, left column, paragraph 1, line 10: Replace by:

ossifications in each: a rostral **prootic bone** and a caudal **opis-**

Page 56, left column, paragraph 1, last line: Replace by:

rostrolaterally to the prootic bone.

Page 56, left column, paragraph 2, line 4: Replace by:

chordals are the **trabeculae**. They are united rostrally to

Page 67, left column, paragraph 4, line 2: Replace by:

skull, rostral to each occipital condyle, is the **tympanic**

Page 67, right column, paragraph 1, lines 11-12: Replace by:

plate of bone extends caudally from each side of the hard palate. It is formed by the palatine and pterygoid bones (see later) and terminates in a pointed process, the **pterygoid**

Page 70, Figure 4-20A: Rostral greater palatine foramen (not “Greater palatine foramen”)

Caudal pterygoid foramen (not “Pterygoid canal”)

Fourth premolar tooth = Carnassial tooth (not “third premolar tooth”)

Page 71, right column, paragraph 2, line 11: Replace by:

the paired parietals. It is derived from the originally paired

Page 71, right column, paragraph 3, lines 7-16: Replace by:

sisphenoid bone is an extensive skull element, and two main regions can be identified. The plate of bone on the underside of the skull just rostral to the occipital is homologous to the basisphenoid bone of early tetrapods. The winglike process extending dorsally between the squamous portions of the temporal and frontal bones is called the wing of the basipterygoid, or the **alisphenoid**. It is homologous to the epipterygoid bone of early tetrapods.

Page 72, left column, lines 1-5: Delete them.

Page 72, left column, paragraph 2, lines 11-14: Replace by:

portion of the hard palate. Paired **palatine bones** form the caudal portion of the hard palate caudal to the maxillae, paired caudal extensions as **perpendicular plates**, and a small part each of the medial walls of the orbit caudo-ventrally to the lacrimal bones. A relatively small **pterygoid bone** is inserted on each side between the perpendicular plate of the palatine bone and the basiphenoid bone. It is a lamellar bone whose rostral suture with the palatine is usually clearly visible, whereas its caudal suture with the basiphenoid is obliterated. It sends a small winglike process towards the optic foramen and ends in a pointy process, the pterygoid hamulus.

Page 72, right column, lines 16-17:

internal acoustic meatus. The small fossa dorsal to the internal acoustic opening

Page 73, right column, lines 4-9: Replace by:

the most rostral of the row of four foramina within the presphenoid bone in the caudomedial wall of the orbit (Fig. 4-22). Next caudad, and largest in this row of foramina, is the **orbital fissure** between the presphenoid and alisphenoid. The third, fourth and sixth cranial nerves (i.e., the oculomotor, trochlear and abducens nerves) emerge from it on their way to the extrinsic eye muscles. The orbital fissure also per-

Page 73, right column, line 17: Replace by:

the mandibular division. Both foramina are located within the alisphenoid. The seventh and eighth cranial

Page 73, right column, lines 26-28: Replace by:

portion of the temporal bone. It emerges from the **stylomastoid foramen** in the tympanic bulla of the endotympanic bone beneath the tip of the mas-

Page 74, Figure 4-22: Opening to osseous portion of auditory tube (not "Osseous portion of auditory tube")

Optic foramen (not "Optic canal")

Caudal greater palatine foramen (not "greater palatine foramen")

Page 74, left column, line 1: Replace by:

jugular foramen between the occipital bone and the tympanic bulla. It can be seen on the floor of the cau-

Page 74, left column, line 6: Replace by:

nerve) passes through the hypoglossal canal within the occipital bone. It is visi-

Page 74, left column, paragraph 1, lines 11-14: Replace by:

emerges from the **infraorbital canal** located within the maxillary in the rostral part of the zygomatic arch (Fig. 4-20**A** and 4-22). However, before reaching the infraorbital canal, this nerve branch sends off subsidiary nerve branches through several small foram-

Page 74, right column, line 9: Replace by:

palatine fissure, which is located between the incisive and maxilla just lateral to the mid-

Page 74, right column, lines 15-18: Replace by:

the nasal cavity. The caudal end of the **greater palatine canal** is called the **caudal greater palatine foramen** and lies rostro-laterally to the sphenopalatine foramen within the palatine bone (Fig. 4-22). A third branch of the maxillary division runs through the greater palatine canal to emerge from the **rostral greater palatine foramen** on the hard

Page 74, right column, lines 23-27: Replace by:

tral opening, the **rostral pterygoid foramen**, may be seen in the floor of the orbital fissure. The **caudal pterygoid foramen** is visible as a tiny hole located on the ventral side of the skull between the pterygoid bone and the pterygoid process of the basisphenoid bone (Fig. 4-20**A**). After emerging from the caudal pterygoid foramen, the fourth

Page 75, Table 4-3: Replace by:

Table 4-3, Cranial foramina and the structures passing through them

Foramen	**Bone**	**Structure passing through foramen**
Cribriform foramina	Ethmoid	Olfactory nerve I
Optic canal and foramen	Presphenoid	Optic nerve II
Orbital fissure	Presphenoid-alisphenoid	Oculomotor nerve III, trochlear nerve IV, ophthalmic division of trigeminal nerve V, abducens nerve VI
Ethmoid foramen or foramina	Frontal	nerve branch of the ophthalmic division of the trigeminal nerve V
Foramen rotundum	Alisphenoid	Maxillary division of the trigeminal nerve V
Infraorbital canal	Maxillary	First branch of maxillary division of the trigeminal nerve V
Sphenopalatine foramen	Palatine	Second branch of maxillary division of the trigeminal nerve V
Palatine fissure	Incisive-maxilla	Second branch of maxillary division of the trigeminal nerve V
Caudal greater palatine foramen	Palatine	Third branch of maxillary division of the trigeminal nerve V
Rostral pterygoid foramen	alisphenoid	Fourth branch of maxillary division of the trigeminal nerve V
Caudal pterygoid foramen	pterygoid-basisphenoid	Fourth branch of maxillary division of the trigeminal nerve V
Foramen ovale	Alisphenoid	Mandibular division of the trigeminal nerve V
Mandibular foramen; mental foramina	Mandible	Mandibular division of the trigeminal nerve V
Internal acoustic meatus	Petrous portion of temporal	Facial nerve VII; vestibulocochlear nerve VIII
Stylomastoid foramen	Tympanic bulla of endotympanic	Facial nerve VII
Jugular foramen	Occipital-tympanic bulla of endotympanic	Glossopharyngeal nerve IX; vagus nerve X; accessory nerve XI; hypoglossal nerve XII
Hypoglossal canal	occipital	Hypoglossal nerve XII
Lacrimal canal	lacrimal, maxillary and zygomatic bones	nasolacrimal duct (tear duct)
carotid canal	Tympanic bulla and occipital	Internal carotid artery and ascending pharyngeal artery
condyloid canal	occipital	small vein
Oval window (fenestra vestibuli)	petrous portion of temporal	stapes
Round window (fenestra cochleae)	petrous portion of temporal	---

Page 75, left column, line 3: Replace by:

large opening between the alisphenoid and the rostral edge of the tympanic bulla

Page 75, left column, paragraph 1, lines 2-4: Replace by:

nerves. The **lacrimal canal** for the nasolacrimal duct, or tear duct, extends from the orbit, where the lacrimal, maxillary and zygomatic bones meet, to the nasal cavity (Fig. 4-22). You may also be able to find the

Page 75, left column, paragraph 1, line 12: Replace by:

cranial cavity. Its point of entrance into the cranial cavity can be seen in the caudal

Page 76, Figure 4-23: Figure A should be labeled **B** and placed at the bottom, and Figure B should be labeled **A** and placed on top

Page 77, Figure 4-23: Figure C should be labeled **D** and placed at the bottom, Figure D should be labeled **C** and placed on top

Page 77, right column, lines 1-: Replace by:

sets at most (**diphyodont**). Most adult mammals have in each side of

Page 77, right column, line 7: Replace by:

mula. For the most complete set of teeth, which are found in ancestral mammals and also in pigs, for example, this dental formula is:

3/3 1/1 4/4 3/3 x 2 = 44

Page 78, left column, dental formula after paragraph 1: Replace by:

3/3 1/1 3/2 1/1 x 2 = 30

Page 78, left column, paragraph 2, lines 1-3: Replace by:

In the course of evolution, the facial region of cats (i.e., members of the genus *Felis*, including the house cat) has shortened as compared to that of canine species (e.g., wolves and foxes), and cats have lost the first premolars in their upper jaws, the first and second premolars in their lower jaws, and the second and third molars in their upper and lower jaws. Hence, among the premolars and molars of a cat, there are the second to fourth premolars and the first molars in the upper jaw (Fig. 4-20, page 70), and the third and fourth premolars and the first molars in the lower jaw (Fig. 4-23, page 76). The gap left

Page 79, Figure 4-25: From hyoid arch (not "From visceral arch 2")

From first branchial arch (not "From visceral arch 3")

Page 79, left column, paragraph 1, lines 3-4: Replace by:

tral parts of the ancestral hyoid arch (i.e., visceral arch 2) and first
branchial arch (i.e., visceral arch 3). More caudal ancestral visceral
arches are incorpo-

Page 89, right column, paragraph 3, line 2: Replace by:

of ossified segments called the **sternebrae**. The cranialmost of these

Page 93, left column, paragraph 2, line 1: Replace by:

The pectoral fin is narrow at its base, but widens dis-

Page 94, Figure 6-2B: Radial pterygiophores (not “pterygiophoros”)
Basal pterygiophores (not “pterygiophore)

Page 100, Anatomy in Action 6-1, right column, line 3: Replace by:

assist in lung ventilation. The rigid shell of turtles precludes

Page 103, left column, paragraph 5, line 3: Replace by:

species, such as the cat, have faster gaits partly because of a

Page 103, right column, paragraph 4, line 8: Replace by:

dorsal border almost to the glenoid cavity. The ventral tip of

Page 105, Figure 6-12B and D: Humeral crest (not “Deltopectoral crest”)

Page 105, Figure 6-12C: Teres major tuberosity (not “Teres tuberosity”)

Page 106, line 15: Replace by:

located above the medial epicondyle. This foramen is an an-

Page 106, paragraph 1: Replace by:

The portion of the humerus lying between its extremities is the **humeral shaft** (*humeral body*). The ridges and rugosities on it mark the attachments of muscles. The broad **crest of the greater tubercle** extends distally on the cranial side of this tubercle. Directly beneath the caudal side of the greater tubercle is the **teres minor tuberosity**, from which the indistinct **tricipital line** for the attachment of the lateral head of the triceps muscle leads to the **deltoid tuberosity** on the lateral side of the humerus. The **humeral crest** extends distally from the deltoid tuberosity towards the cranial side of the humerus and is readily palpable if not visible. Directly beneath the lesser tubercle the **teres major tuberosity** is found.

Page 107, right column, paragraph 1, lines 8-9: Replace by:

> form a large **scapholunate** (intermedioradiale). As in many amniotes, a
> **pisiform** (accessory) projects caudoventrally from the triquetrum. The

Page 114, Anatomy in Action 6-4, left column, line 14:

> disappeared, one can estimate the age of the animal at the time of its
> death (see

Page 120, left column, line 4: Replace by:

> ample, the pectoral fin of a shark is abducted when the dorsal

Page 121, Table 7-2, column 4, row 11: Dorsal and ventral superficial branchial constrictor muscles (not "Superficial branchial constrictors muscles")

Page 122, Table 7-2, column 6, row 4: Hyoglossus muscle (not "Hypoglossus muscles")

Page 122, Table 7-2, column 6, row 9: Add after last line:

> Erector spinae muscle

Page 123, Table 7-2, column "Muscles of *Necturus*", row 6: Replace by:

> Extensor muscles of forearm,
> wrist, and digits

Page 123, Table 7-2, column "Muscles of Mammals", row 6: Replace by:

> Extensor muscles of forearm,
> wrist, and digits

Page 124, left column, paragraph 5, lines 9-12: Replace by:

> ates also from dorsal to ventral into the large dorsal **epimere** comprising
> the segmental **somites**; the small intermediate **mesomere**, which gives
> rise to the urogenital organs; and the long unsegmented latero-ventral
> **hypomere**, or

Page 124, right column, line 3: Replace by:

> and the large **coelom** proper. The segmented epimere separates from the ven-

Page 127, right column, paragraph 1, line 7: Replace by:

> ing a blunt scalpel or a pair of watchmaker's forceps. Alternatively, you
> can first remove the skin

Page 127, right column, paragraph 2, line 3-11: Replace by:

muscles (Tables 7-1 and 7-2). To see them, first remove a wide strip of skin from one side of the tail between the second dorsal fin and the pelvic fins and from the mid-dorsal line to the mid-ventral line of the tail. Second, remove another wide strip of skin from the same side of the trunk between the first dorsal fin and the pectoral fin (Table 7-3; Fig. 7-7). It is easier to remove the skin from the dorsal half of the body. One approach to skinning this area is to peel back the skin starting from the mid-dorsal line and making sure that the muscle surface is separated intact from the connective tissue underlying the skin. When you reach the dorsal border of the ventralmost longitudinal bundle, you will notice that the connective tissue underlying the skin is partly dipping down between the two longitudinal bundles of the hypaxial musculature and partly adhering tightly to the muscle surface of the ventralmost longitudinal bundle. At this point, go to the midventral line and start to peel back the skin dorsad. You will notice that a layer of connective tissue will adhere to the muscle surface and is difficult to remove. When you reach the dorsal border of the ventralmost longitudinal bundle where you left off, you may simply leave the skin as two flaps attached to the trunk by the connective tissue dipping between the two longitudinal bundles of the hypaxial musculature or you may cut this connective tissue with scissors and thereby remove the skin completely. If you are working carefully, you will be able to discern that

Page 127, Table 7-3, Left Side of Specimen: Replace by:

8. Cranial nerves 0-X, occipital and hypobranchial nerves
9. Cutting open the oropharyngeal and pleuroperitoneal cavities

Page 127, Table 7-3, Right Side of Specimen: Replace by:

6. Inner ear (if unsuccessful, it can be re-tried on the left side)
10. Blood vessels in and emerging from the collector loops

Page 130, left column, paragraph 1, lines 3-5: Replace by:

dorsal to the gill region (Fig. 7-8**A** and **B**). Starting from the skinned trunk segment between the first dorsal fin and the pectoral fin (see page 127), continue to remove the skin on the left side of the head dorsal to the base of the pectoral fin and above the row of gill slits all the way to the rostral end of the epibranchial musculature where it attaches to the chondrocranium. As you remove the skin, watch out for any sensory organs (lateral lines, pit organs, and ampullae of Lorenzini) that lie directly under the skin and which you will study later (see Chapter 8, Fig. 8-5, pages 189-190). Notice that the epi-

Page 130, left column, bulleted list: Align “Coracobranchial muscles” with “Coracohyoid muscle”.

Page 130, right column, paragraph 1, lines 1-5: Replace by:

To see the hypobranchial muscles, continue to remove skin starting from the skinned trunk segment between the first dorsal fin and the pectoral fin (see page 127), continue to remove the skin on the left half of the ventral side of the head all the way to the mandibular symphysis and laterally up to the gill slits. Now remove the skin on the right half of the ventral side of the head from the mandibular symphysis to the base of the pectoral fin and laterally up to the gill slits on the right side. Again, as you remove the skin, watch out for any sensory organs (lateral lines, pit organs, and ampullae of Lorenzini) that lie directly under the skin and which you will study later (see Chapter 8, Fig. 8-5, pages 189-190). A sheet of muscle slightly oblique to

Page 130, right column, paragraph 2, lines 2-10: Replace by:

separate muscle layers that cross each other along the midventral line. The superficial layer is traditionally called the **intermandibular muscle**, and the deeper layer is called the **interhyoid muscle**. Actually, the intermandibular muscle of one side becomes the interhyoid muscle of the other side, and *vice versa*. If you observe the midventral line, which used to be called a "raphe", with a magnifying glass, you may be able to see how the muscle fiber bundles of the intermandibular muscle of one side becomes tendinous along the midline and interdigitates with the tendons of the opposite intermandibular muscle. The paired intermandibular muscles originate from the medial edges of the mandibular cartilages. Identify the caudalmost muscle fiber bundles attaching to the mandibular cartilage

Page 130, Figure 7-8: Dorsal interarcual muscles (not "Dorsal interarcual mm.")
Suprascapular cartilage (not " Suprascapular process")

Page 132, left column, line 1: Replace by:

Follow and free the muscle fiber bundles along the caudal border towards the midline as far as

Page 132, left column, lines 4-5: Replace by:

intermandibular muscle and the underlying interhyoid muscle along the medial edge of the

Page 132, left column, lines 12-15: Replace by:

the ceratohyal cartilage, which is shorter than the mandibular cartilage. Notice that the intermandibular and interhyoid muscles cannot be separated from each other closer to the midline because of the crossing over of their fiber bundles. The intermandibular and interhyoid muscles

Page 132, left column, line 20: Replace by:

branchial arches compressed. Because of the crossing of the two muscles along the midline, the movements of the mandibular cartilages and ceratohyals are linked and synchronized.

Page 132, left column, paragraph 1, lines 2-7: Replace by:

the left of the midline through the combined intermandibular and interhyoid muscle layers and about 2 mm deep. Check the depth of your incision frequently by separating the cut edges and looking at the revealed tissue below. If you see longitudinally oriented muscle fibers, you may already have reached the surface of the coracomandibular muscle, which is not to be confused with the thicker paired coracohyoid muscles (see later). If you see a connective tissue sheet, cut through it and reflect the cut edges to see whether a thin longitudinal muscle band (the coracomandibular muscle, see later) is attached to the underside of the bisected intermandibular-interhyoid muscle sheet. If so, carefully separate the coracomandibular muscle and look at the internal surface of the intermandibular-interhyoid muscle sheet, which is covered by connective tissue with transverse fibers You will notice that the cau-

Page 132, left column, paragraph 1, lines 10-11: Replace by:

because the interhyoid and ventral hyoid constrictor muscles form a continuous muscle sheet. Remove the connective tissue from the internal surface of the intermandibular-interhyoid muscle sheet until the muscle fibers of the in-

Page 132, right column, paragraph 1, lines 1-9: Replace by:

To see the deeper hypobranchial muscles, make a cut with a pair of fine scissors from the ventral corner of the last gill slit along the attachment of the ventral branchial constrictor muscles to the base of the pectoral fin all the way to the caudolateral corner of the coracoarcual muscle. Proceed rostrally by breaking the connective tissue that binds the coracoarcual muscle to the ventral branchial constrictor musculature so that the coracoarcual muscle is fully visible. Extend this cleft all the way to the longitudinal incision you made earlier through the intermandibular-interhyoid muscle sheet. If necessary, cut through any slips of the intermandibular muscle that may cross this cleft. Separate now the gill region from the entire coracoarcual and coracomandibular musculature (see Figure 7-8**C**), but be careful not to injure blood vessels (such as the inferior jugular vein, Chapter 11) as you proceed more deeply. You will also encounter car-

Page 132, right column, paragraph 2, lines 1-2: Replace by:

The hypobranchial muscles are involved in expanding the oropharyngeal cavity (i.e., the branchial arches) during

Page 133, left column, line 6: Replace by:

neuverability, and braking during swimming, and not for

Page 133, left column, paragraph 1, lines 9-17: Replace by:

bilize the fin by removing connective tissue. The **cranial pectoral fin** originates from the lateral surface of the scapulocoracoid cartilage and inserts by converging its muscle fiber bundles onto the cranial side of the propterygium (Fig. 7-8**B** and **C**). It protracts the pectoral fin against the resistance of the water during swimming. The **ventral pectoral fin muscle** consists of two clearly identifiable portions that originate through a strong tendon from the caudal surface of the coracoids bar ventral of the glenoid surface (Fig. 4-5). The fan-shaped **caudal portion** inserts along the cranial edge of the metapterygium and on the ventral surfaces of the meta- and mesopterygia. The parallel-fibered **cranial portion** inserts on the ventral surfaces of the meta- and mesopterygia. The two portions of the ventral pectoral fin muscle adduct the pectoral fin. The **dorsal pectoral fin muscle** also consists of two portions. The fan-shaped **superficial portion** can be seen on the dorsal side of the pectoral fin and originates from the

Page 133, left column, paragraph 1, lines 20-26: Replace by:

racoid cartilage and inserts on the dorsal surfaces of the three basal pterygiophores. It abducts the pectoral fin. The **deep portion** can be seen on the internal side of the base of the pectoral fin after it was mobilized away from the trunk. It originates through a band of connective tissue from the caudal edge of the suprascapular cartilage and inserts along the caudal edge of the metapterygium and on the dorsal surfaces of the three basal pterygiophores. The two portions of the dorsal pectoral fin muscle abduct the pectoral fin.

Page 133, left column, list below "Muscles of the Pelvic Fin", line 1: Replace by:

- Dorsal fin muscle, with proximal and distal portions

Page 133, left column, paragraph 2, line 2: Replace by:

female, the **dorsal pelvic fin muscle** arises from the surface of

Page 133, left column, paragraph 2, line 6: Replace by:

and abducts and flattens the pelvic fin. The **ventral pelvic fin**

Page 133, left column, paragraph 2, line 10: Replace by:

from the metapterygium and inserts on the radial pterygiophores

Page 133, right column, line 14: Replace by:

- Branchial constrictor muscles (ventral and

Page 133, right column, line 16: Replace by:

- Trematic constrictor muscles

Page 133, right column, paragraph 3, lines 10-16: Replace by:

cartilage. Careful dissection starting from the rostral side will reveal the **levator palatoquadrati muscle**. Directly caudal to it is the **spiracular muscle**, which for now should be cleaned only dorsal and ventral to spiracle without damaging the spiracle itself. It underlies the spiracular valve, which closes the spiracle when the spiracular muscle contracts and bulges (see later; Chapter 10, page 263 and Anatomy in Action 10-1). The levator palatoquadrati and spiracular muscles pull the palatoquadrate and otic capsule towaeds each other when the jaws are closed. The caudal wall of the spiracle is formed by a hyoid muscle, the levator hyomandibulae muscle (see later). To see the **preorbital muscle** rostral to the upper jaw, you will have to make a transverse cut through the skin between the upper lip and tooth row, reflect the skin, and remove connective tissue to reveal the dorsal labial cartilage and the ventral surface of the preorbital muscle. It will also be seen later when the eye and cranial nerves

Page 134, left column, lines 1-2: Replace by:

the palatoquadrate cartilage. It is responsible for protracting the palatoquadrate when the jaw is opened.

Page 134, left column, paragraph 1, line 9: Replace by:

hyoid constrictor muscle lies caudo-dorsally to the ad-

Page 134, right column, line 8: Replace by:

portion of the pharyngoepibranchial cartilage of the fifth branchial arch. The cucullaris muscle

Page 134, right column, paragraph 1, lines 1-4: Replace by:

to see the deep muscles of the branchial arches, push the branchial region with the branchiomeric muscles ventrally, and

Page 134, right column, paragraph 1, line 19: Replace by:

gobranchial cartilage and inserts on the rostral end of the

Page 135, Figure 7-9:

Dorsal branchial constrictor muscle (**not** "Dorsal superficial branchial constrictor m.")

Ventral branchial constrictor muscle (**not** "Ventral superficial branchial constrictor m.")

Page 135, left column, line 4: Replace by:

muscles, but that the hyomandibula and ceratohyal of the hyoid arch carry gill rays and that the hyoid constrictor muscles form the rostral wall of the first gill chamber. The surfaces of the interbranchial septa are cov-

Page 135, left column, line 6: Replace by:

ing the respiratory gill lamellae (see Fig. 10-10 on page 263). Note that the gill lamellae on the caudal side of the interbranchial septum extend farther distally than the gill lamellae on the rostral side of the interbranchial septum. Scrape

Page 135, left column, lines 11-14, to right column, line 1: Replace by:

and is subdivided by radial tendinous intersections that are anchored to the gill rays, which you will see more clearly on the caudal (i.e., pretrematic) side of the interbranchial septum. The interbranchial muscles straighten

Page 135, right column, lines 9-10: Replace by:

them in place. The ectobranchial cartilages impart

Page 145, right column, paragraph 1, lines 2-6: Replace by:

As the first step of your dissection, it will be necessary to remove the skin (***Cutis***) and two subcutaneous layers which completely envelope your specimen. The three layers are distinct in structure and function and can be identified individually through careful dissection in large parts, although they may fuse and anchor to the dermis through adhesions in various places of the body, such as the armpit, the neck, the lower end of the upper arm, the tail, etc. The **superficial fascia** (also called ***Subcutis***) is a continuous sheet of connective tissue and adheres to the dermis of the skin only through loose connective tissue that may contain some fat. The loose connection and elasticity of the superficial fascia allows the skin to glide over the body's surface to avoid or minimize mechanically induced injury. Adipose tissue of varying thickness adheres to the internal surface of the superficial fascia and forms a ***Panniculus adiposus***. The **constrictor,** or **deep, fascia** comprises a layer of connective tissue with **cutaneous muscles**, which can often be discerned as faint muscle strips through the translucent superficial fascia in places where the fat tissue is reduced. Over the trunk, the superficial and deep fasciae together form the **external fascia of the trunk** (*Fascia trunci*), in contrast to the **internal fascia of the trunk** (see later). The careful dissection of these subcutaneous layers will provide an understanding for the continuous and layered construction of these layers, which interconnect all parts of the body.

If your specimen is

Page 145, right column, paragraph 1, lines 13-15, and paragraph 2: Replace by:

bral column, and make a longitudinal incision at the level of the base of the ear on the side, where the abdominal cavity is intact (in an injected specimen). To do so, lift the skin slightly off the body over the thoracic region with a pair of forceps and make a longitudinal incision with a pair of scissors. Spread apart the cut edges and look at the underside of the skin you have cut through. You may have cut not only through the cutis, but also through a connective tissue layer that closely adheres to the underside of the skin. This connective tissue layer is the superficial fascia, which you should separate from the skin and leave on the body while you reflect the skin. Carefully reflect the skin along the entire length of the body from the base of the ear to the level of the base of the tail. When you reach the head, you need to extend your incision around the base of the ear and along the lower lip of the lower jaw, making sure to leave the superficial fascia intact and on the body. When you reach the tail, you need to extend your incision around the base of the tail and around the anal and genital regions.

As you reach the limbs, continue to separate the skin from the underlying fascia, while leaving the skin intact around the limbs intact as sleeves. Make a circular incision through the skin only around the wrists. Probe, pry and tear the loose connective tissue between the skin and superficial fascia with blunt forceps from both ends of the sleeve of skin to separate the skin from the superficial fascia until you can pull out the limb. In this way, you will be able to preserve the skin as a jumpsuit that can easily be pulled on and off the specimen. If you specimen is an older tom cat, this may not be possible because of the much tougher connective tissue, and you will have to make a longitudinal incision along the side of the forelimb to remove the skin.

As you reflect the skin and expose the superficial fascia over the neck and thoracic region, you may notice fine, parallel-fibered brownish-pinkish lines, which represent muscle fiber bundles that can be discerned through the translucent superficial fascia if your specimen is not too fat. With a pair of fine forceps, tear a slit into the superficial fascia over the thorax at midlevel between the midventral line and the arm pit. Spread apart the cut edges to see the underlying thin sheet of cutaneous musculature. This is the **cutaneus trunci muscle**, which is quite extensive in cats, but is absent as a muscle in humans. It originates cranially from the armpit, from the surfaces of the latissimus dorsi and pectoral muscles (see later), and from the midventral line. It fans out broadly towards the lumbar middorsal line and the dorsal side of the root of the tail, as well as towards the thigh and knee. Reflect the superficial fascia as far as you can before it starts to tear; it will be easier to do so ventrally than dorsally. The *Panniculus adiposus* is likely to attach to the internal side of the superficial fascia.

Page 145, right column, paragraph 3: Replace by:

You may be able to discern additional cutaneous muscles on the neck and face, collectively called **facial muscles**. The transversely arranged fiber bundles of the **sphincter colli muscle** cover the ventral side of the neck and gular region. The **platysma** originates from the dorsal side of the neck cranial to the shoulders and runs obliquely towards the lower lip and the angle of the mouth and cheek, where it breaks up into many small muscles associated with the lips, nose, ears, and eyes. You may see them later when the skin is completely removed from the head. These muscles are responsible for facial expressions in cats as well as in humans. You will also see the cutaneous **extrinsic ear muscles** attaching to the caudodorsal base of the ear and running cuadodorsally towards the middorsal line of the neck.

When you have reflected the superficial fascia as far as you can, bisect the cutaneus trunci muscle (as part of the deep fascia) transversely from the middorsal to the midventral line at midlength between the front and hind limbs. Carefully reflect the cranial half of the deep fascia, together with any adhering superficial fascia, by breaking the attachment of the fascia along the middorsal line as well as the attachments of the cutaneus trunci muscle along the midventral line and on the surface of the pectoral musculature. Also reflect the deep fascia from the incision around the base of the ear and around the lower jaw after bisecting the extrinsic ear muscles and making a longitudinal midventral incision along the neck. Bisect the cranial half of the deep fascia by making an incision from the middorsal line at the level of the elbow all the way to the elbow, so that the fascia can be reflected from the neck and cranial half of the thorax and left attached to the armpit, where several muscles are anchored.

To reflect the caudal half of the deep fascia, bisect it longitudinally at midheight of the trunk. Break the attachment along the midventral line and reflect the lower half of the deep fascia all the way to the thigh and knee region, while leaving intact the thick pad of fat in the groin region, which in males contains blood vessels, nerves, and the spermatic chord in males (see later). Reflect the upper half of the deep fascia by breaking its attachment on the thigh and observe how the cutaneus trunci muscle converges toward the dorsal side of the root of the tail, where it anchors itself as a fairly thick and narrow muscle.

Page 146, left column, lines 3-6: Replace by:

The mammary glands will be seen as a pair of longitudinal glandular masses between the skin on the one hand and the superficial fascia and cutaneous trunci muscle on the other hand along the ventral side of the thorax and abdomen. They should be left attached to the skin.

Page 146, left column, paragraph 1: Delete.

Page 146, left column, paragraph 2: Delete.

Page 146, right column, paragraph 2, lines 11-12: Replace by:

pectoral muscles merge towards the armpit. Separate these two muscles along their respective borders. Remove the large fatty fascia that interconnect their borders farther caudally, so that the hypaxial musculature can be studied.

Page 146, Table 7-5, left column: Replace by:

1. Muscles of the body, neck, and limbs, except the prehyoid hypobranchial muscles and the branchiomeric mandibular arch muscles of the jaw and floor of the mouth
4. Salivary glands and facial nerves

Move "13. Brachial and pelvic nerve plexus" to the right column

Page 146, Table 7-5, right column: Replace by:

2. Prehyoid hypobranchial muscles
3. Branchiomeric mandibular arch muscles of the jaw and floor of the mouth

Page 147, left column, lines 1-4: Delete.

Page 147, left column, paragraph 1, line 4: Replace by:

these muscles serve to stabilize the axial skeleton (see Anatomy in Action 5-3, page 90) and to compress the abdominal cavity and resist pressure created by the internal organs. The **exter-**

Page 147, left column, paragraph 1, lines 8-11: Replace by:

Some of these muscle slips lie underneath the caudoventral border of the latissimus dorsi muscle. Notice how the parallel muscle fiber bundles of the sheet-like external oblique muscle converge towards their origins on individual ribs and how some of the muscle fiber bundles originate from connective tissue that bridges the space between ribs. You can mobilize this connective tissue from the underlying tissue. From their attachments on the ribs, the muscle fiber bundles run obliquely caudoventral to insert by an aponeurosis to the ventral midline. In rabbits, some of these muscle fiber bundles insert on the

Page 147, right column, lines 3-4: Replace by:

underneath the pectoral muscles; the caudal border about 1 inch from the vertebral column is almost longitudinally oriented. Bisect the external

Page 148, left column, paragraph 1, line 8: Replace by:

the midventral line. Only the dorsal half of the muscle is fleshy.

Page 148, left column, paragraph 1, lines 12-17: Replace by:

versus abdominis muscle (see later) are visible. To see the cranial border of the internal oblique muscle, lift the caudal edge of the thorax formed by the penultimate (11^{th}) rib and carefully clean the loose connective tissue connecting it to the abdominal wall until you cannot go further and avoid making a hole in the abdominal wall. You will then be able to discern that the fleshy cranial border of the internal oblique muscle is anchored to the medial side of the ribcage by a very thin fascia. The caudal border of the muscle is situated deep in the groin region. Most of the caudal part of the internal oblique muscle passes over rat tissue that covers the underlying longitudinal iliopsoas muscle (which inserts on the femur; see p. 168), except for a caudalmost muscle slip, which passes underneath it (see later)

Page 148, left column, paragraph 2, lines 12-19: Replace by:

muscle extend from craniodorsally to caudoventrally to insert along the midventral line by a short aponeurosis. Separate some of the muscle fiber bundles of the transverses abdominis muscle from one another, and you will expose the **internal fascia of the trunk** (*Fascia transversalis*), which supports the parietal peritoneum lining the abdominal body cavity.

Page 148, left column, paragraph 3, line 13: Replace by:

abdominis muscle. The split layers of the internal oblique and transverses abdominis muscles form the so-called **rectus sheath** that holds the rectus abdominis muscles in place.

Page 148, right column, lines 1-2: Replace by:

In addition to the muscular layers of the abdominal wall, but not visible here, the caudal hypaxial musculature includes a subverte-

Page 148, right column, paragraph 2: Delete.

Page 150, left column, line 3: Replace by:

nial end of the sternum to the **antebrachial fascia** (fas-

Page 150, left column, line 6: Replace by:

called the **pectoralis transversus muscle** and inserts along the humeral crest on the humerus.

Page 150, left column, paragraph 2, lines 9-10: Replace by:

pair of scissors. In cats, the pectoralis profundus muscle inserts on the greater and lesser tubercles of the humerus and to a certain extent along the humeral crest. In rabbits, however, some muscle fiber bundles also attach

Page 150, left column, paragraph 2, line 19: Replace by:

band, the **xiphihumeral muscle**, which continues cra-

Page 150, right column, paragraph 1, line 8: Replace by:

scapula, adducting it towards the middorsal line, as well as

Page 150, right column, paragraph 4, line 2: Replace by:

deltoid muscle complex (see later), continues distally

Page 152, left column, lines 1-2: Replace by:

duced, but palpating the cranial border at about midlength will reveal a very thin, but distinct bone, the clavicle. The caudal end of the clavicle is anchored to the scapula near the glenoid joint. An indistinct tendinous intersection continues caudal to the bony clavicle. The combined two mus-

Page 152, left column, paragraph 1, lines 6-7: Replace by:

ternal jugual vein. In cats, a thin sheet-like muscle superficial to the vein is the sphincter colli muscle. It is tightly connected to the surface of the epimysium of the sternomastoid at about midlength of the neck, but you can remove. In rabbits, it is a specialized

Page 152, left column, paragraph 2, line 1: Replace by:

The **cleidomastoid muscle** attaches to the internal side of the clavicle,

Page 152, right column, paragraph 1, line10: Replace by:

versarius muscle and inserts on the deltoid tuberosity of

Page 152, right column, paragraph1, lines 15-16: Replace by:

infraspinous fossa of the scapula. It inserts on the deltoid tuberosity of the humerus. In rabbits, the muscle is thinner and

Page 153, left column, paragraph 1, line 1: Replace by:

Find again and bisect the thoracic trapezius muscle. Reflect its two halves to reveal the craniodorsal border of the latissimus dorsi muscle. Cut across the middle of the latissimus dorsi muscle at right angles to its muscle fibers. Also cut across the middle of the cervical trapezius muscle. Reflect

Page 153, left column, paragraph 1, lines 21-22: Replace by:

acromiodeltoid and scapulodeltoid muscles retract and abduct the humerus.

Page 153, left column, paragraph 2, line 3: Replace by:

bercle of the humerus and extends the shoulder joint. The

Page 153, left column, paragraph 2, lines 7-8: Replace by:

greater tubercle of the humerus. Because of the position of its inserting tendon across the lateral side of the shoulder joint, it assists in the flexion or extension of the shoulder joint, depending on the movement of the limb. It also assists in the supination of the humerus.

Page 153, left column, paragraph 3, line 3, to right column, line 2: Replace by:

cle. It runs cranio-ventrally to insert on teres major tubercle beneath the lesser tubercle of the humerus in common with the latissimus dorsi muscle. It flexes the shoulder joint.

Page 153, right column, paragraph 1, line 2: Replace by:

and infraspinatus muscles and dissect deeply and cranially between the

Page 153, right column, paragraph 1, line 8: Replace by:

Scapula and inserting on the greater tubercle of the

Page 154, left column, line 1: Replace by:

both cats and rabbits extends from the dorsal edge of the scapula farther cranially to insert on

Page 154, left column, paragraph 1, line 8: Replace by:

tralis muscle. Bisect each of the two (in cats) or three (in rabbits) parts of the rhom-

Page 154, left column, paragraph 2, line 4: Replace by:

passes ventrally to insert on the lesser tubercle of the

Page 155, left column, lines 3-4, and paragraph 1, lines 1-2: Replace by:

brachii muscle and on the antebrachial fascia caudal to the pectoralis descendens muscle (Figs. 7-23 and 7-24).

Bisect the tensor fascia antebrachii muscle, while being careful not to cut the underlying large ulnar nerve, and reflect.

Page 155, right column, line 3: Replace by:

the olecranon of the ulna. The two-joint **long head**, which is lo-

Page 156, left column, line 4: Replace by:

head. Make sure to preserve the thick nerve emerging from under the cranial border of the lateral head of the triceps muscle. It is the superficial branch of the radial nerve and can be followed superficially on the dorsal side of the limb all the way to the toes. Note that it divides very soon into a medial superficial branch to digits 1-3 and a lateral superficial branch to digits 4-5 (Chapter 9, page 246). The smaller **medial head** is found on the medial

Page 159, Figure 7-26: Abductor pollicis longus m. (not "Abductor pollicis m.")

Page 159, paragraph 1, right column, line 4: Replace by:

proximal ends of the second and third metacarpals. To see the

Page 160, Figure 7-27: Flexor digitorum superficialis m., medial head (not "Flexor digitorum superficialis m., medial superficial head")

Flexor digitorum superficialis m., lateral head (not "Flexor digitorum superficialis m., lateral superficial head")

Page 160, right column, lines 3-7: Replace by:

perficialis muscle can be distinguished. The **medial head** forms a strong tendon, which splits into four relatively thick superficial tendons to digits 1 to 4, or 1-5. The **lateral head** is fleshy and splits into two thin, deeper tendons to digits 3 and 4. The **deep head** arises as a fleshy head from the surface of the underlying wide tendon of the flexor digitorum profundus muscle and may occasionally be difficult to separate from the more proximal deep humeral head of the flexor digitorum profundus muscle. It usually sends three thin tendons to digits 2 to 4 (Fig. 7-28). Thus, the flexor digitorum superficialis muscles sends one tendon to digits 1 and 5, two tendons to digit 2, and three tendons to digits 3 and 4. Near its insertion, each

Page 161, left column, paragraph 1, lines 1-2: Replace by:

Find again the medial head of the flexor digitorum superficialis muscle. Bisect its tendon leading to the first digit and cut through any remainder of the flexor retinaculum along (not through!) its main tendon. Push now the entire muscle to the

Page 161, left column, paragraph 1, lines 8-11: Replace by:

don (Fig. 7-28). Find again the flexor carpi ulnaris muscle and observe that a large nerve emerges from underneath its caudal border. This is the sensory superficial branch of the ulnar nerve, which innervates the region of digits 4-5. Bisect the two heads of the flexor carpi ulnaris muscle at different levels and reflect their proximal halves to see the entire nerve. You will also reveal the **ulnar head** of the flexor digitorum profundus muscle, which arises from most of the length of

Page 161, right column, lines 8-10: Replace by:

tively. The central humeral head is more superficial than the other two humeral heads, and part of it can occasionally be seen between the flexor carpi radialis and flexor digitorum superficialis muscles. Distally, its fleshy part lies adjacent to the fleshy part of the deep head of the flexor digitorum superficialis, and the two muscle bodies are not always easily separated.

Page 161, Figure 7-28: Flexor digitorum superficialis m., medial and lateral heads (not "Flexor digitorum superficialis m., superficial heads")

Page 162, right column, paragraph 1, last line: Replace by:

knee. Try to identify muscle borders through the translucent fascias and aponeuroses.

Page 163, left column, paragraph 1, lines 5-6: Replace by:

the thigh. In cats, part of it can be seen laterally, and this lateral part arises from the thoracolumbar

Page 163, left column, paragraph 1, last line, to paragraph 2, line 3: Replace by:

shank at the knee. Free and mobilize the two borders of the muscle, and bisect and reflect it.

In cats, the tough whitish **fascia lata** covers the lateral surface of the hip and thigh caudal to the sartorius muscle, but in rabbits, it also covers the craniolateral surface

Page 163, left column, paragraph 2, last line: Replace by:

cia lata. In cats, the origin of the tensor fascia latae muscle is subdi-

Page 163, right column, lines 1-3: Replace by:

vided into two portions by the fascia lata. The cranial portion is longer and thicker and covers most of the cranial and some of the medial surface of the thigh. The cau-

Page 163, right column, line 9: Replace by:

(see later and Fig. 7-34). Free the medial border of the tensor fascia latae muscle, gently introduce a blunt probe under the muscle, and start to bisect it from the cranial border. Proximally, the tensor fascia latae tend to merge with the underlying gluteus medius muscle (see later). You do not need to separate these two muscles for now, because later they can be identified and reflected together. As you continue your cut, you will also cut through the gluteus superficialis muscle, but be careful not to bisect yet the caudofemoral muscle, which is thicker than the tensor fasciae latae and gluteus superficialis muscles (see later and Figs. 7-29 and 7-31). You will have to separate the proximal portions of the tensor fascia latea and gluteus superficialis muscles on the basis of their origins. In rabbits, start to bisect the tensor fascia latae muscle at its medial border after you have separated it from the vastus medialis muscle (see later) on the medial side of the thigh (Fig. 7-34).

The **caudofemoral muscle** arises from the more caudal sacral and anterior caudal vertebrae, passes underneath the cranial border of the biceps femoris muscle (see later and Fig, 7-29), and forms a narrow tendon that inserts on the patella in common with part of the biceps femoris muscle. It abducts and retracts the thigh and extends the knee. Separate the caudofemoral muscle from the gluteus superficialis muscle by breaking the fascia that ties them together. Also separate the caudal border of the caudofemoral muscle from the cranial border of the biceps femoris muscle. Free the cranial border of the biceps femoris muscle from its connection with the fascia lata and lift it to follow the caudofemoral muscle distally, while being especially careful not to injure the very thin abductor cruris caudalis muscle (see later and Fig. 7-31, which sticks to the internal side of the biceps femoris muscle near its origin. Bisect the caudofemoral muscle, taking care not to cut the abductor cruris caudalis muscle.

Page 163, right column, paragraph 1, lines 1-5: Replace by:

The very broad **biceps femoris muscle** covers the lateral side of the thigh caudal to the fascia lata (Figs. 7-29 and 7-30). In cats, this muscle has only one head, which corresponds to the long head of the human "two-headed" biceps femoris muscle. It has a narrow origin from the ischial tuberosity and fans out to insert by a broad aponeurosis (which fuses with the crural fascia, see later) on the patella and much of the tibia. The biceps femoris muscle flexes the knee and abducts the thigh. It also forms the lateral wall of the **popliteal fossa**, the depression on the caudal side of the knee.

Free and mobilize the caudal border of the biceps femoris muscle. As you remove the superficial connective tissue and carefully look on the inner surface of the caudal border of the biceps femoris muscle, a very thin band of muscle, the **abductor cruris caudalis muscle**, becomes visible projecting from under the caudal border of the biceps femoris muscle in the popliteal fossa. Bisect and reflect the biceps femoris muscle to see this muscle in its entire length (Fig. 7-31). It arises from a sacral or caudal vertebra and inserts on the tibia and adjacent fascia cruris with the biceps femoris muscle. Because it contains a disproportionally high number of muscle spindles, it probably serves as a tension sensor rather than a thigh abductor as the name implies.

Page 164, left column, paragraphs 1 and 2: Delete.

Page 164, right column, lines 1-3: Delete.

Page 165, left column, paragraph 1: Delete.

Page 165, left column, paragraph 2; paragraph 3, line 1: Replace by:

> Find again the **gluteus superficialis muscle**. It is the most superficial muscle of the gluteus muscle complex. In cats, it arises from the sacral portion of the thoracolumbar fascia and from the spinous processes of sacral and anterior caudal vertebrae, but in rabbits a cranial and more superficial portion arises from the ventral border of the ilium, deep to the ventral border of the gluteus medius muscle (see later) . In cats, its muscle fiber bundles converge to insert slightly distal to the greater trochanter of the femur so that you can now clearly distinguish it from the tensor fasciae latae muscle because of its different insertion. In rabbits, the gluteus superficialis muscle insert on the third trochanter of the femur (see Fig. 6-17**C** and **D**). Now bisect the gluteus superficialis muscle now, unless you have done so already while bisecting the tensor fasciae latae muscle, to reveal the gluteus medius muscle.

Page 165, right column, paragraph 2: Delete.

Page 165, right column, paragraph 3, lines 1-3: Replace by:

> Three small muscles on the lateral surface of the ischium. These three muscle abduct the thigh. In cats, they insert on the greater trochanter of the femur along the proximal border of the insertion of the gluteus medius and piriformis muscles. In rabbits, the three muscles converge into a thick tendon and insert on the trochanteric fossa of the femur (Fig. 7-32). The

Page 165, right column, paragraph 3, line 9: Replace by:

> And emerges over the dorsal rim of the pelvis to lie between the long inserting tendons of

Page 165, right column, paragraph 3, lines 15-20: Replace by:

> the way to the ischial tuberosity.

Page 165, right column, paragraph 4: Delete.

Page 166, left column, line 4: Replace by:

> greater trochanter and and adjacent parts of the femur. The two-joint **rec-**

Page 166, left column, line 11: Replace by:

> later in its entirety after the overlying gracilis muscle has been bisected and

Page 166, left column, following paragraph 1: Add:

The coccygeus muscle is a deep axial muscle (Fig. 7-32). At first it may look like a dorsal extension of the gemellus cranialis muscle, but it originates from the dorsal rim of the ilium and ischium and inserts on the tail vertebrae. It contributes to the formation of the wall of the pelvic canal.

Page 166, right column : Add as paragraph 1:

In the cat only, look between the gluteus profundus muscle and the origins of the vastus lateralis and rectus femoris muscles (Fig, 7-31). The thin muscle observed is the **articularis coxae muscle**. It arises from part of the lateral surface of the ilium and inserts on the proximal end of the femur. Because of its small size and richness in muscle spindles, it probably serves as a tension sensor rather than as a thigh protractor.

Page 167, left column, lines 2-3: Replace by:

- Adductor femoris longus muscle
- Adductor femoris brevis et magnus muscles

Page 168, Figure 7-34: Crural fascia (not “Fascia cruris”)

Page 169, left column, paragraph 3, line 2: Replace by:

its mid-length. The thin muscle that lies on the ventral surface of

Page 169, right column, line 2: The bullet for the “tibialis caudalis muscle” should be aligned under that for the “Flexor hallucis longus muscle”

Page 169, right column, paragraph 1: Delete.

Page 169, right column: Add between paragraphs 2 and 3:

The shank is covered by the tough **crural fascia**, which is a distal extension of the fascia lata and is partly united with tendons of some of the superficial thigh muscles, such as the biceps femoris, gracilis and semitendinosus muscles. The following procedure will reveal the shank muscles while maintaining at least some of the structural connections between the superficial thigh muscles and their tendons.

On the medial side of the shank, follow the caudal border of the gracilis muscle distally into the crural fascia. You will discover a thickening within the crural fascia extending towards the Achilles tendon (see later). Free this **medial crural tendon** only along its caudal border, and you will see that it attaches also to the caudal border of the semitendinosus muscle. Reflect the distal end of the bisected semitendinosus muscle together with the distal end of the gracilis muscle and medial crural tendon to reveal the medial surface of the muscles on the flexor side of the shank.

On the lateral side of the shank, follow the caudal border of the biceps femoris muscle distally into the crural fascia. You will discover a thickening within the crural fascia extending towards the Achilles tendon (see later). Free this **lateral crural tendon** only along its caudal border. Bisect this tendon and extend your cut through the crural fascia over the dorsal side of the shank up to the fascia's attachment along the exposed strip of the tibia on the medial side of the shank. Reflect the distal half of the bisected biceps femoris muscle together with the proximal half of the lateral crural tendon and the attached portion of the crural fascia to reveal the muscles on the extensor side of the shank and the lateral surface of the muscles on the flexor side of the shank.

Page 170, left column, lines 9-10: Replace by:

tendons of the flexor digitorum superficialis and lateral crural tendon from the common tendon of the gastrocnemii and soleus muscles. You will see that the tendon of the

Page 170, left column, lines 16-18: Replace by:

one of plantar flexion, These shank flexor muscles

Page 170, right column, paragraph 1, line 4: Replace by:

(Fig. 7-36). To see them (Fig. 7-35),

Page 170, right column, paragraph 1, line 10: Replace by:

the shank by passing behind the knee joint, and fans out to

Page 171, Figure 7-36: Abductor cruris caudalis m. (not "Adductor cruris caudalis m.")

Page 171, left column, paragraph 1, lines 1-8: Replace by:

The **flexor digitorum profundus muscle complex** comprises three muscles and forms the deep flexor tendon (see later), which is seen best from the medial side of the shank and hind foot. The deep flexor tendon is composed of the tendons of two long flexor muscles. The **flexor hallucis longus muscle** is the larger and more lateral (sic!) muscle of the two. It arises from the caudal surface of the fibula and caudolateral surface of the tibia next to the origin of the soleus muscle. Near the tarsus it turns into a strong tendon, where it merges with the tendon of the **flexor digitorum longus muscle**. This muscle is smaller and lies medial to the

Page 172, left column, paragraph 1, line 5: Replace by:

body during locomotion. These muscles are invested in a separate tough fascia that needs to be removed. The most cranial extensor mus-

Page 172, left column, paragraph 2, line 1, to right column, line 18: Move to page 173, left column, after paragraph 1.

Page 173, right column, paragraph 1, lines 9-10: Replace by:

muscle fibers that extend from the caudal edge of one rib caudoventrally to the cranial edge of the next caudal rib.

Page 173, right column, paragraph 1, line 14: Replace by:

extend from the caudal edge of one rib caudodorsally to the cranial edge of the next caudal rib.

Page 173, right column, after paragraph 2: Add:

Before we can study the rest of the hypaxial and epaxial muscles, we need to reflect some muscles of the sternocleidomastoid muscle complex. Find again the cleidocervical muscle and its insertions on the skull and neck, then find the cleidomastoid muscle and its attachments on the clavicle deep to the insertion of the cleidocervical muscle. Separate the two muscles. Bisect the cleidocervical muscle between the clavicle and its attachment on the neck and skull and reflect its dorsal half after separating its cranial border from the caudal border of the sternomastoid muscle. Clean the surface of the sternomastoid muscle and mobilize the salivary glands from its surface, without damaging or removing them, in order to see its attachments to the mastoid process of the skull. Bisect the sternomastoid muscle and reflect its halves, then push aside the exposed cleidomastoid muscle with the clavicle and distal cleidobrachial muscle to see the longus colli muscle (Fig. 7-38).

The **longus colli muscle** represents the subvertebral portion of the hypaxial musculature in the neck and thoracic regions. It is a muscle band on the ventral side of the cervical vertebral column ventromedial to the origin of the scalenus muscle. You can palpate the vertebral column through the longus colli muscle, and you can observe how it continues into the thoracic cavity along the ventral surface of the thoracic vertebral column. It arises from the ventral surfaces of the first six thoracic vertebrae and extends cranially, incorporating additional muscles slips that originate from the transverse processes and centra of cervical vertebrae. It inserts on the centra and transverse processes of each cervical vertebra. It assists in ventral and lateral flexion of the neck.

Page 174, left column, lines 9-: Replace by:

> Part inserts on the last rib and can be seen by reflecting the proximal half of the bisected external oblique muscle. Its caudal border is adjacent, but superficial, to

Page 174, left column, lines 11-13: Replace by:

> the reflected latissimus dorsi muscle and the caudal part of the serratus dorsalis muscle, you will discover a layer of connective tissue. Grab and lift it with a pair of forceps to make sure that it is not the aponeurosis of the serratus dorsalis muscle, because it may have been already removed by accident. Bisect it starting from the caudal end of the mus-

Page 175, left column, paragraph 1, line 4: Replace by:

> Bisect the entire serratus dorsalis muscle, if you have not already done so, while making

Page 175, left column, paragraph 2, line 4: Replace by:

> muscles extend from the mamillary processes, transverse

Page 175, right column, paragraph 2: Delete.

Page 175, right column, paragraph 3, lines 1-2:

> Before we can study the rest of the hypaxial and epaxial muscles, we need to reflect the two halves of the sternomastoid muscle, which we have bisected earlier, and push aside the exposed cleidomastoid muscle with the clavicle and distal cleidobrachial muscle to see the **splenius muscle**. It is the most superficial of the cranial epaxial muscles (Figs. 7-39 and 7-40). It is a thin but

Page 176, right column, paragraph 2, lines 1-2: Replace by:

> Completely remove the skin of this region as far rostrally as the chin (Table 7-5). Be careful not to damage the

Page 177, left column, paragraph 1, line 5: Replace by:

> its insertion on the hyoid body (Figs. 7-41 and 7-42, as well as Fig. 11-20 on page 330)

Page 178, Fig. 7-41, right column of labels: Hyoglossus m. (not “Hypoglossus m.”)

Page 179, Figure 7-42: Digastric m. (not “Diagastric m.”)

Page 179, left column, line 12: Replace by:

> **glossus muscle**. It runs rostrally into the tongue. Pull the

Page 180, Anatomy in Action 7-2, left column, line 9: Replace by:

squids and octopuses, the trunk of elephants, and the tongues

Page 182, Figure B: Masseter muscle moment arm (not “Masseter m. moment arn”)

Page 185, right column, paragraph 1, lines 9-10: Replace by:

around the olfactory sac on the left side of the head (see Table 7-3, page 127). The nasal cap-

Page 190, right column, line 1: Replace by:

forming lateral eyes, unless they have been secondarily lost.

Page 190, right column, paragraph 2, line 2: Replace by:

which you dissected the nose (Table 7-3 on page 127).

Page 193, left column, paragraph 2, line 4: Replace by:

base of the iris (see Anatomy in Action 8-1 on page 198). A delicate fibrous material, the **zonule fibers**,

Page 198, right column, paragraph 1, lines 4-7: Replace by:

(Table 7-3). The *inner ear* is also called the **membranous labyrinth** because of its complex arrangement of ducts and chambers and because it is membranous in most vertebrates. In cartilaginous fishes, however, the semicircular ducts inside the semicircular canals of the otic capsule are cartilaginous. They are, therefore, self-supporting and more easily freed from the cartilaginous otic capsule than the membranous semicircular ducts inside the bony petrosal bone in mammals.

Page 199, left column, line 1: Replace by:

To expose the otic capsule of the chondrocranium, first remove the skin

Page 199, left column, paragraph 1, lines 2-5: Replace by:

ear you need first to estimate the location of the inner ear. Locate first the parietal fossa with the endolymphatic and perilymphatic foramina, then palpate the surface of the chondrocranium to find a crest that projects cranio-laterally from the parietal fossa: This is the crest above the anterior vertical semicircular canal (see below). You can now estimate the location of the posterior vertical semicircular canal (see below); it is not palpable because it is covered by epibranchial musculature, which needs to be carefully detached from the chondrocranium and reflected. The position of the lateral horizontal semicircular canal can be estimated from the location of the two vertical semicircular canals. If you have access to a resin cube with a cleared shark chondrocranium, in which the semicircular ducts had been injected with colored latex, you can see the configuration of the three semicircular canals. With a pair of strong forceps, start by carefully breaking away the cartilage of the crests atop the posterior vertical semicircular canal, small piece by small piece. You usually can see the various

Page 200, Figure 8-14: Anterior vertical semicircular duct (not “Anterior semicircular duct”)

Posterior vertical semicircular duct (not “Posterior semicircular duct”)

Lateral horizontal semicircular duct (not “Lateral semicircular duct”)

Page 201, Diagram of Anatomy in Action 8-2: Lateral horizontal semicircular duct (not “Lateral semicircular duct”)

Page 210, left column, paragraph 1, lines 4-6: Replace by:

should be studied on the left side of the specimen (see Table 7-3 on page 127). Remove any skin and connective tissue from the dorsal surface of the chon-

Page 210, left column, paragraph 1, lines 10-11: Replace by:

trunk,[1] which lies on the dorsal side of the rostrum and along the side of the precerebral cavity at the level of the nares (Fig. 9-7). Remove the cartilaginous roof of the cranial cavity by starting to remove bits and pieces of cartilage between the otic capsules

Page 211, left column, paragraph 1, lines 1-6: Replace by:

Next, carefully remove the supraorbital crest without damaging the superficial ophthalmic trunk, which is noticeable because of its yellowish color. Remove the cartilaginous wall of the cranial cavity, including the inner ear, only as much as you need to see the cranial nerves. Be particularly careful not to break the small trochlear nerve, which leaves the brain dorsally at the level of the optic lobes and passes to the dorsal oblique muscle of the eyeball

Page 211, left column, paragraph 1, lines 9-14: Replace by:

the **primitive meninx**. The cranial cavity is lined with tough connective tissue called **endochondrium**. Strands of connective tissue connect the primitive meninx to the endochondrium, and a mucoid perimeningeal tissue fills the spaces. It may coagulate with preservation and may need to be washed out carefully in order not to damage the delicate brain tissue.

Page 212, left column, line 6: Replace by:

auricles of the cerebellum. Their roof is formed by a tela choroidea that is continuous with that of the medulla oblongata (see below). The ventral part of the

Page 212, right column, paragraph 2, lines 6 to end of paragraph: Replace by:

humans. Twelve cranial nerves were recognized by early human anatomists. In addition to being named, each cranial nerve was numbered based on its sequential position. These numbers are indicated by Roman numerals, are universally accepted, and apply well to all amniotes, although the sequence is not always identical to that in humans. In anamniotes, the last two cranial nerves (i.e., XI and XII) are not present as distinct cranial nerves, but the corresponding nerve fibers arise from the spinal cord directly caudal to the skull as accessory and occipital nerves. Most anamniotes, however, possess some cranial nerves that are not present in human beings, such as the terminal nerve, which make up the octavolateralis system. These nerves were not assigned numbers in the original numbering system.

Page 213, right column, line 14: Replace by:

sense organs of the head (Fig. 9-6 and Table 9-1).

Page 213, caption of Figure 9-6, right column, line 5:

d, jugular ganglion; *e*, nodose ganglia. Gill slits are indicated

Page 214, Table 9-1, indicated rows only: Replace by:

Nerve	Group*	Branch	Distribution	Somatic Sensory		Visceral Sensory		Visceral motor	Somatic motor
				General†	Special	General‡	Special¶		
Preotic group of lateral line nerves: ADLLN, AVLLN, OLLN	Special	Buccal	Accompanies maxillary branch of V; supplies lateral line neuromasts and ampullae of Lorenzini		X				
		Mandibular	Accompanies hyomandibular branch of VII; supplies lateral line neuromasts and ampullae of Lorenzini		X				
VII. Facial	Dorsal root	Hyo-mandibular	Hyoid muscles, mouth lining	X		X	X		X
		Palatine	Mouth lining	X		X	X		
IX. Glossopharyngeal	Dorsal root	Pretrematic	Rostral wall of first gill pouch			X	X		
		Posttrematic	Muscles of third visceral arch; caudal wall of first gill pouch			X	X		X
		Pharyngeal	Adjacent pharyngeal lining			X	X		
X. Vagus	Dorsal root	Visceral	Gives rise to four branchial branches, each with pretrematic, pharyngeal and posttrematic branches that supply the remaining gill pouches and their muscles	X		X	X		X
		Accessory	Cucullaris muscle	X					X
		Intestinal	Postpharyngeal gut wall and musculature; wall of pericardial cavity			X		X	

Page 216, Figure 9-7: Orbital process of palatoquadrate cartilage (not “cartila”)

Visceral and intestinal branches of vagus nerve (not “Visceral branch of vagus”)

Page 216, right column, lines 3-5: Replace by:

neurons of the olfactory nerve in the olfactory epithelium lining the olfactory sac are stimulated by odorant molecules and transmit nerve impulses to the olfactory tract.

Page 217, left column, paragraph 2, lines 2-6: Replace by:

nerve from the dorsal side. Immediately after it emerges from the cranial cavity dorsal to the origin of the dorsal rectus muscle, it

Page 219, left column, lines 13-16: Replace by:

of the central part of the ventral side of the snout. To see the large medial branch of the infraorbital trunk, you will have to find again the preorbital muscle in front of the upper tooth row of the palatoquadrate. If you have not dissected it already, you will have to make a transverse cut through the skin between the upper lip and tooth row, reflect the skin, and remove connective tissue to reveal the dorsal labial cartilage and the ventral surface of the preorbital muscle. Rostral to this muscle, you will find the medial branch of the infraorbital trunk running from caudolateral to mediorostral towards the tip of the rostrum. Try to follow this medial branch of the infraorbital trunk from the floor of the orbit to the ventral side of the rostrum. The maxillary branch of

Page 219, right column, paragraph 1, lines 9-11: Replace by:

branch of the anteroventral lateral line nerve, which joins the hyomandibular branch of the facial nerve to form the **hyomandibular trunk**. The middle and supratem-

Page 219, right column, paragraph 2, line 16: Replace by:

field (see Fig. 8-5) are derived from the mandibular branch

Page 219, right column, paragraph 2, line 20: Replace by:

coustic nerve (VIII). You will have to push carefully aside some tissue of the spiracle and surrounding muscles, and cut away the otic capsule as

Page 220, left column, paragraph 2, lines 9-10: Replace by:

medulla oblongata. Trace the glossopharyngeal nerve caudo-laterally; this will be easier if you open the first gill pouch by

Page 220, left column, paragraph 2, line 25: Replace by:

sory fibers, passes down the rostral wall of the first gill

Page 220, right column, paragraph 3, line 11: Replace by:

separating the cucullaris muscle from the epibranchial muscula-

Page 221, left column, line 5: Replace by:

cessory branch that goes to the caudal part of the cucullaris muscle. This

Page 221, left column, paragraph 2, line 2: Replace by:

in several ganglia (Fig. 9-6). The **jugular ganglion** is the

Page 221, left column, paragraph 3, lines 1-7: Replace by:

Separate the intestinal and visceral branches of the vagus nerve, and free the intestinal branch from the wall of the anterior cardinal sinus. The **hypobranchial nerve** emerges from the epaxial musculature ventral to the posterior lateral line nerve through a fusion of converging spinal nerves (Fig. 9-7). It crosses dorsally over the visceral and intestinal branches of the vagus nerve at about the level of the last branchial branch of the visceral nerve and curves ventrally in the wall of the common cardinal vein. The crossing of the hypobranchial nerve over the visceral and intestinal branches of the vagus nerve is tightly bound by connective tissue, which needs to be broken carefully to separate the nerves from one another. The hypobranchial nerve carries somatic motor fibers to the hy-

Page 227, right column, paragraph 2, lines 2-11: Replace by:

guish grossly. The **pia mater** is the layer that closely invests the surface of the brain. The **arachnoid** lies between the pia mater and the dura mater. The pia mater and arachnoid are most easily distinguished on the cerebrum over its grooves, called **sulci**, because the arachnoid does not dip into the sulci, whereas the pia mater does. In life, a narrow **subarachnoid space** lies between the pia mater and the arachnoid (Fig. 9-11**A**). The subarachnoid space is criss-crossed by delicate strands of connective tissue, which are called **arachnoid trabeculae**. The larger arteries and veins that pass over the surface of the brain are suspended within these mesentery-like arachnoid trabeculae. The

Page 228, Figure A: Subarachnoid space with cerebrospinal fluid and arachnoid trabeculae (not “Cerebrospinal fluid in subarachnoid space”)

Arachnoid trabeculae (not “Arachnoid trabeculation”)

Note: Blood vessels occur within the arachnoid and not the Pia mater

“Superior sagittal venous sinus” and “Arachnoid villus” should be exchanged.

Pia mater and Arachnoid (not “Pia mater”)

Page 228, Figure B: Arachnoid trabecula (not “Arachnoid trabeculation”)

Page 229, right column, paragraph 2, line 5: Replace by:

ter the cranial cavity through the **optic canals** (Chapter 4), undergo

Page 230, Figure 9-13: Ventral median fissure (not “Ventral fissure”)

Page 231, left column, paragraph, 1, line 1: Replace by:

In order to see the **thalamus**, or lateral wall of

Page 231, Anatomy in Action 9-2, right column, paragraph 2, line 10: Replace by:

or, in at least one case, by a **release-inhibiting hormone**. For example, the release of the thyroid-stimulating hormone is stimulated by the thyrotropin-releasing hormone and inhibited by somatostatin.

Page 233, left column, lines 11-12: Replace by:

by looking in the area between the cerebellum and inferior colliculi. An important auditory pathway, the

Page 240, left column, line 9:

the motor columns of the spinal cord. A decussation occurs on

Page 244, left column, paragraph 2, lines 8-11: Replace by:

side. The dorsal root is identifiable by its spinal ganglion, a prominent globular swelling. The roots of a spinal nerve pass into the intervertebral foramen before uniting to form a **spinal nerve**. Branches of the vertebral blood vessels may accompany, and may be more noticeable, than the spinal nerve. If you trace the spinal nerve laterally, you may

Page 244, right column, line 3: Replace by:

Make a transverse section through the spinal cord as far away from the origin of the roots of the spinal nerves as possible and reflect the spinal cord. Bisect and peel back the re-

Page 244, right column, paragraph 1, line 1: Replace by:

Take a small section from the spinal cord with a sharp instrument, such as a razor blade. Examine the cut surface

Page 244, right column, after the first paragraph: Add the new paragraph:

Return to the exposed spinal cord within the spinal canal and reflect it. You are now looking at the floor of the spinal canal, which is formed by the dorsal surfaces of the vertebral bodies. Along the sides of the floor, you may also discover the paired vertebral blood vessels. Remove the connective tissue that covers the floor of the spinal canal. You will reveal the bony surface of the vertebral bodies and, between them, a softer, whitish, cartilaginous intervertebral disk. Turn to the lateral surface on one side of the vertebral column and reflect tissue from the intervertebral joint area to reveal the lateral side of an intervertebral disk. You can now appreciate how a so-called "slipped disk" may damage the spinal cord.

Page 244, right column, paragraph 3, lines 9-10: Replace by:

cal plexus which supplies the neck region; the caudal cervical and cranial thoracic nerves form the **brachial plexus**

Page 245, left column, paragraph 1, lines 3-6: Replace by:

surface. Carefully cut through the pectoral muscle complex on the side on which the muscles are still intact (Table 7-5). Bisect all the blood vessels that obscure the view of the brachial plexus. Dissection of the brachial plexus in-

Page 245, right column, paragraph 1, line 6: Replace by:

roots of the brachial plexus. They emerge between the longus colli

Page 245, Figure 9-22: Root of cervical nerve 7 (not “Cervical nerve 7”)
Root of cervical nerve 8 (not “Cervical nerve 8”)
Root of thoracic nerve 1 (not “Thoracic nerve 1”)

Page 246, left column, paragraph 7, lines 9-11: Replace by:

arm extensor muscles. The large **superficial branch** emerges from underneath the cranial border of the lateral head of the triceps brachii muscle and innervates the skin on the dorsomedial surface of the brachium all the way to the toes (Chapter 7, page 156). Its **medial superficial branch** innervates the region of digits 1-3.

Page 246, right column, line 2: Replace by:

the biceps brachii, coracobrachial and brachial muscles,

Page 246, right column, paragraph 1, line 8: Replace by:

supracondylar foramen of the humerus (Fig. 6-12**B**). To see the ulnar nerve, reflect the tensor fasciae antebrachii muscle. The ulnar nerve lies medial to the long and medial heads of the tricepts brachii muscle. Near the elbow joint, it passes underneath the short head of the triceps brachii muscle. It emerges on the surface between the flexor carpi ulnarus and the ulnar head of the deep flexor digitorum muscle. Mobilize the nerve by carefully cleaning away loose connective tissue from around the nerve, and you will be able to pull on one exposed part to see the movement on the other. It innervates the region of digits 4-5.

Page 247, Figure 9-23: Lumbosacral nerve trunk (not “Lumbosacral trunk”)

Page 249, Footnote 2, line 5: Replace by:

the serous lining of the peritoneal cavity. For the lining of the

Page 250, left column, paragraph 1, line 6: Replace by:

innermost mesoderm layer of the lateral plate, or hypomere, that

Page 255, left column, line 6: Replace by:

released into the blood as **thyroxine** and triiodothyroxine.

Page 256, left column, paragraph 2, line 5-12: Replace by:

the shiny coelomic epithelium, the **serosa**, or serous membrane. This membrane consists of a layer of connective tissue single that supports a single layer of flat epithelial cells, which form a simple squamous epithelium, called **mesothelium**. The mesothelial cells secrete a serous fluid that serves to lubricated the wall and inner organs inside the coelomic cavity. The portion of the serosa lining the wall of the coelomic cavity is called the **parietal serosa**. It extends over one side of the mesenteries before surrounding the inner organs as the **visceral serosa**, continuing over the other side of the mesenteries and turning into the parietal serosa on the other side of the wall of the coelomic cavity (see, for example, Fig. 10-1C). Therefore, and as a result of their embryonic develop-

Page 259, right column, paragraph 1, lines 1-4: Replace by:

The valvular intestine contains

Page 259, right column, paragraph 1, line 11: Replace by:

the intestine where there are no longitudinally running blood vessels and spread

Page 259, right column, paragraph 1, lines 16-18: Replace by:

the intestine, but limits the amount of predigested food that can enter the intestine from the stomach.

Page 259, right column, paragraph 2, lines 6-11: Replace by:

face (Fig. 10-5). With a pair of sharp scissors, make an incision in the exposed wall of the gallbladder, insert a probe, and delicately probe the caudal tip and cranial end of the gallbladder, being careful not to pierce through the soft tissue of the liver. The gall bladder stores the bile that is synthesized by the liver and discharged into the gall bladder by a number of inconspicuous **hepatic ducts.** Find the origin of the bile duct by scraping away some liver tissue from the dorsal side of the cranial end of the gall bladder. Make a lengthwise incision into the bile duct and extend this incision towards its origin from the gall bladder. Spread open this incision, and you will discover a small membranous flap that serves as a valve. It can be lifted away from the wall of the gall bladder to reveal an opening that leads to the gall bladder. It serves to regulate the flow of bile from the gall bladder into the bile duct and, thus, into the intestine. The bile is ex-

Page 263, left column, line 4: Replace by:

quently, cut medially through the entire gonad. As a result, a cranial piece of the gonad will be attached to the ventral half of the body and the caudal piece of the gonad will remain *in situ* and attached to the dorsal wall of the body. In this manner, you will keep the heart and sinus venosus intact for later dissection. Return now to the esophagus and the longitudinal section through its lateral wall you made earlier and extend it caudally all the way to the intestine if you have not done so already when studying the digestive organs (see page 259). You can now swing open the floor of the oropharyn-

Page 263, left column, line 14: Replace by:

oropharyngeal cavity, you need to pull it back.

Page 263, right column, paragraph 1: Replace by:

Observe the spiracle in several shark specimens and notice that its opening varies individually, and even within a particular specimen, through a flap of skin, the **spiracular valve**, that is attached on the rostral wall of the spiracle and is drawn across the opening to a varying degree. Recall that the spiracular valve is formed by the spiracular muscle. The spiracular valve is closed when the water is expelled through the branchial chambers, but is opened to break the vacuum in the oropharyngeal cavity before the mouth opens to draw in water (see Anatomy in Action 10-1). In specimens, in which the spiracle is open, you will see minute gill lamellae on the free edge of the spiracular valve. Because of its small size, because it is supplied with blood through relatively large arteries (see later; Fig. 11-7), and because the spiracle draws in water, these gill lamellae have been termed a **pseudobranch**. It is usually considered a vestigial gill, but more probably serves as an inflatable tissue to seal the off the spiracle when the spiracular valve is closed.

Page 264, Anatomy in Action 10-1, left column, paragraph 1, lines 6-7: Replace with:

jaw, mouth opening, and spiracle are being closed, and the oropharyngeal cavity is compressed (Figs. **A** and **B**), water in

Page 265, Anatomy in Action 10-1 (cont'd), left column, line 5: Replace by:

mouth open and their oropharyngeal cavity and internal gill slits ex-

Page 267, Anatomy in Action 10-2 (cont'd), left column, paragraph 1, lines 1-2: Replace by:

The ventilation process of metamorphosed adult *Ambystoma* on land differs from that of the larval stage in some

Page 267, Anatomy in Action 10-2 (cont'd), right column, paragraph 1, line 2: Replace by:

and metamorphosed terrestrial *Ambystoma* differ significantly,

Page 273, right column, paragraph 1, lines 12-13: Replace by:

(see Chapter 7). Detach the insertion of the digastric muscle from the mandibular body and reflect it (if you have not

Page 273, Figure 10-14: Mandibular lymph node (not "Lymph node")

Page 274, left column, line 5: Replace by:

comprises some of the gustatory nerve fibers from the facial nerve. The large **hypoglossal nerve**, which carries motor fibers to the tongue muscles, crosses the ventral side of the mandibular duct farther proximally on its way from the jugular foramen

Page 274, left column, line 15: Replace by:

septum of the tongue. In cats, the paired openings of the

Page 274, Figure 10-15: Vocal fold (not "Vocal cord")

Page 275, left column, line 4: Replace by:

openings flanking a blunt papilla at the very front of the hard palate just caudal to

Page 276, left column, paragraph 2, line 6: Replace by:

and, in cats, through the epihyal ossicle (Fig. 4-19 on p. 69). Pull the tongue

Page 276, right column, paragraph 1, lines 7-8: Replace by:

muscle is the deep and superficial masseter muscle. The more rostral muscle is the **pterygoid muscle**, which originates by a tendon on the palpable pterygoid process of the sphenoid

Page 276, right column, paragraph 2, line 2: Replace by:

the neck. You will have to reflect (or remove) several muscles, but do

Page 276, right column, paragraph 2, line 6: Replace by:

rod ventral to the epiglottis and connects the paired chains of hyoid ossicles (see Fig. 4-19 on p. 69) which can be palpated.

Page 277, left column, line 5: Replace by:

a series of cartilaginous half-rings that keep the tracheal lumen

Page 277, left column, line 9: Replace by:

which can modify the diameter of the trachea. Separate the trachea from the esophagus and twist it so that can see its dorsal side where the ends of the half-rings meet. The esoph-

Page 277, left column, paragraph 3, line 3: Replace by:

tilages to the thyroid cartilage are the vocal folds. Their

Page 277, left column, paragraph 3, line 8: Replace by

cats, a pair of ary-epiglottic accessory folds, also called **false vocal folds,**

Page 277, right column, paragraph 2: Replace by:

On the side of the dissected muscles, reflect the bisected pectoral muscles. Mobilize and reflect the rectus abdominis and rectus thoracis muscles. Identify the first rib by palpation and cut through it and the thoracic wall with a strong pair of scissors about a finger-breadth (1-2 cm) to the side of the midline, being mindful not to damage the brachial plexus (see page 245). Extend the incision along the length of the palpable sternum. Spread open the incision and look into the **pleural cavity**. You will see the dome-shaped muscular diaphragm forming the caudal wall of the pleural cavity, as well as the collapsed lung. Make another cut that extends laterally and dorsally along the attachment of the diaphragm to the body wall on the pleural side. Now feel for the individual ribs on the inner surface of the thoracic wall near the vertebral column. With a strong pair of scissors, cut through each rib at their joints with the vertebrae (see also page 89), but leave the ribs and surrounding tissue in place. In this way you can open the pleural cavity by swinging open the thoracic wall to the side. If you were to do this simply with brute force, the ribs would break and splinter, damaging the thoracic structures and injuring your fingers.

Open the other pleural cavity on the opposite side of the sternum in the same manner as described above. You can see now that the paired pleural cavities are separated from each other by the **mediastinal septum**, which is anchored to the internal side of the sternum and forms the medial wall of each pleural cavity. The mediastinal septum is a mesentery that develops from the embryonic ventral mesentery (Fig. 10-3 on page 253) and consists of a layer of connective tissue sandwiched between two layers of parietal pleura. The **mediastinum** is the space between the two layers of parietal pleura. It contains mostly connective tissue, but also the pericardial cavity with the heart, which forms the large bulge ventromedial to the lung (Fig. 10-3C).

Page 277, right column, paragraph 3, lines 1-2: Replace by:

Examine now the right pleural cavity and the right **lung** (*pulmo*). The serosa that lines the walls of the

Page 278, left column, line 1: Replace by:

anchors the vein to the diaphragm and is an evagination of the mediastinal septum caudal to the heart.

Page 278, left column, line 6: Replace by:

The **principal**, or **primary**, **bronchus**, one branch of the terminal bi-

Page 279, left column, paragraph 1 and paragraph 2, lines 1-6: Replace by:

Now examine the left pleural cavity, which will give you a good

Page 280, right column, paragraph 1, lines 7-10: Replace by:

insert on it. The vertical **falciform ligament**, which develops from the original ventral mesentery, bridges the space between the liver and diaphragm. It represents the transition between the visceral serosa enveloping the liver and the parietal serosa lining the abdominal cavity. Occa-

Page 281, Figure 10-19: Left medial lobe of liver (not “live”)

Page 283, left column, lines 14-22: Replace by:

tion is the pyloric region. This region is the caudal end of the stomach and is supplied with a thick muscular sphincter, the **pylorus**, which can be palpated. The externally defined regions do not correspond exactly to the gastric regions by the types of epithelial lining and their gastric glands, which are given the same name as the externally defined regions of the stomach.

Cut open the stomach on its visceral surface along the curve between the greater and lesser curvature where there are fewer blood vessels and no attachments of mesenteries. Spread open the cut edges and look into the stomach cavity. In cats, you will see longitudinal ridges in the lining of the stom-

Page 283, right column, paragraph 2, lines 11-13: Replace by:

The epiploic foramen can be accessed through the lesser peritoneal cavity within the opened omental bursa. It is situated dorsal to the lesser omentum of the stomach and between the caudate lobe of the liver and the mesentery of the duodenum. You can also pass a probe, or

Page 283, right column, paragraph 3, line 7: Replace by:

aside. The **cystic duct** drains the gallbladder and joins

Page 295, Anatomy in Action 11-1, right column, paragraph 2, lines 3-7: Replace by:

anterior cardinal sinus and common cardinal vein run directly underneath the levator palatoquadrati and cucullaris muscles (see Chapter 7 and Fig. 10-8). When these muscles contract and bulge, they probably compress the anterior cardinal sinus and the common cardinal vein against the surfaces of the hyomandibular

Page 299, Anatomy in Action 11-2, left column, paragraph 1, lines 9-10: Replace by:

portions of the embryonic posterior cardinal veins become the renal portal veins, and blood in them must pass through the kidneys.

Page 299, Anatomy in Action 11-2, right column, line 1: Replace by:

arteries branch off directly from the dorsal aorta, the hydrostatic

Page 300, Figure 11-6: Brachial vessels (not "Brachial ves.")

Page 302, left column, paragraph 2, line 12: Replace by:

esophageal artery arises from the second efferent branchial artery

Page 304, Figure D: Pharyngoesophageal artery [not "Paryngoesophageal a."]

Page 305, left column, paragraph 1, line 6: Replace by:

the dorsal aorta, generally between the third and fourth efferent

Page 306, left column, paragraph 1, lines 4-6: Replace by:

ter 10). These are the anterior mesenteric artery and the more caudal lienogastric artery. These arteries cross each other near their origins. The lienogastric artery supplies

Page 306, left column, paragraph 1, lines 15-16: Replace by:

The digitiform gland and the caudal end of the intestine. The three ventral visceral arteries together (the anterior mesenteric, lienogastric and posterior mesenteric arteries) supply the area

Page 309, Anatomy in Action 11-4, left column, paragraph 2, lines 15-16: Replace by:

cardial liquid could escape through the pericardioperitoneal canal at this stage, but this is unlikely because the peri-

Page 309, Anatomy in Action 11-4, left column, paragraph 2, line 19: Replace by:

fast. Furthermore, the pericardioperitoneal canal is rela-

Page 309, Anatomy in Action 11-4, right column, paragraph 2, line 10: Replace by:

cardial cavity at this point. Because the pericardioperi-

Page 320, Anatomy in Action 11-6, left column, paragraph 2, lines 7-9: Replace by:

tuses are relatively small and maintain a relatively low level of metabolic activity. The fetal intestine does not absorb nutrients, but is primed for it through hormones in the amniotic fluid, which is swallowed by the fetus; and the fetal liver is producing blood cells and is not a

Page 320, Anatomy in Action 11-6, left column, paragraph 2, lines 14-15: Replace by:

ductus venosus. Similarly, the fetal kidneys are not yet serving as filtering and excretion centers. Because tissues of both the

Page 320, Anatomy in Action 11-6, right column, paragraph 1, line 6: Replace by:

nutrient- and oxygen-depleted and rich in waste products, is

Page 321, Anatomy in Action 11-6, right column, line 4: Replace by:

now oxygen-rich, is returning from the lungs to the left atrium,

Page 322, Anatomy in Action 11-6, left column, line 8: (Fig. 11-15) [not “(Fig. 11-19)”]

Page 325, left column, line 1: Replace by:

Because the veins in this region are often not well injected, it may be helpful whenever this occurs to find first the corresponding arteries, especially in the case of the smaller tributaries to the larger veins. As we have already observed, cats possess a single cranial

Page 325, left column, paragraph 2, line 14: Replace by:

but their origins will be seen later. The **right highest intercostal**

Page 325, right column, line 7: Replace by:

arteries and **veins**, respectively.

Page 325, right column, paragraph 2, line 1-5: Replace by:

Trace one of the subclavian arteries peripher-

Page 325, right column, paragraph 3, line 15: Replace by:

the brain (Anatomy in Action 11-8).

Page 325, right column, paragraph 4, line 1: Replace by:

A short, caudally pointing **costocervical artery** arises

Page 326, Figure 11-18: Middle cervical ganglion (not "Caudal cervical ganglion")

Page 326, Anatomy in Action 11-7, right column, paragraph 1, line 7: Replace by:

come integrated into the adult brachiocephalic artery on the

Page 326, Anatomy in Action 11-7, right column, paragraph 1, line 11: Replace by:

of the paired dorsal aortae between the branching of the right

Page 327, right column, line 2: Replace by:

birth, the ductus arteriosus becomes clogged with proliferating

Page 328, left column, paragraph 1, line 2: Replace by:

costocervical artery, the subclavian artery continues laterally

Page 328, left column, paragraph 1, line 10: Replace by:

major and subscapular muscles. After sending off the sub-

Page 328, left column, paragraph 1, lines 14 to end: Replace by:

their branching pattern. They often remain uninjected, but they can be observed nevertheless because they are relatively large. The **brachial vein** drains the forelimb. As it enters the armpit region, it receives a small vein from the latissimus dorsi muscle and continues as the **axillary vein** to the point where it receives the **subscapular vein**. The subscapular vein emerges between the teres major and subscapular muscle**s** and drains the deep shoulder muscles. It receives the **lateral thoracic vein** from the pectoral muscles and a smaller vein from the front of the shoulder joint. A semi-ringlike anastomosis often connects the subscapular vein and the vein that drains the latissimus dorsi muscle. After receiving the subscapular vein, the axillary vein continues as the very short **subclavian vein** until it joins the bijugular trunk seen previously.

Page 328, left column, paragraph 2, line 1: Replace by:

Return to the brachiocephalic artery or arch of the

Page 328, left column, paragraph 2, line 11: Replace by:

vein to form the **bijugular trunk** previously observed. In

Page 328, right column, paragraph 1, line 7: **vagosympathetic trunk** (not "**vasosympathetic**")

Page 329, left column, lines 15-16: Replace by:

upper lip; and the **vena angularis oculi** from the portion of the face in front of the eye.

Page 329, right column, paragraph 1, lines 4-5: Replace by:

of the larynx , the **common carotid artery** gives off a **cranial thyroid artery** and a muscular branch that crosses the

Page 329, right column, paragraph 1, lines 16-17: Replace by:

carotid artery shrivels up and becomes the internal carotid ligament. The intracranial portion of the internal carotid

Page 329, right column, paragraph 1, line 20: Replace by:

ital arteries. The **internal carotid ligament** arises from the

Page 330, Anatomy in Action 11-8, paragraph 1, line 3: Replace by:

ternal to the skull in the region between the optic foramen

Page 332, Anatomy in Action 11-8, left column, paragraph 1, lines 4-5: Replace by:

mechanism has been found in many carnivores and in some of their prey, such as sheep and antelopes,

Page 332, left column, paragraph 1, lines 8-10: Replace by:

established. In cats, the **occipital artery** arises from the external carotid artery opposite from and slightly cranial from the branching of the **laryngeal artery** from the common carotid artery (Fig. 11-20). The occipital artery runs dorsocranially

Page 333, right column, line 1: Replace by:

plied by the paired highest intercostal arteries (Fig. 11-17), small

Page 333, right column, paragraph 2, line 8: Replace by:

be destroyed, lie at the base of the cranial mesenteric artery (Fig. 11-18).

Page 335, right column, line 2: Replace by:

nadal veins enter the vena cava.

Page 336, Anatomy in Action 11-9, left column, paragraph 2, line 1: Replace by:

An early mammalian embryo (Fig. **A**) possesses a **cardinal**

Page 337, Figure E: Gonadal vein (not "Genital v.")
Atrophied left subsupracardinal anastomosis (not "supracardinal anastomosis")

Page 339, left column, paragraph 1, line 3: Replace by:

can be seen on the left side of the epiploic foramen

Page 339, left column, paragraph 1, line 30: Replace by:

troepiploic arterial branches that cross the gastrolienic

Page 339, right column, line 2: Replace by:

spleen through **lienic venous branches.** It also receives
sev-

Page 340, left column, paragraph 2, lines 1-2:

Trace the external iliac blood vessels from the
descending aorta and the caudal vena cava to the
abdominal wall. Before passing through this wall,

Page 340, Figure 11-24: Internal pudendal vessels (not "Interal pudendal ves.")

Page 342, Figure 11-25A, B and C: Brachiocephalic artery (not "Brachiocephalic trunk"

Page 342, Figure 11-25B: The Ligamentum arteriosum should be white (not blue)

Page 343, Figure 11-26: The Ligamentum arteriosum should be white (not blue)

Page 344, right column, lines 10-11: Replace by:

the **cisterna chyli**, dorsal to the origin of the coeliac and cranial
mesenteric arteries. The cisterna chyli is located on the

Page 356, right column, paragraph 2, line 6: Replace by:

removing loose connective tissue dorsal to the medial edge of the
seminal vesicle. Despite its name, the acces-

Page 357, left column, paragraph 2, lines 15-16: Replace by:

opening, the **ostium tubarum**, into the pleuroperitoneal cavity. The
ostium tubarum is located on the caudodorsal edge

Page 367, Figure 12-16A: Testicular arteriovenous complex of spermatic cord (not "arterio-venous")

Page 368, right column, line 10: Replace by:

the surface of the testis and drains it into the testicular

Page 369, left column, paragraph 1, line 11: Replace by:

and phocid seals, the testes migrate out of the peritoneal

Page 370, left column, line 2: Replace by:

consist of the highly convoluted **ductus epididymidis**,

Page 370, right column, paragraph 2, line 2: Replace by:

independently, and a small **prostate** surrounds each point of

Page 376, Figure 12-21A: Suspensory ligament of the ovary (not "overy")

Page A.1., left column: Replace:

abdom– [L. *abdomen*, abdomen, probably from *abdere*, to
conceal]: abdomen, abdominal

Page A.1., left column, paragraph 2, line 5: Replace by:

a verb in Latin only the infinitive is given, and for a verb
in Greek only the first person singular is given, unless
another form, such

Page A.2., left column:

bronch– [Gr. *bronchos*, windpipe, throat]:
bronchus, bronchial, bronchitis

Page A.2, right column: Replace lines 3-4 by:

cerat– [Gr. *keras*, gen. *keratos*, horn]: ceratobranchial cartilage,
ceratotrichia, keratin

Page A.2, right column: Replace lines 8-9 by:

cervic– [L. *cervix*, gen., *cervicis*, neck]: cervical, cleidocervical muscle,
uterine cervix, rectus cervicis muscle

Page A.3, left column: Add after line 23:

cten– [Gr. *kteis*, pl., *ktenes*, finger, tooth of a comb]: ctenoid scale,
ctenophores

Page A.3, right column:

femur [L. *femur*, gen., *femoris*, thigh, femur]: femur, femoral artery

Page A.4., left column: Replace "gustat–"

gust– [L. *gustare*, to taste, p.p. *gustatus*, tasted]: gustatory

Page A.4., right column: Replace:

hormo– [Gr. *hormao*, I rouse or set in motion, pr.p. *hormon*, arousing]: hormone

Page A.4., right column: Replace:

incis— [L. *incidere*, to cut into, to make an end to, p.p. i*ncisus*, cut]: incision, incisor teeth

Page A.5., left column: Replace:

kine– [Gr. *kineo*, I move]: cinema (moving pictures), kinetic skull, kinesiology

Page A.6., right column: Replace:

par– [L. *parere*, to bring forth, p.p. *partus*, brought forth]: parturition, viviparous

Page A.7., left column: Replace:

pudend– [L. *pudendum* or *pudenda***,** (region of the) genitals, from *pudere*, to feel ashamed]: pudendal artery, pudendum

Page A.7., left column: Replace:

poie– [Gr. *poieo*, I make]: hemopoietic

Page A.7., left column: Replace:

plex-- [L. *plexus*, pl., *plex_s*, a network, an interwoven or convoluted object]: brachial plexus, complex

Page A.7., right column: Replace:

rum– [L. *ruminare*, to chew the cud, from L. *rumen*, the throat or gullet]: rumen (the first stomach of a ruminant), to ruminate

Page A-8, left column: Replace:

stri— [L. *striare*, to stripe, to make furrows, p.p., *striatus*, striped, furrowed]: corpus striatum, striated

Page A-8, right column: Replace:

ten— [L. *tendere*, to stretch, p.p., *tentus* or *tensus*, stretched]: tendon, tensor tympani muscle, tent, tentorium

Page A-9, left column: Replace:

tract— [L. *trahere*, to pull, to draw out, p.p., *tractus*, pulled, drawn out]: corticospinal tract, protractor muscle, retractor muscle

Page A.9, right column:

viv– [L. *vivus*, alive]: viviparous, vivid

zyg– [Gr. *zygon*, yoke, union, pair]: azygos vein, zygapophysis, zygomatic arch, zygote

Page I.2, left column: Under "Anastomosis, 293**":**

cranial and caudal epigastric arteries
cranial and caudal pancreaticoduodenal arteries
jejuno-ileocolic and caudal mesenteric arteries
left and right gastric arteries
left and right gastroepiploic arteries
subscapular and latissimus dorsi veins

Page I.11, left column: Replace under **"Ganglion (a), 7, 206":**

coeliac, 326(f), 333
mesenteric, 326(f), 333

Page I.11, left column: Ganglion, Ganglia, 7, 206 (not "Ganglion (a), 7, 206")

Page I.14, left column, under "Jugal": Delete:

Ganglion, 221

Page I.14, left column, under "Jugular" and "foramen, 74, 233": Add:

Ganglion, 213(f), 221

Page I.24, left column: Under "Scale(s)":

cosmoid, 30
ctenoid, 30
cycloid, 30
ganoid, 30
of fishes, 30

Page I.28, middle column:

Vagosympathetic trunk, 328 (not "Vasosympathetic")