

FIGURE 18.2 ■ Kidney cortex and upper medulla. Stain: hematoxylin and eosin. Low magnification.

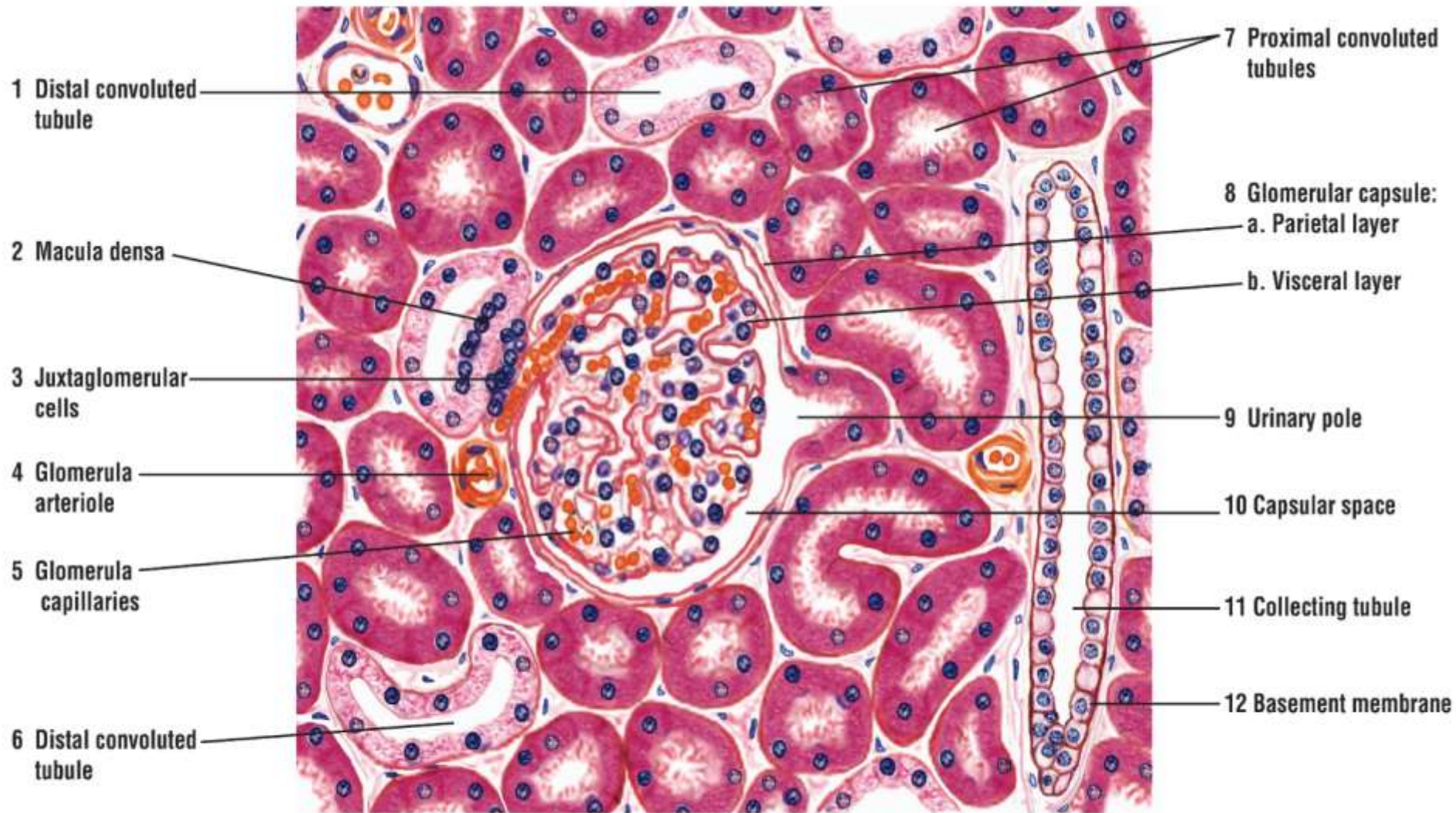


FIGURE 18.3 ■ Kidney cortex: juxtaglomerular apparatus. Stain: hematoxylin and eosin. Medium magnification.

1 Glomerulus

2 Glomerular capsule

a. Parietal layer

b. Visceral layer

3 Juxtaglomerular apparatus

a. Juxtaglomerular cells

b. Macula densa

4 Podocyte

5 Capsular space

6 Distal convoluted tubules

7 Podocyte

8 Proximal convoluted tubules

9 Distal convoluted tubule

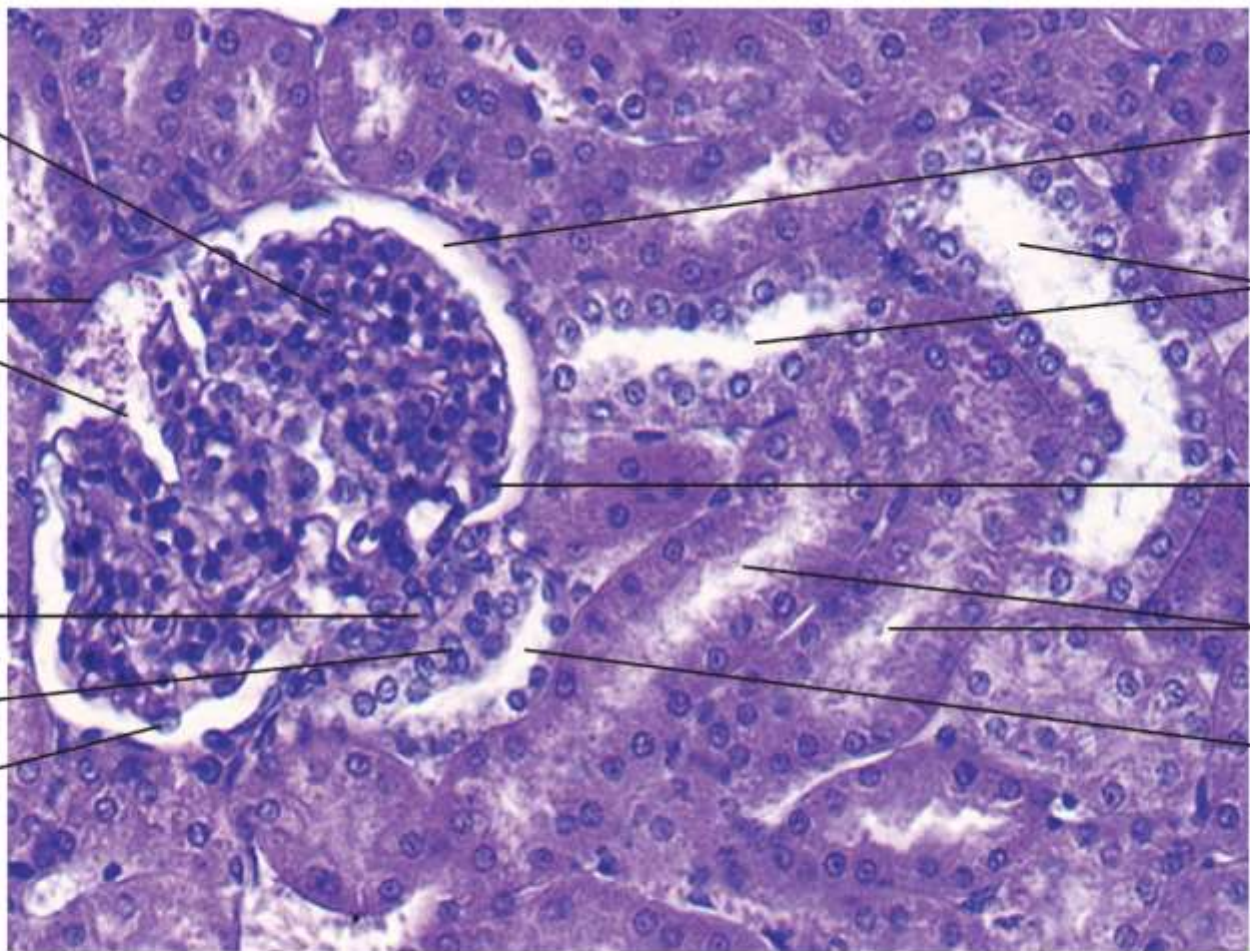


FIGURE 18.4 ■ Kidney cortex: renal corpuscle, juxtaglomerular apparatus, and convoluted tubules. Stain: hematoxylin and eosin. ×130.

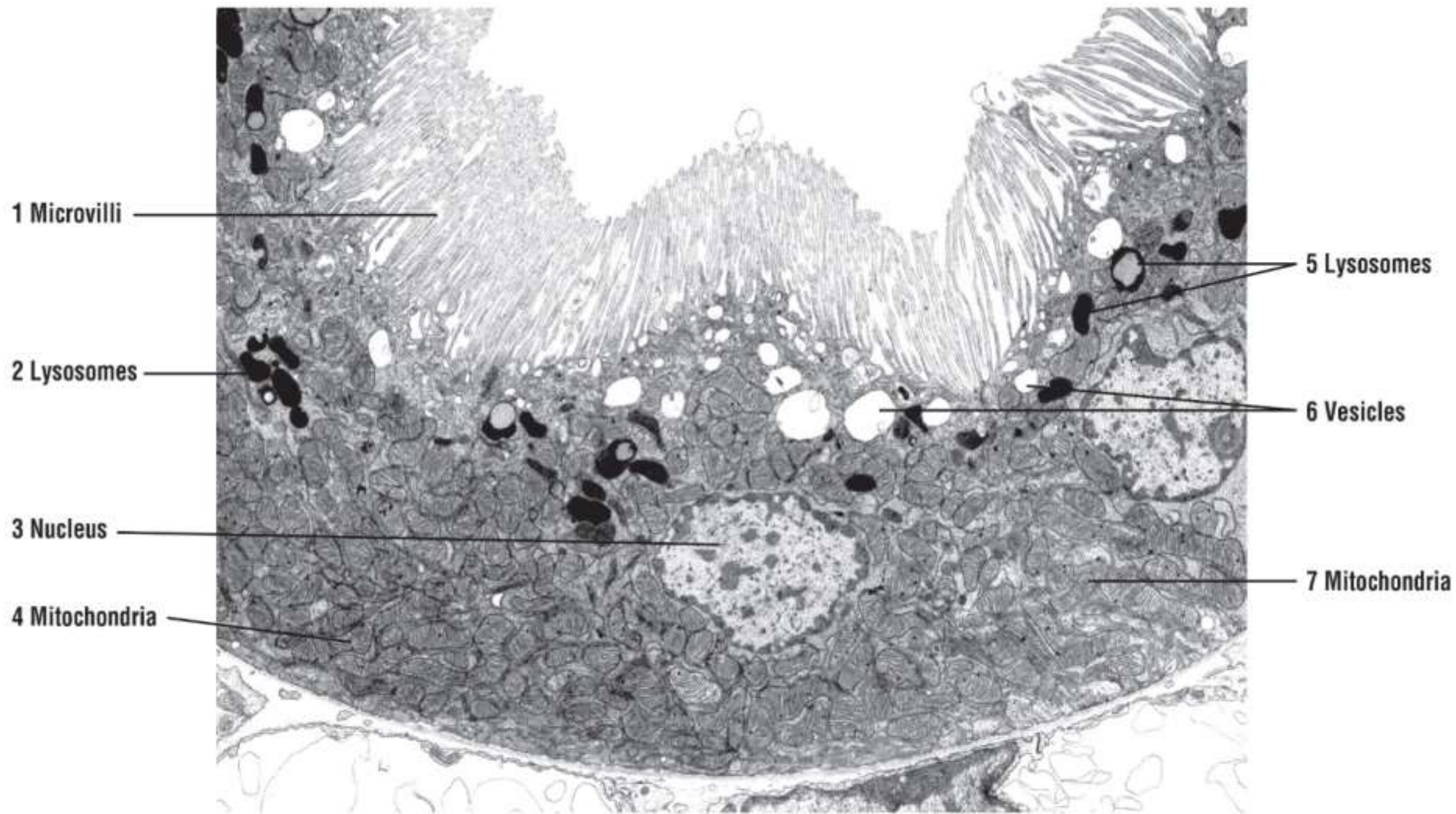


FIGURE 18.5 ■ Ultrastructure of cells in the proximal convoluted tubule of the kidney. Courtesy of Dr. Rex A. Hess, Professor Emeritus, Comparative Biosciences, College of Veterinary Medicine, University of Illinois, Urbana, Illinois. $\times 55,000$.

1 Microvilli

2 Vesicles

3 Junctional complex

4 Lysosomes

5 Mitochondria

6 Microvilli

7 Vesicles

8 Lysosomes

9 Nucleus

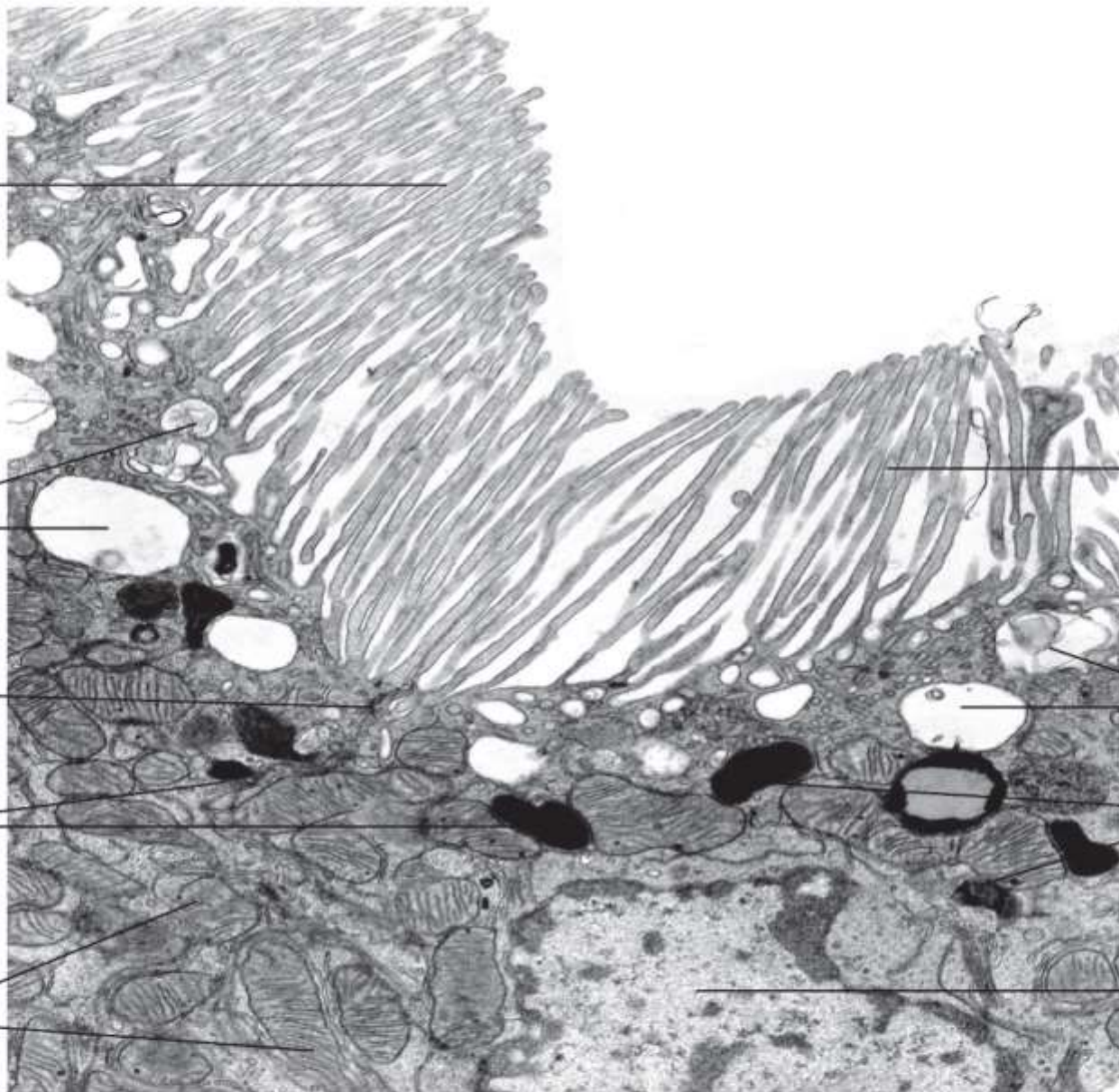


FIGURE 18.6 ■ Ultrastructure of apical cell surface in the proximal convoluted tubule of the kidney. Courtesy of Dr. Rex A. Hess, Professor Emeritus, Comparative Biosciences, College of Veterinary Medicine, University of Illinois, Urbana, Illinois. $\times 8,000$.

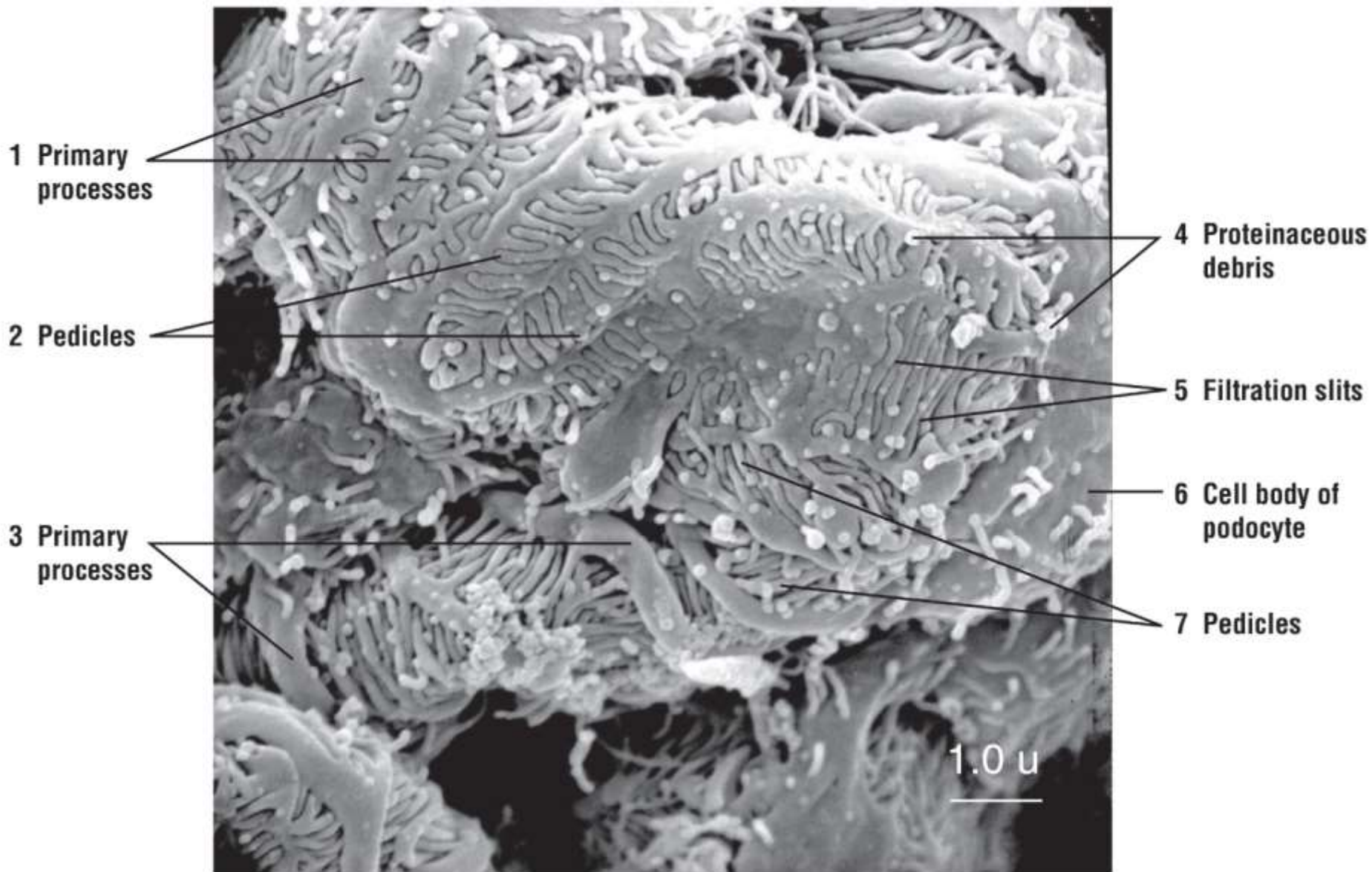


FIGURE 18.7 ■ Kidney: scanning electron micrograph of podocytes (visceral epithelium of glomerular [Bowman] capsule) surrounding the glomerular capillaries.

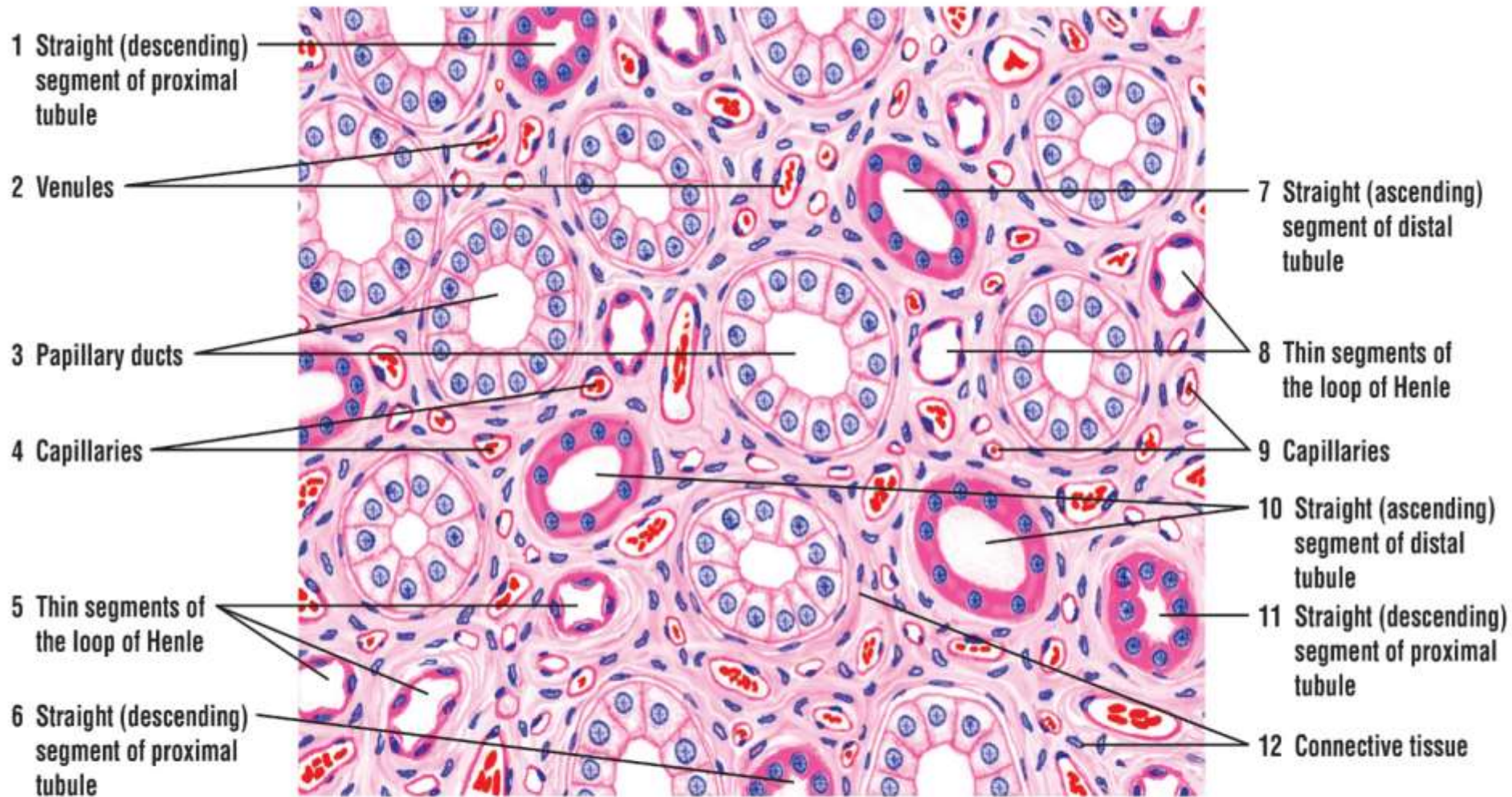


FIGURE 18.9 ■ Kidney medulla: papillary region (transverse section). Stain: hematoxylin and eosin. Medium magnification.

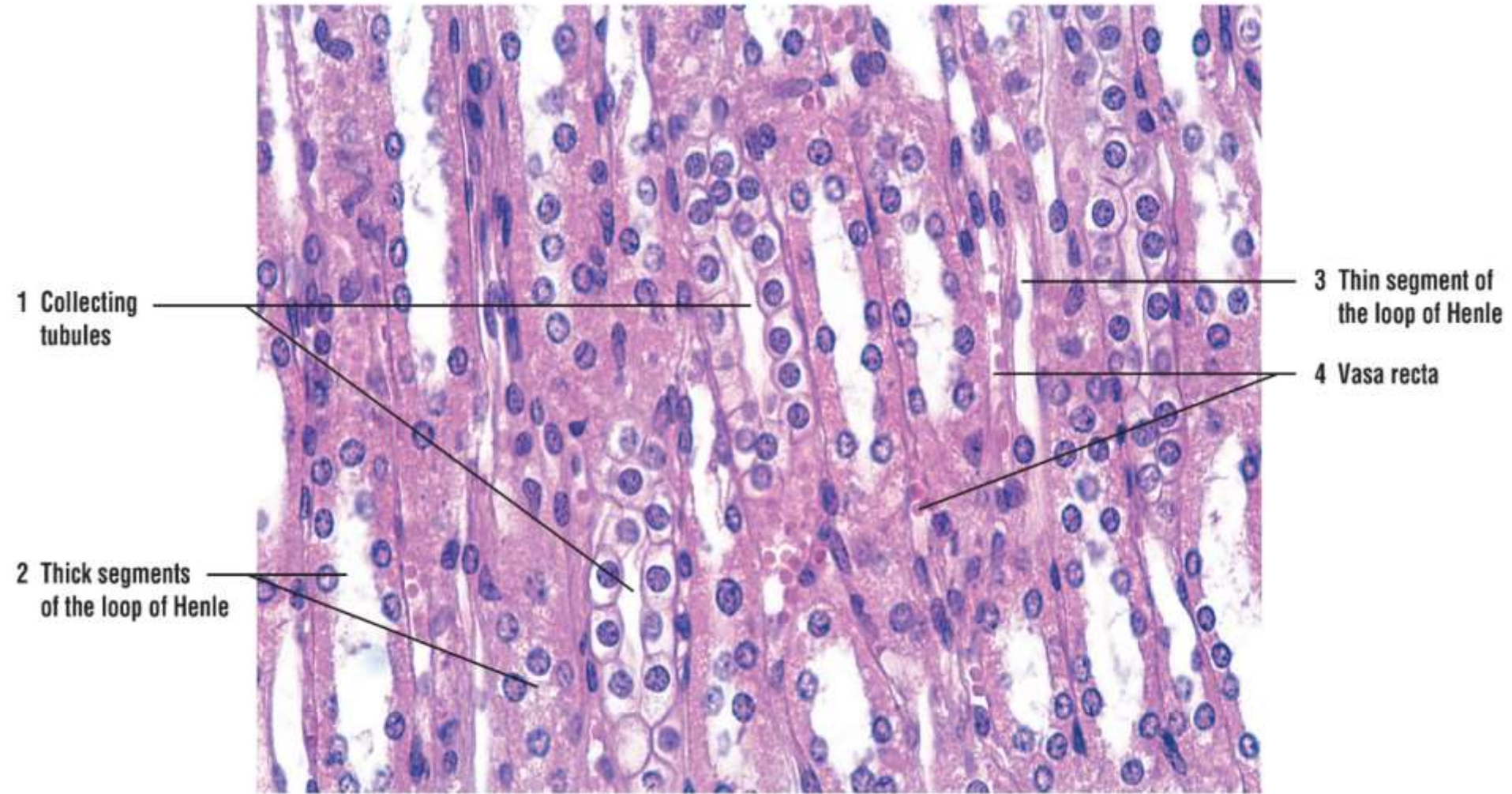


FIGURE 18.11 ■ Kidney: ducts of medullary region (longitudinal section). Stain: hematoxylin and eosin. $\times 130$.

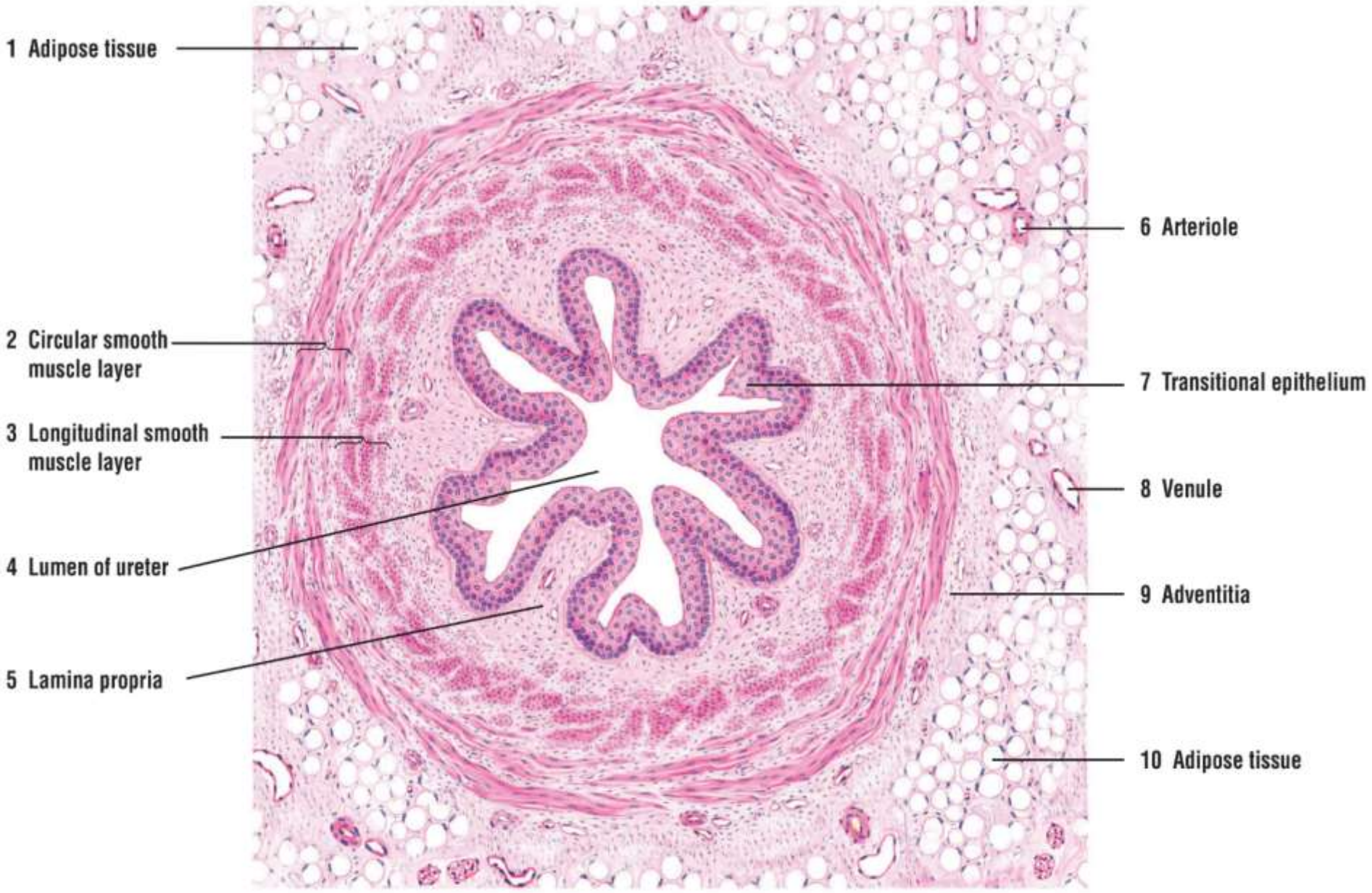


FIGURE 18.12 ■ Urinary system: ureter (transverse section). Stain: hematoxylin and eosin. Low magnification.

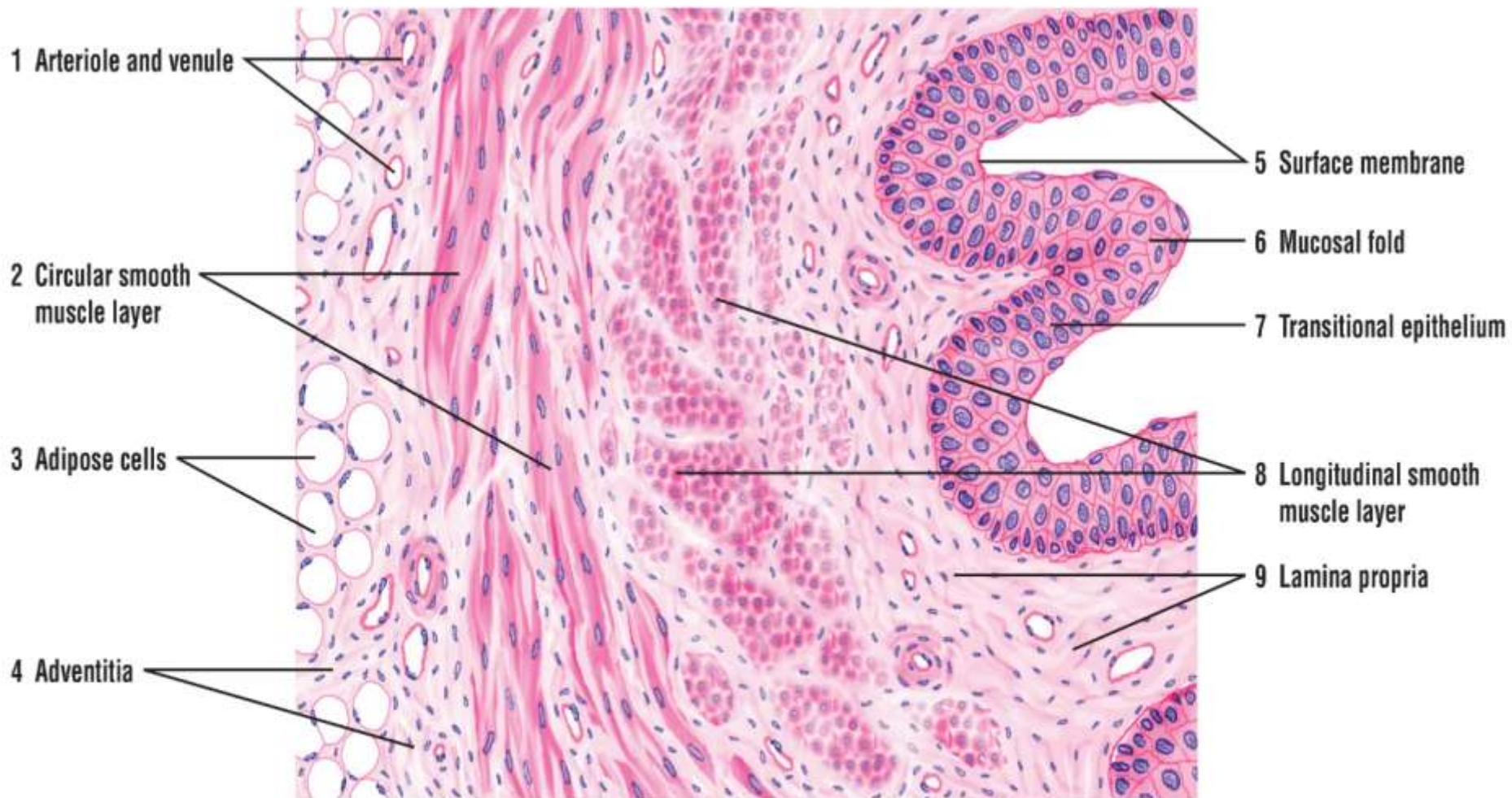


FIGURE 18.13 ■ Section of a ureter wall (transverse section). Stain: hematoxylin and eosin. Medium magnification.

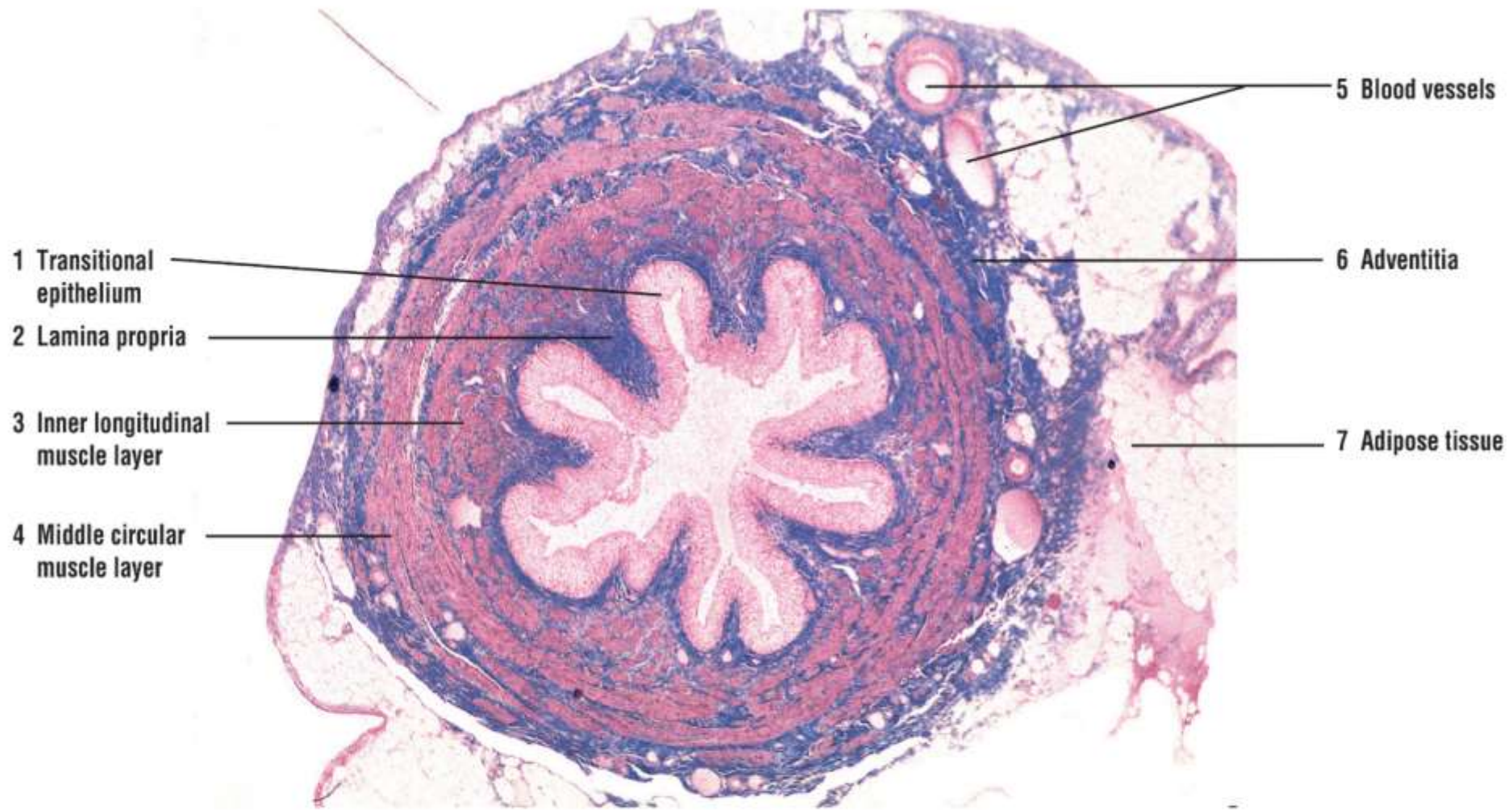


FIGURE 18.14 ■ Ureter (transverse section). Stain: iron hematoxylin and Alcian blue (IHAB). $\times 10$.

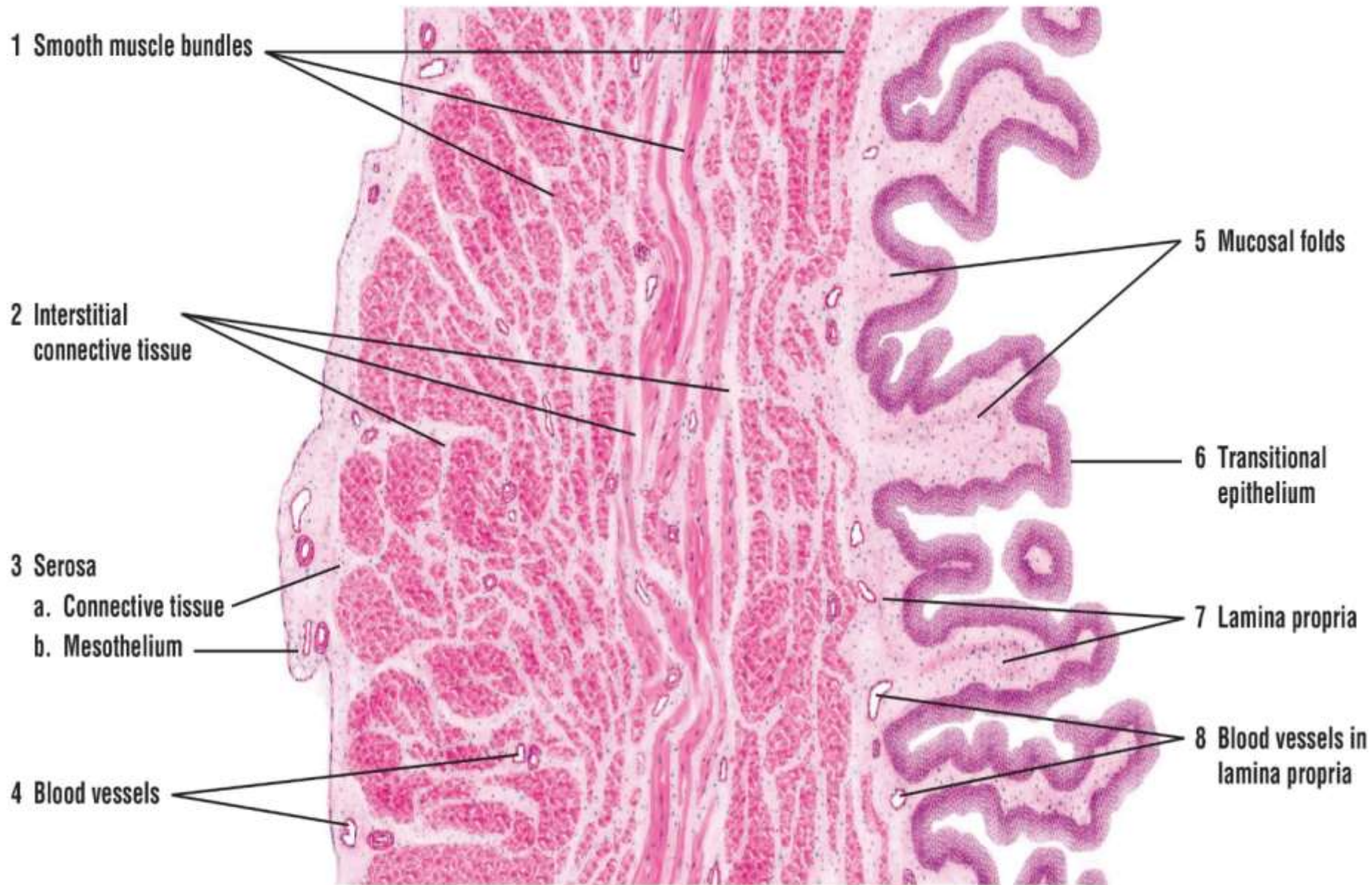


FIGURE 18.15 ■ Urinary bladder: wall (transverse section). Stain: hematoxylin and eosin. Low magnification.

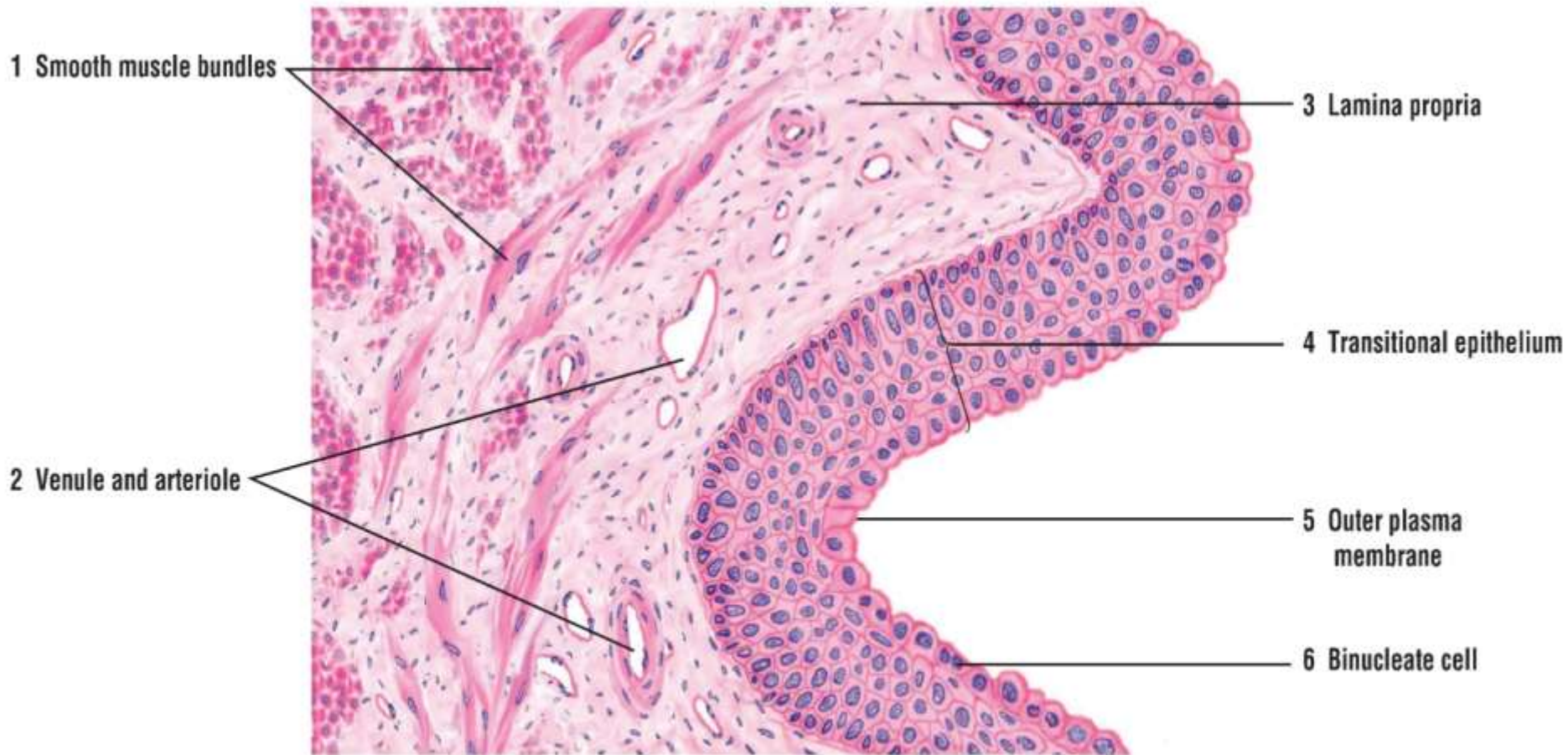


FIGURE 18.16 ■ Urinary bladder: contracted mucosa (transverse section). Stain: hematoxylin and eosin. Medium magnification.

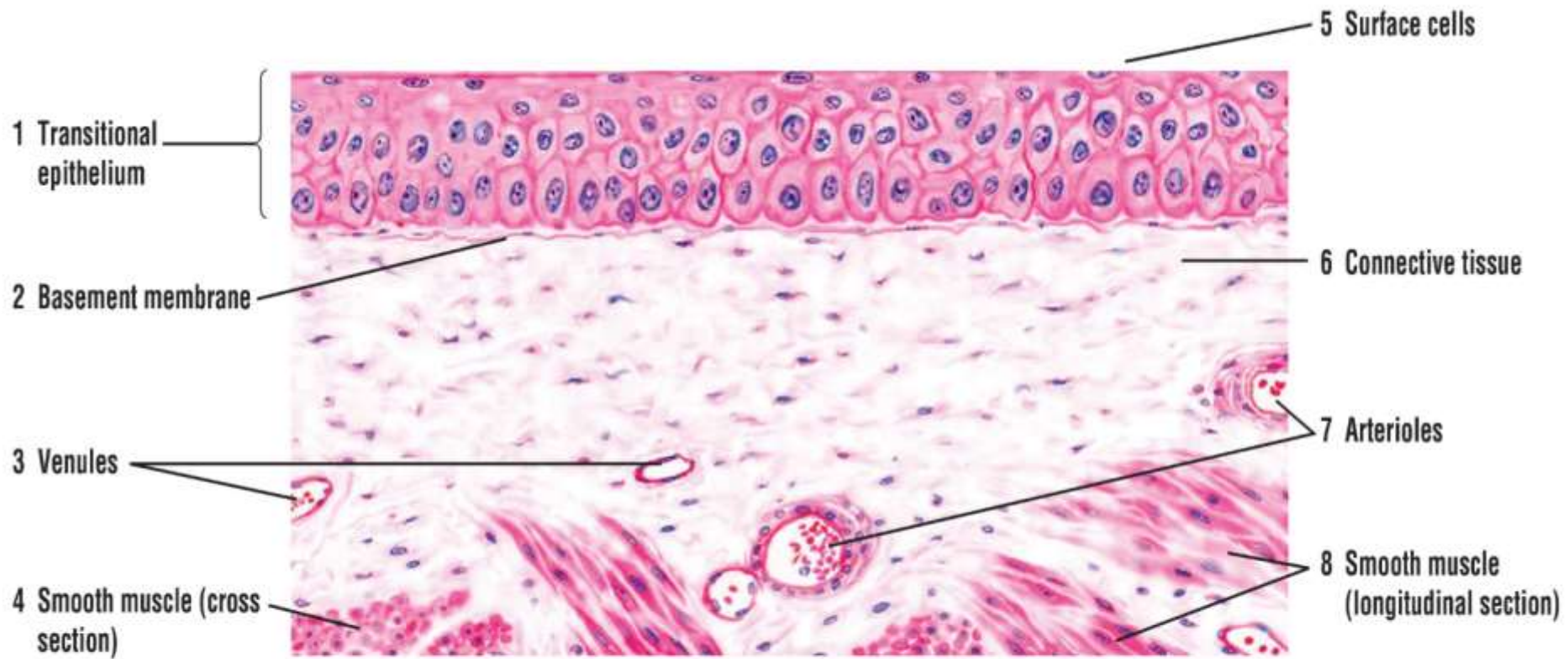
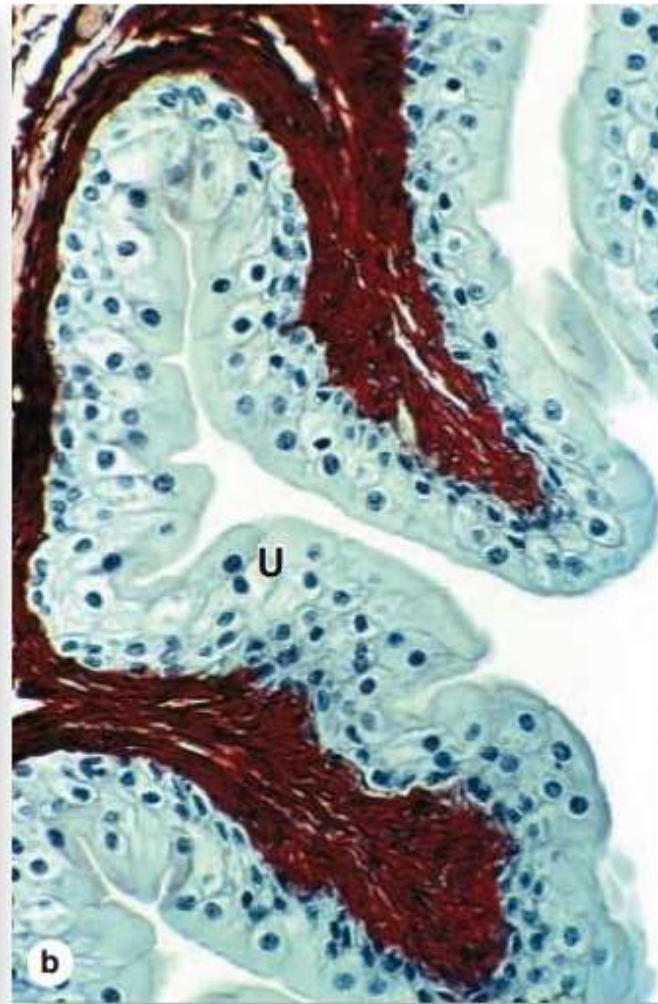
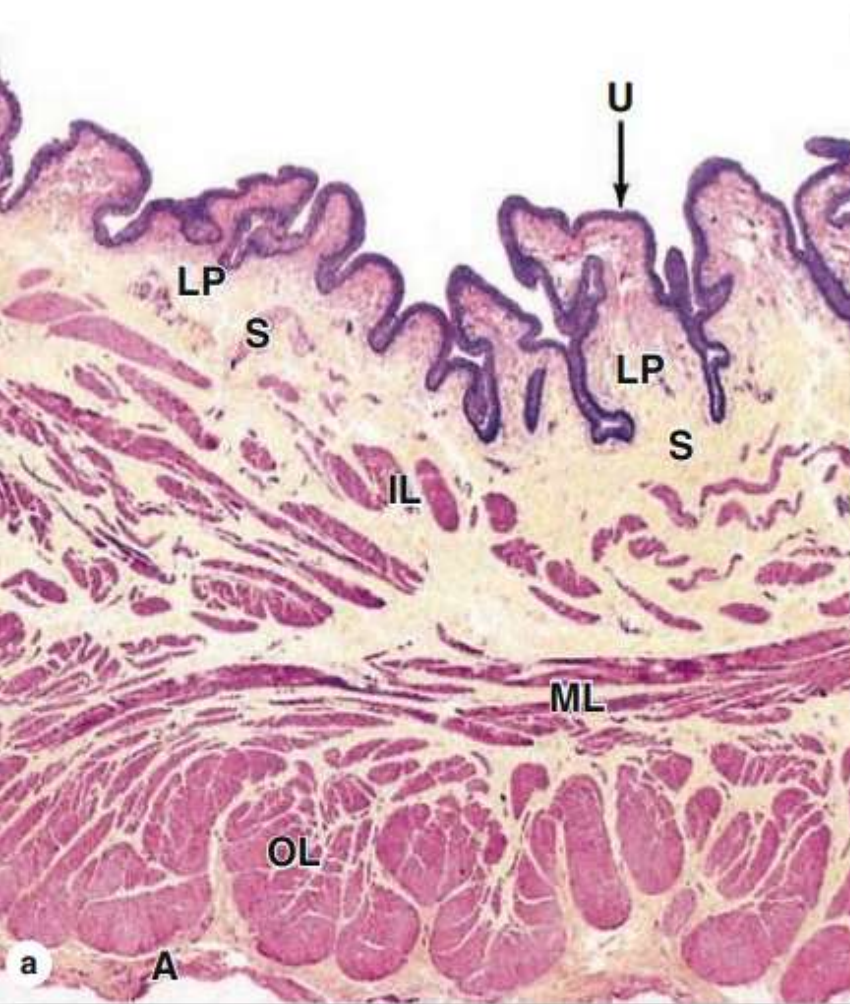


FIGURE 18.17 ■ Urinary bladder: stretched mucosa (transverse section). Stain: hematoxylin and eosin. Medium magnification.

Bladder wall and urothelium.



(a) In the neck of the bladder, near the urethra, the wall shows four layers: the mucosa with urothelium (**U**) and lamina propria (**LP**); the thin submucosa (**S**); inner, middle, and outer layers of smooth muscle (**IL**, **ML**, and **OL**); and the adventitia (**A**). (X15; H&E)

(b) When the bladder is empty, the mucosa is highly folded and the urothelium (**U**) has bulbous umbrella cells. (X250; PSH)

(c) When the bladder is full, the mucosa is pulled smooth, the urothelium (**U**) is thinner, and the umbrella cells are flatter. (X250; H&E)