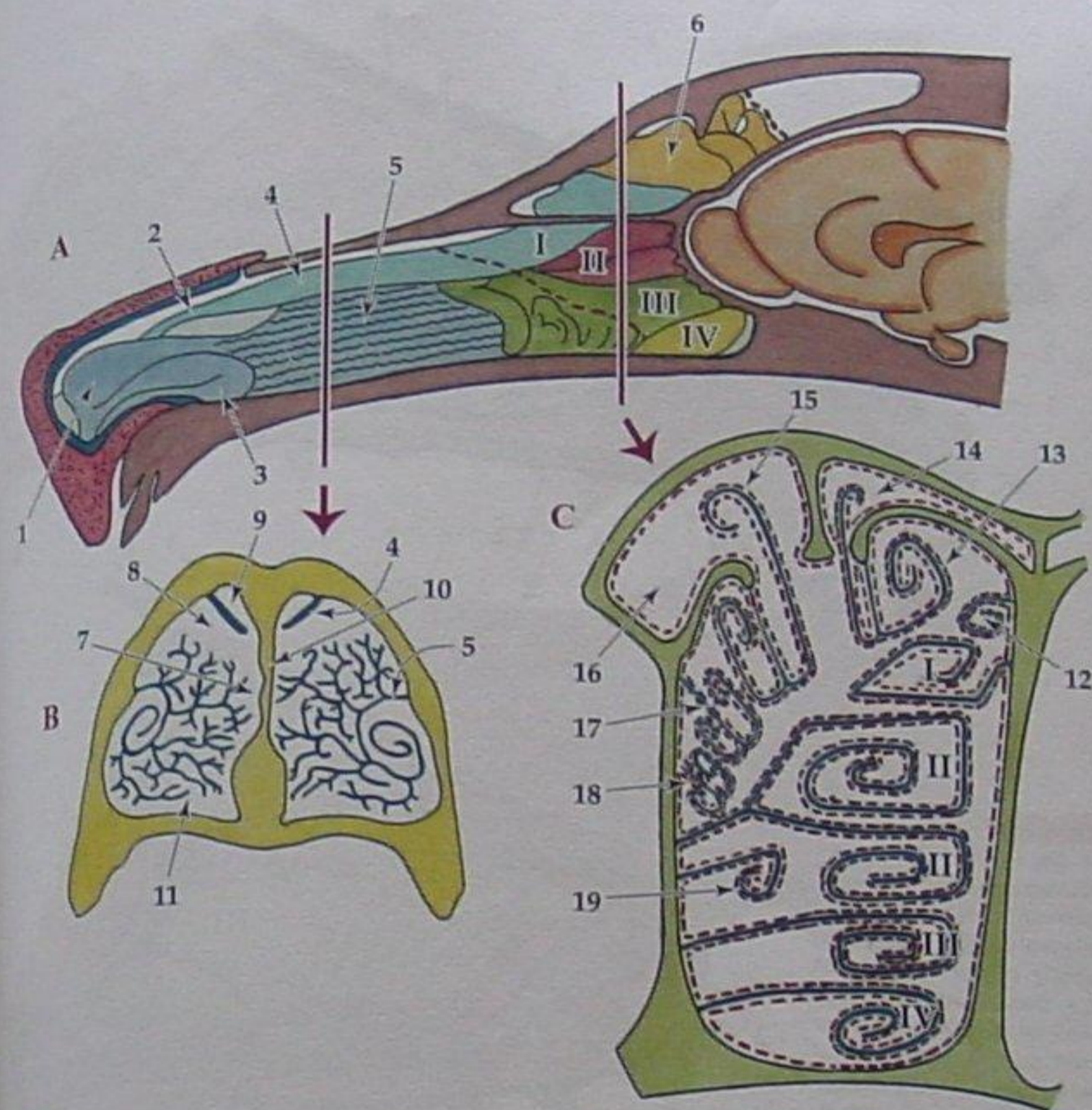


**FIGURE 13-19** A, Sagittal section of dog head showing nasal septum. 1, Ethmoid nerves (ophthalmic of CN V); 2, Ethmoid nerve and blood vessels enter the cranial cavity via ethmoid foramina and exit via cribriform foramina; 3, Vomeronasal nerve; 4, Septal branch of caudal nasal nerve (maxillary of CN V); 5, Olfactory nerves. B, Schematic view of the vomeronasal organ. 6, Nasal opening of the incisive duct; 7, Oral opening of the incisive duct; 8, Palatine fissure; 9, Vomeronasal organ; 10, Palatine organ. 11, Each sensory cell carries a single micro-process with a vesicular core (note that these cells are morphologically dissimilar to olfactory neurons in this regard). C, Diagram of the cells of the sensory epithelium of the vomeronasal organ. 12, Microvilli; 13, Supporting cell; 14, Golgi region of sensory cell; 15, Afferent nerve process of sensory cell; 16, Basal cell. D, A cat exhibiting a flehmen response ("Snowball" courtesy of Maria ●●●●●www.mariama.ca.).



**FIGURE 13-20** A, Schematic view of nasal cavity with conchae. The area within the dotted lines is lined by olfactory mucosa. 1, Alar fold of ventral nasal concha; 2, Straight fold of dorsal nasal concha; 3, Basal fold of ventral nasal concha; 4, Dorsal nasal concha; 5, Ventral nasal concha; 6, Ectoturbinate in frontal sinus; I-IV, Endoturbinate. B, Transverse section through the rostral part of the nasal cavity. 7, Common nasal meatus; 8, Middle nasal meatus; 9, Dorsal nasal meatus; 10, Nasal concha; 11, Ventral nasal meatus. C, Transverse section through the caudal part of the nasal cavity. 12, Ectoturbinate 1; 13, Ectoturbinate 2; 14, Medial frontal sinus; 15, Ectoturbinate 3; 16, Lateral frontal sinus; 17, Ectoturbinate 4; 18, Ectoturbinate 5; 19, Ectoturbinate 6; I-IV, Endoturbinate. (Modified from R. Nickel, A. Schummer, E. Seiferle, *Lehrbuch der Anatomie der Haustiere*, band IV, Verlag Paul Parey, 1975).

**MUCOSA OF THE NASAL CAVITY:** Two types of epithelia line the mucous membrane of the nasal cavity. The rostral part is lined by **respiratory epithelium**, characterized by pseudostratified ciliated columnar cells interspersed with goblet cells. Lining epithelial cells are essentially de-

rived from endoderm. There is a gradual transition into an **olfactory epithelium** in the caudal part of the nasal cavity (Figure 13-20), where it covers the caudal third of the dorsal nasal concha and remaining endoturbinate. Olfactory sensory receptors are neuroepithelial cells