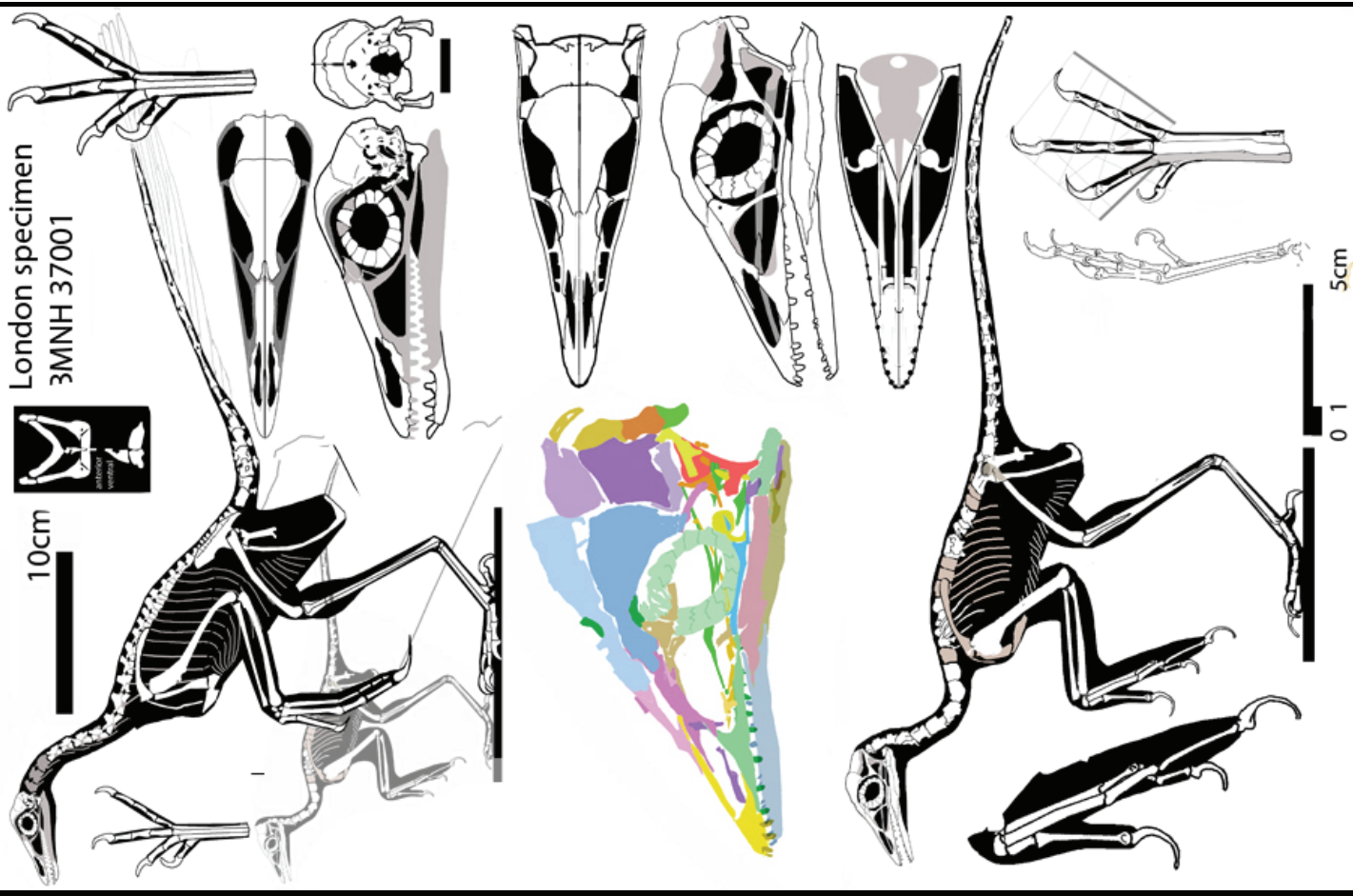


Comparative Anatomy & Evolution of Vertebrates: Aves



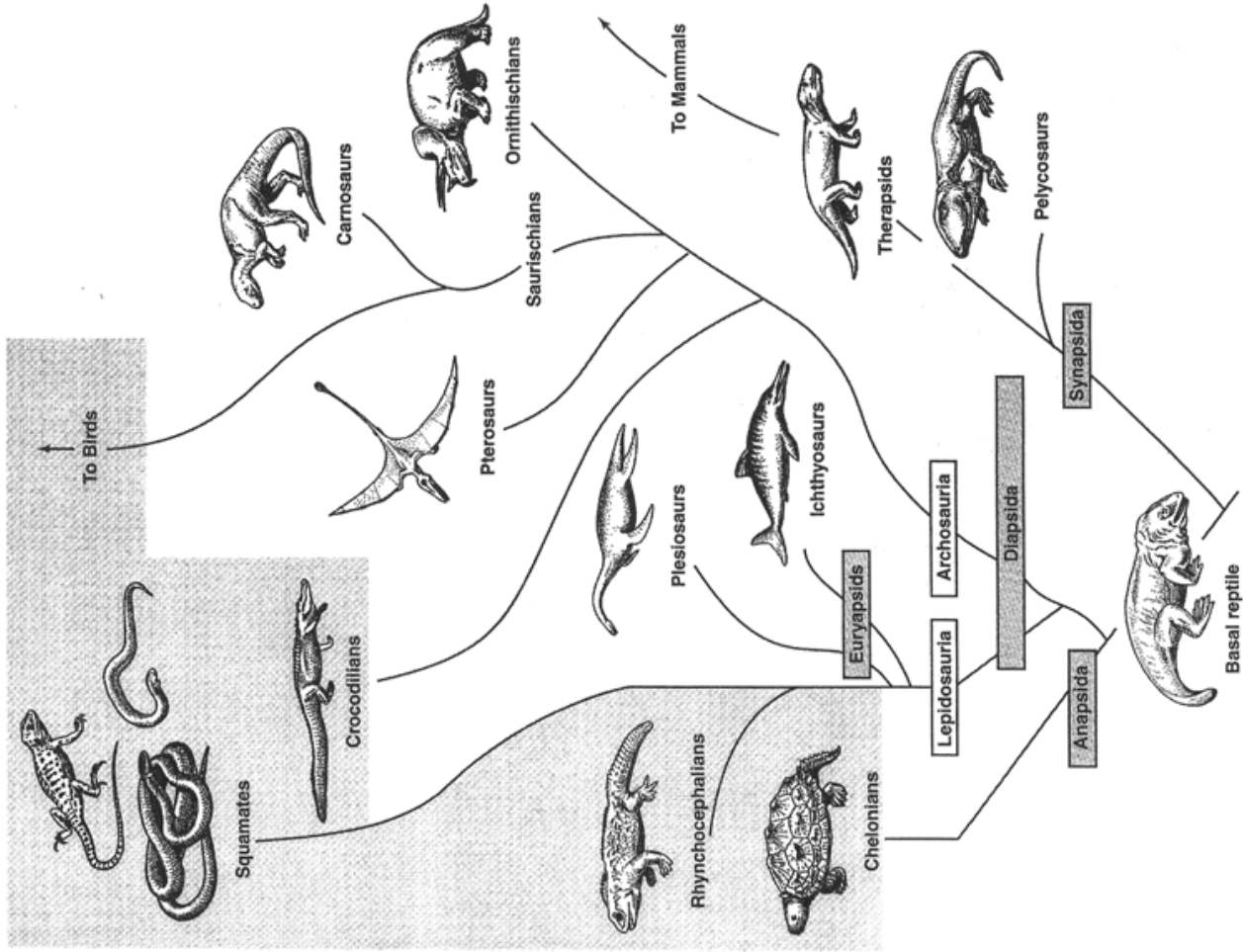
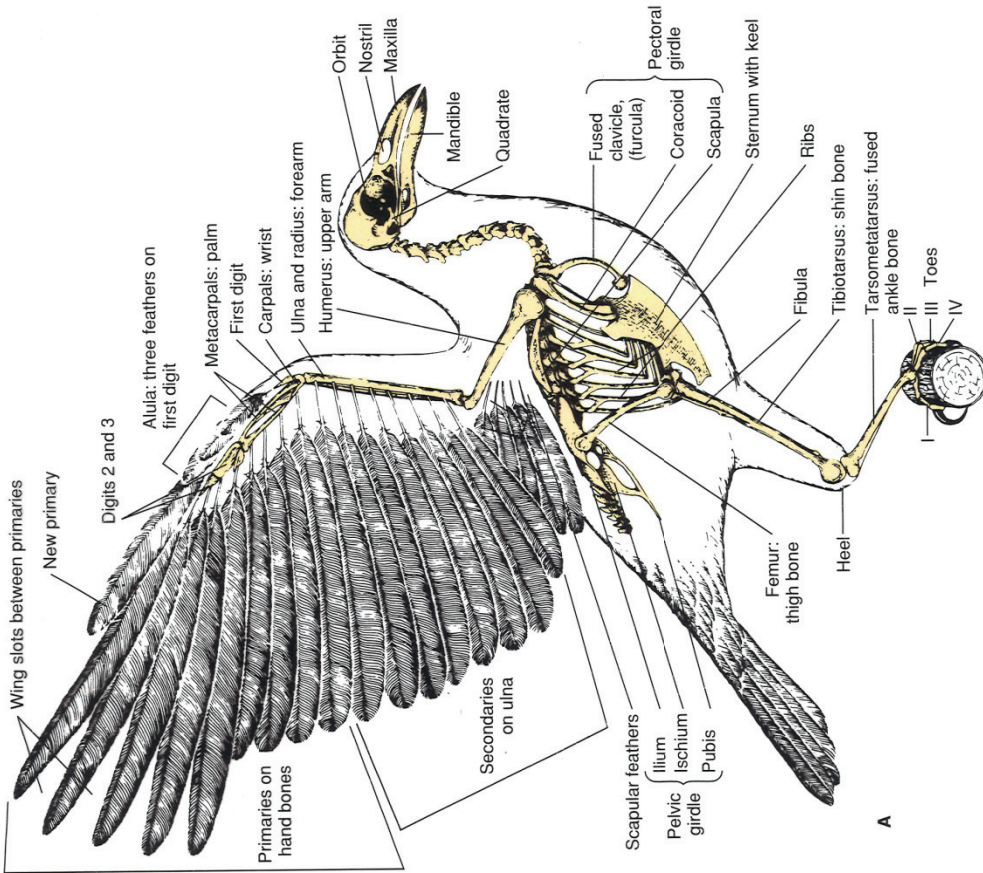
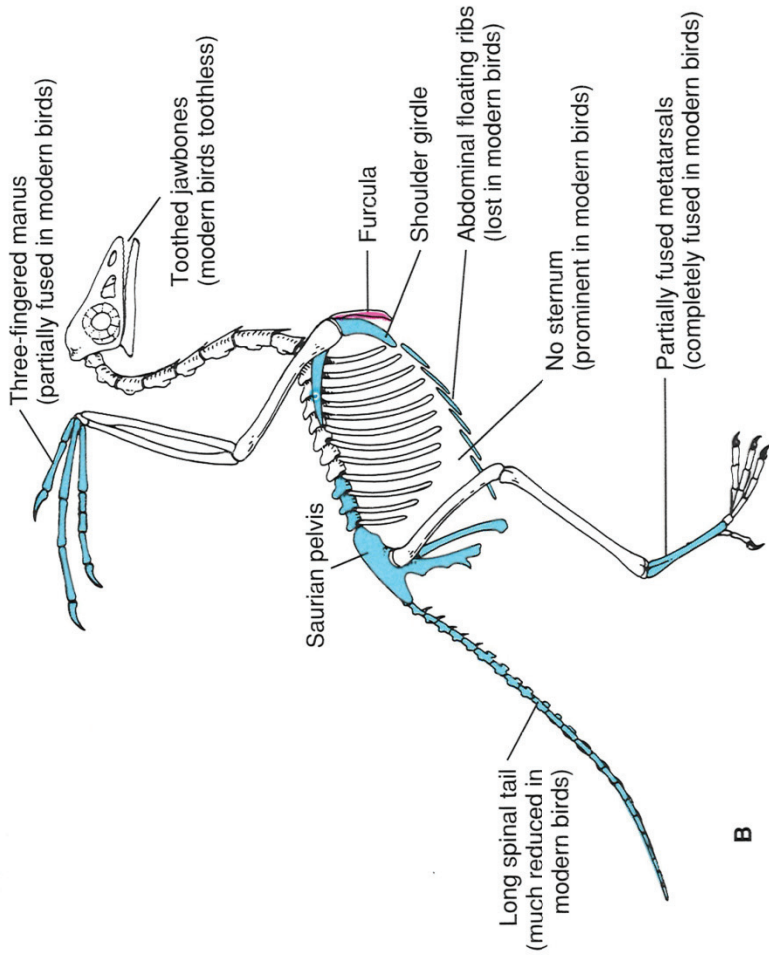


Figure 143. Postulated relationships of selected amniotes. Groupings marked by grey boxes reflect taxa based on the architecture of the temporal region of the skull. Extant reptiles are enclosed in the larger grey box, marking the Sauropsida and including the classes Reptilia and Aves, traditionally classified separately.

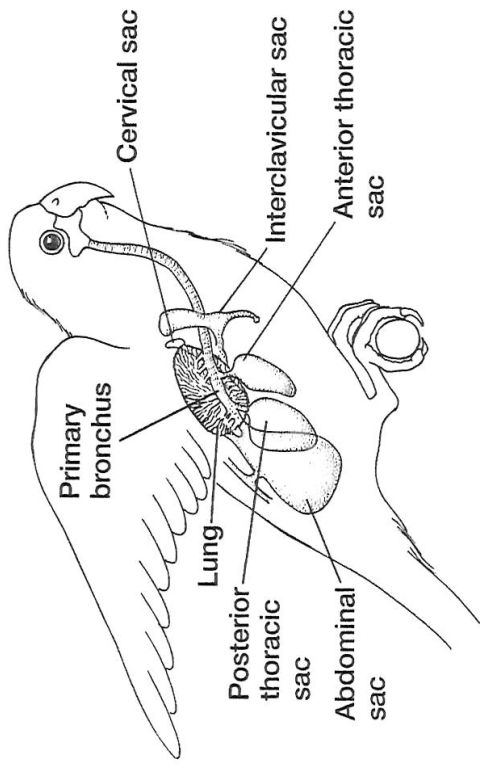


A

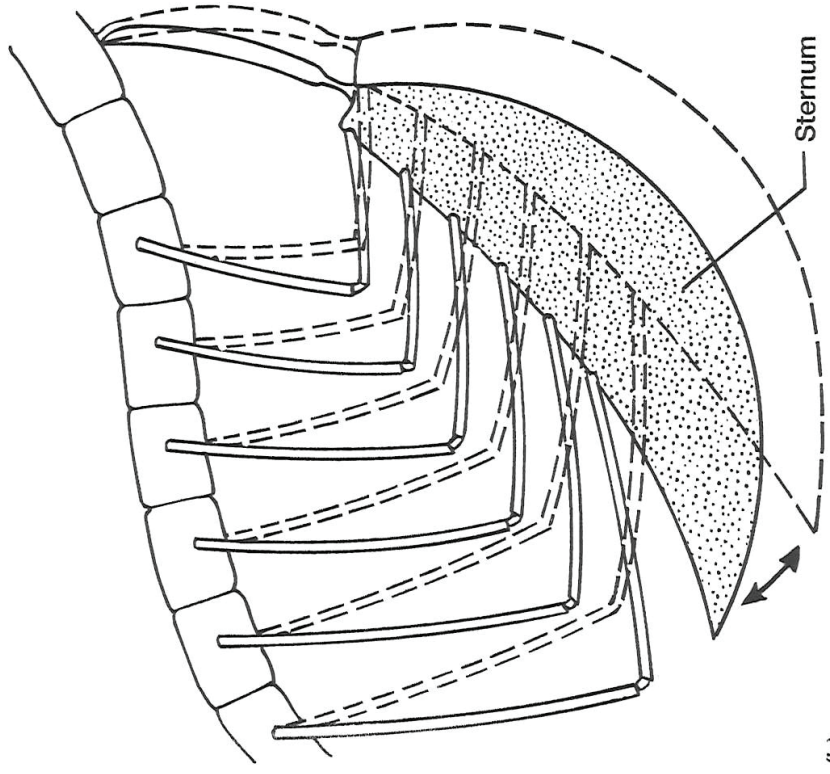


B

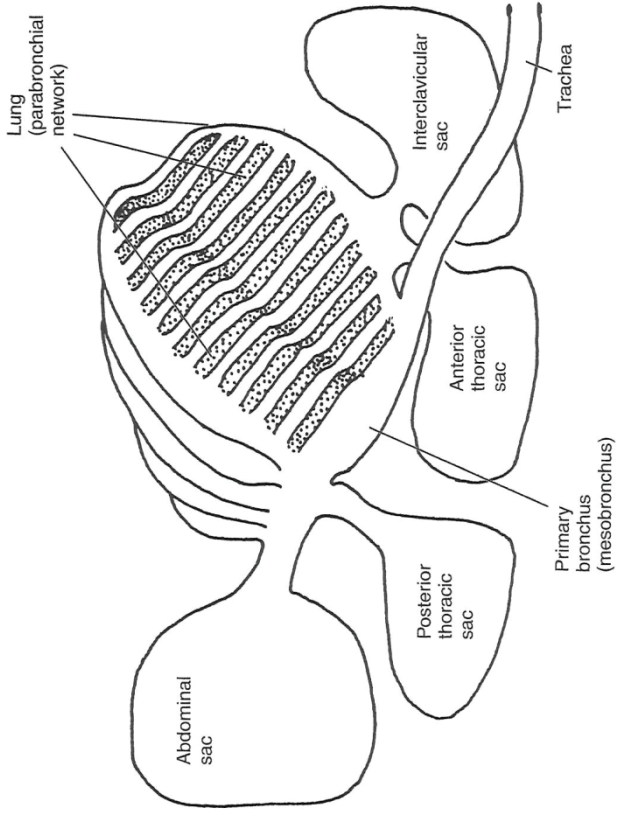
Archaeopteryx skeleton



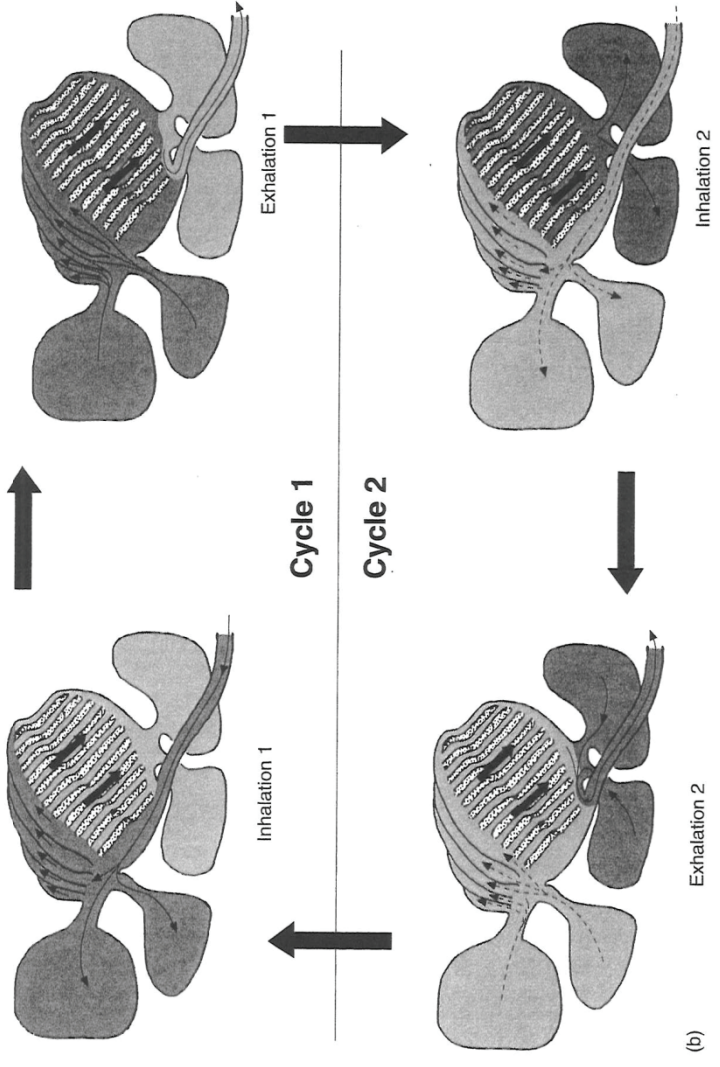
(a)



(b)



(a)



(b)

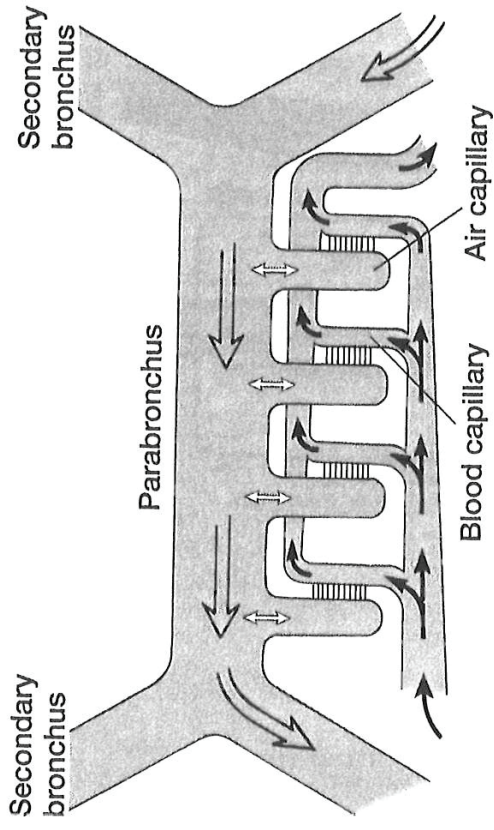


FIGURE 11.38 Crosscurrent gas exchange in the avian lung. Diffusion of gases between the air capillaries and the parabronchus (open arrows) replenishes the gases available for exchange between the lungs and the blood capillaries (solid arrows). It is hypothesized that oxygen is progressively loaded into the blood (and carbon dioxide given up) based on an efficient crosscurrent system.

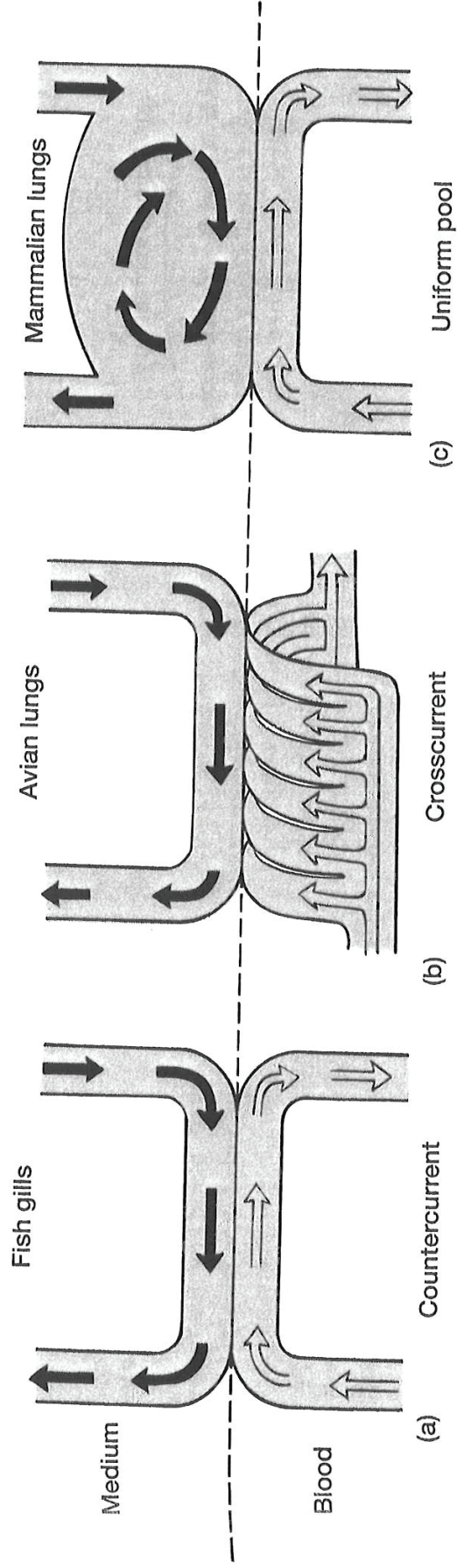
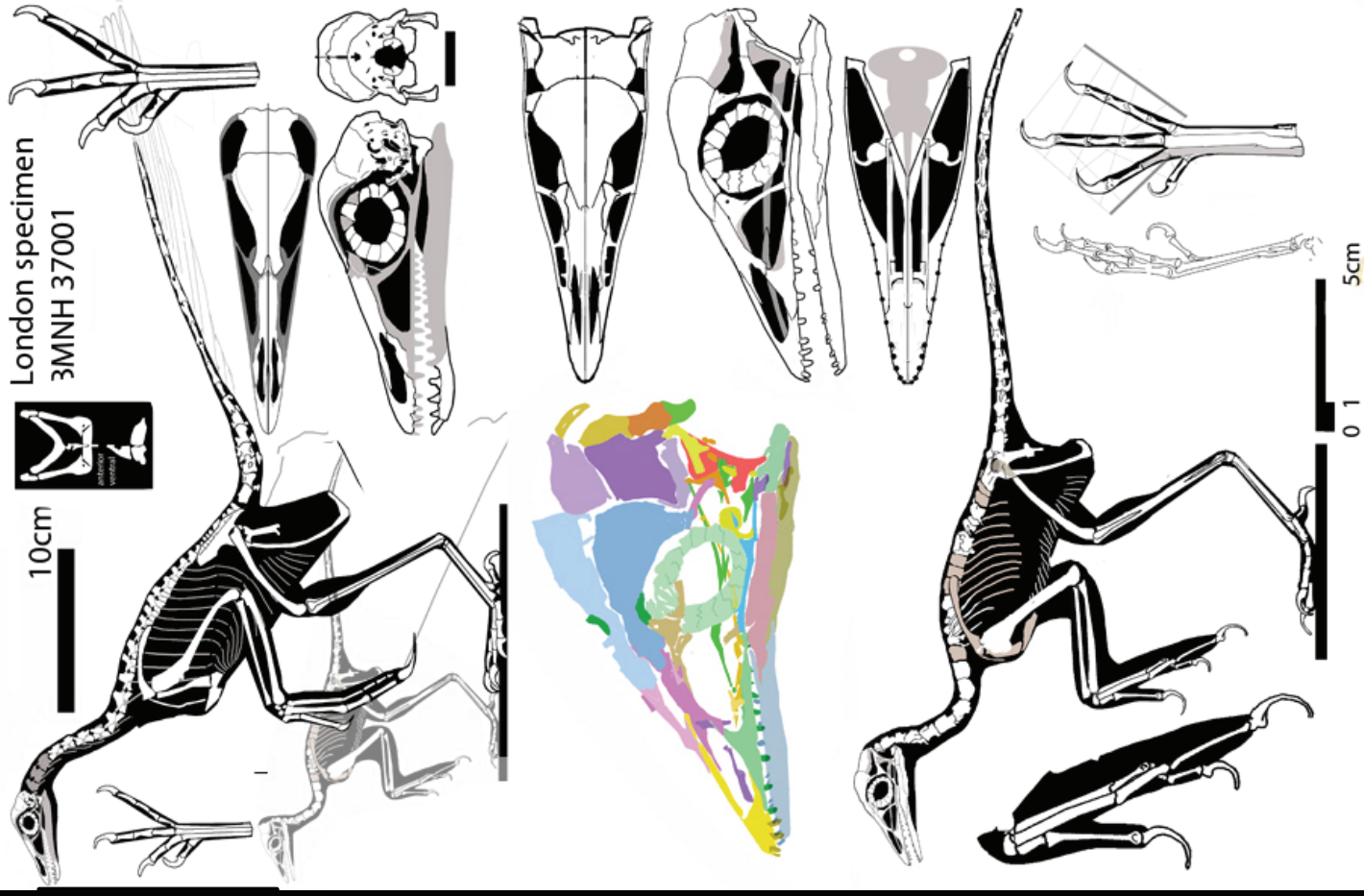


FIGURE 11.39 Patterns of gas transfer. Orientation of ventilation (solid arrows) to blood flow (open arrows) is established by the respiratory organ. (a) Countercurrent. (b) Crosscurrent. (c) Uniform pool.

Archaeornithes



- No beak

- Teeth are present

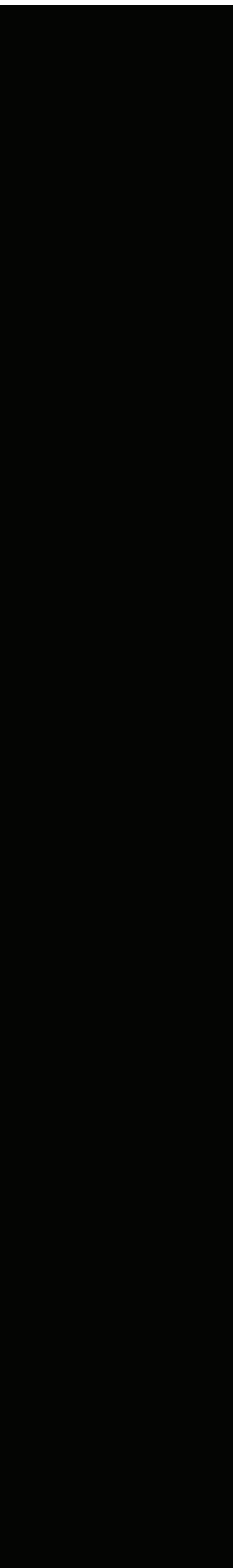
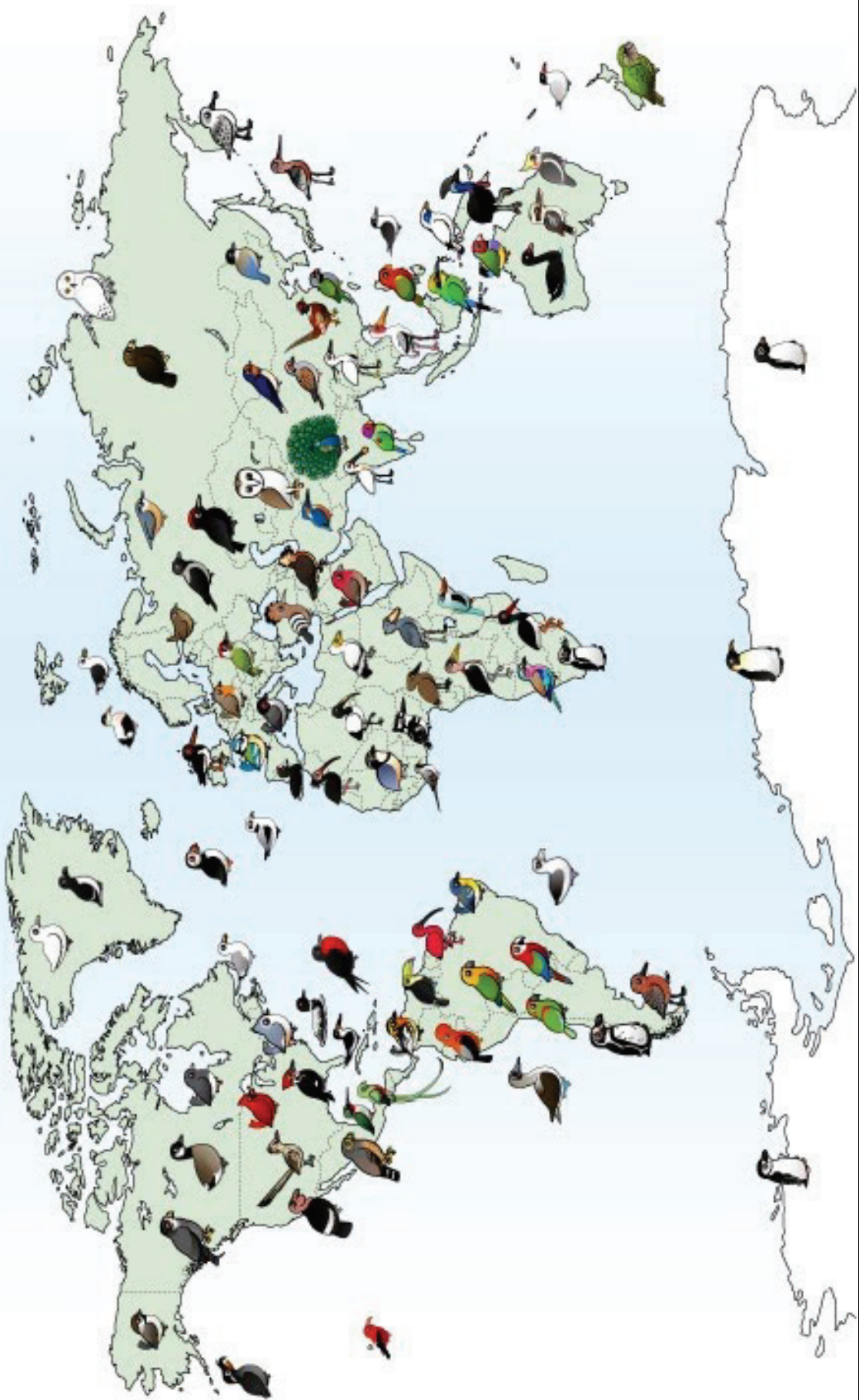
- Toes and fingers are clawed



All modern birds lie in the subclass Neornithes
(Neognathae)







Comparative Anatomy & Evolution of Vertebrates

