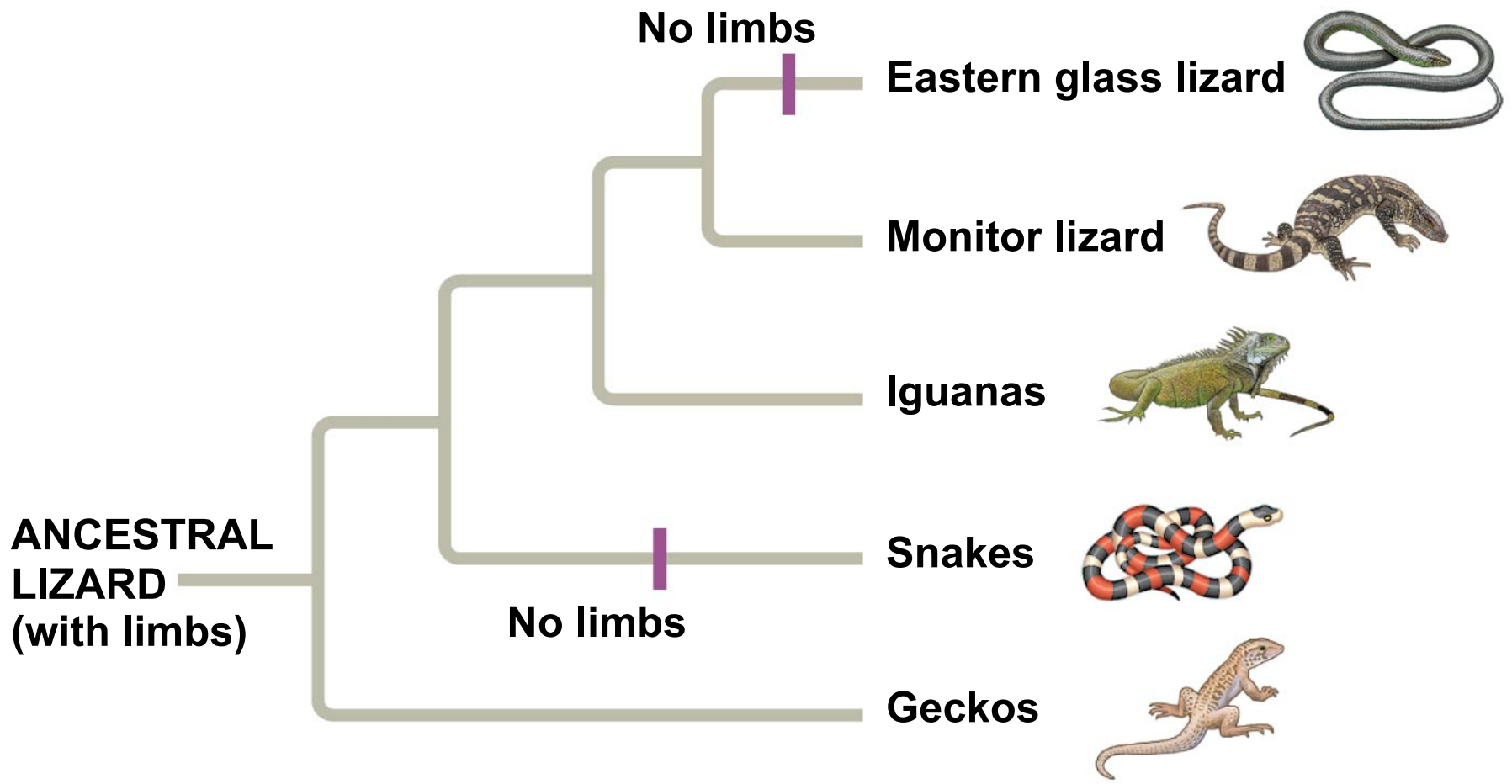
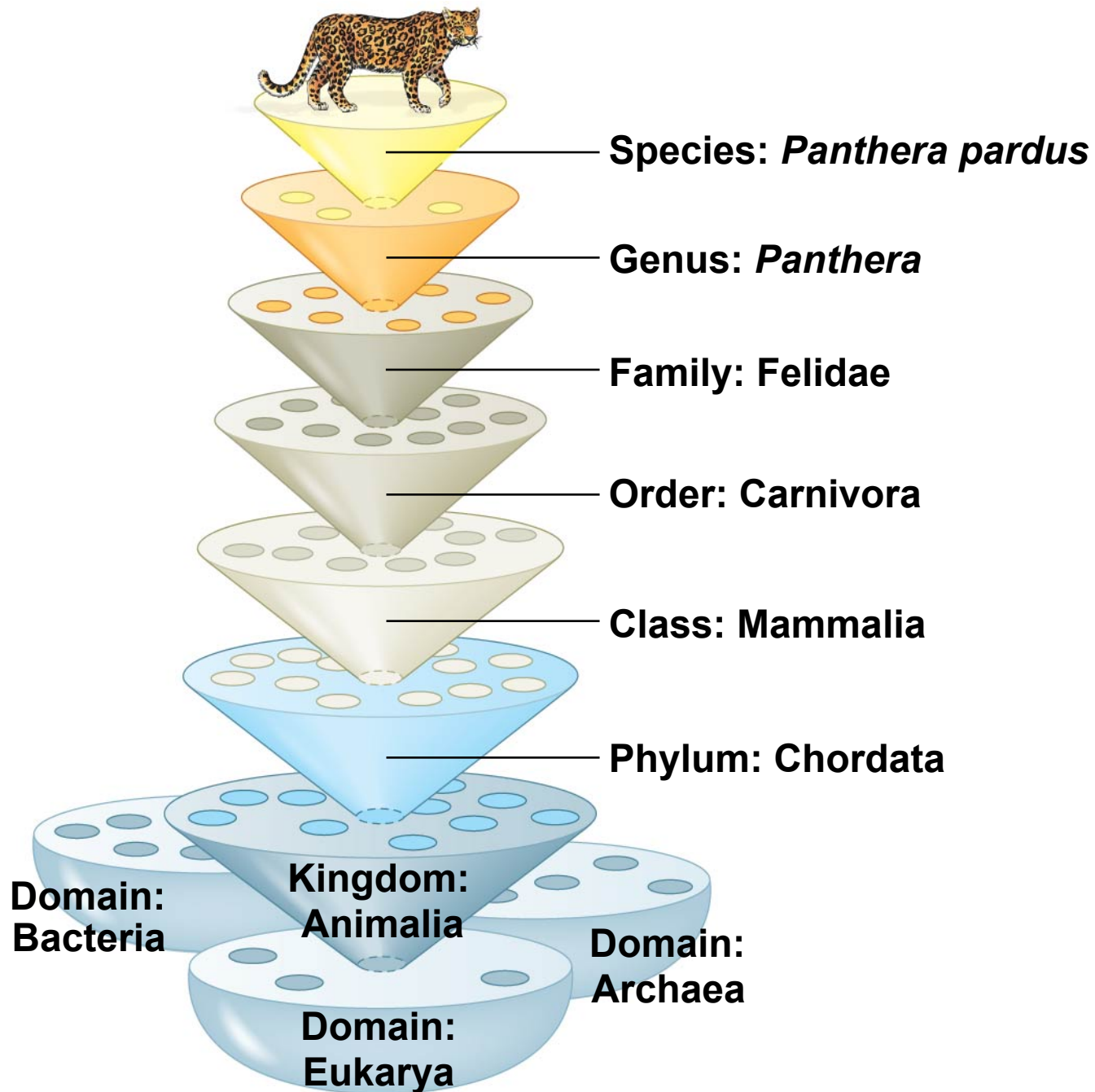
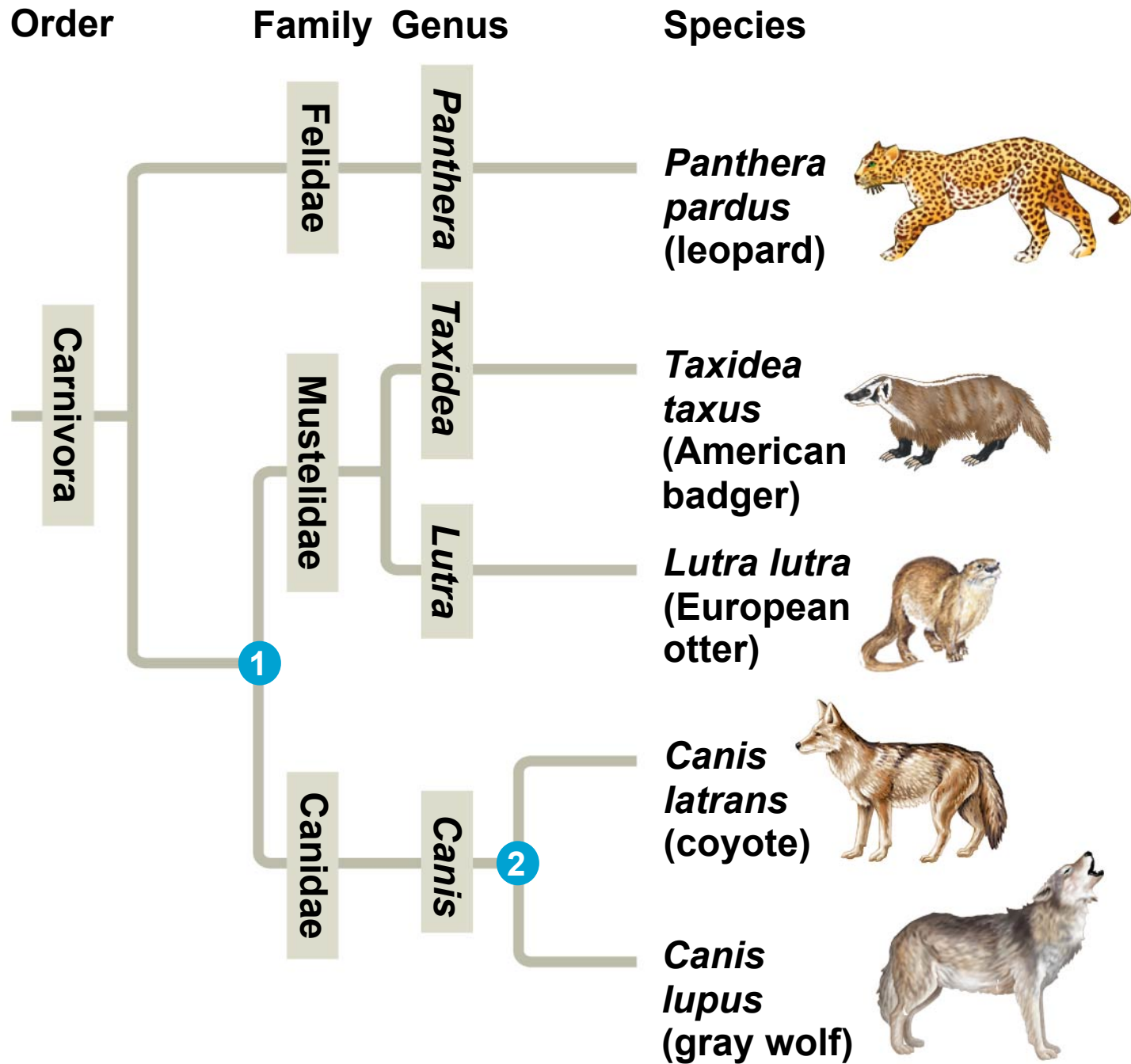


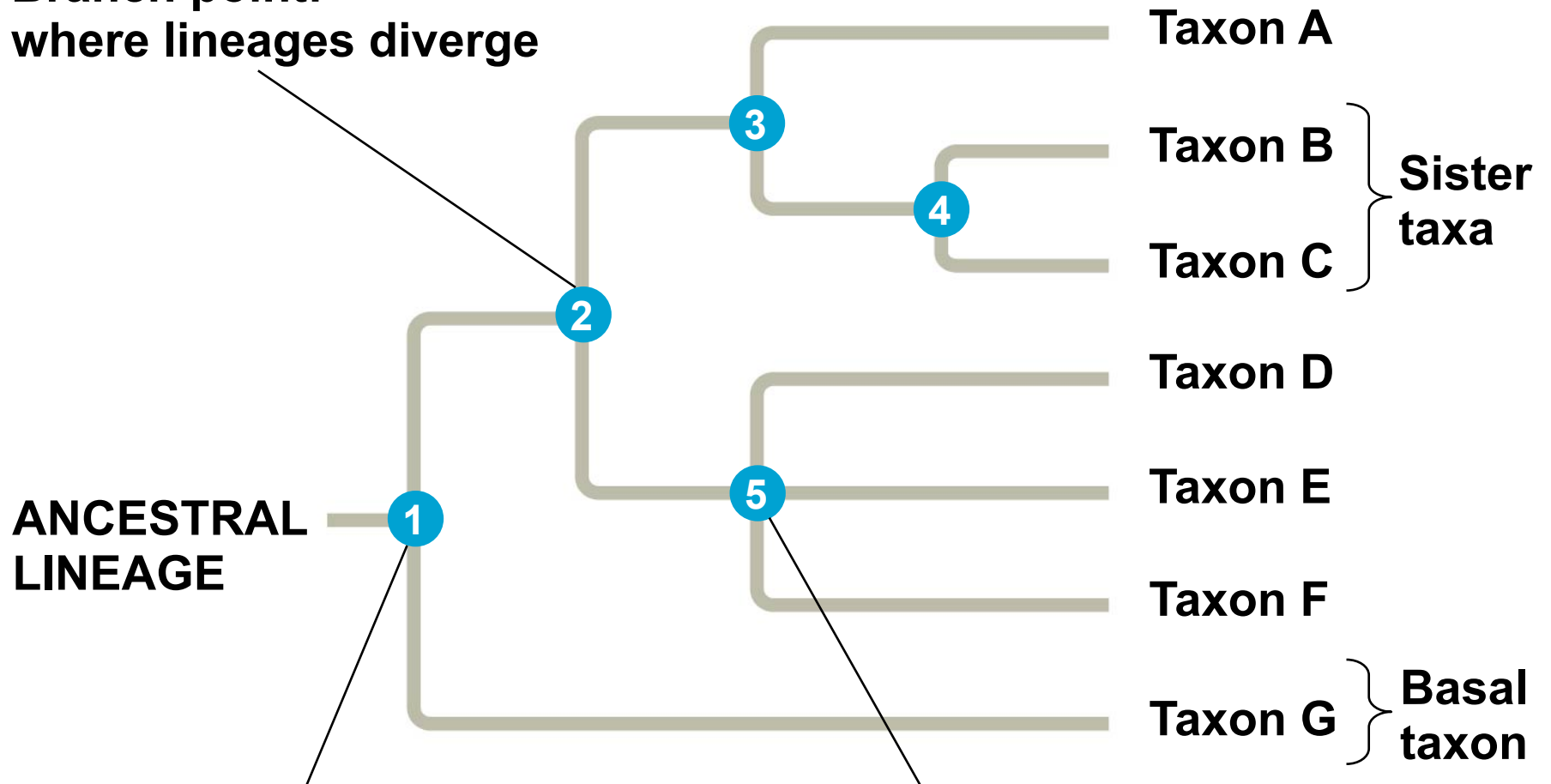








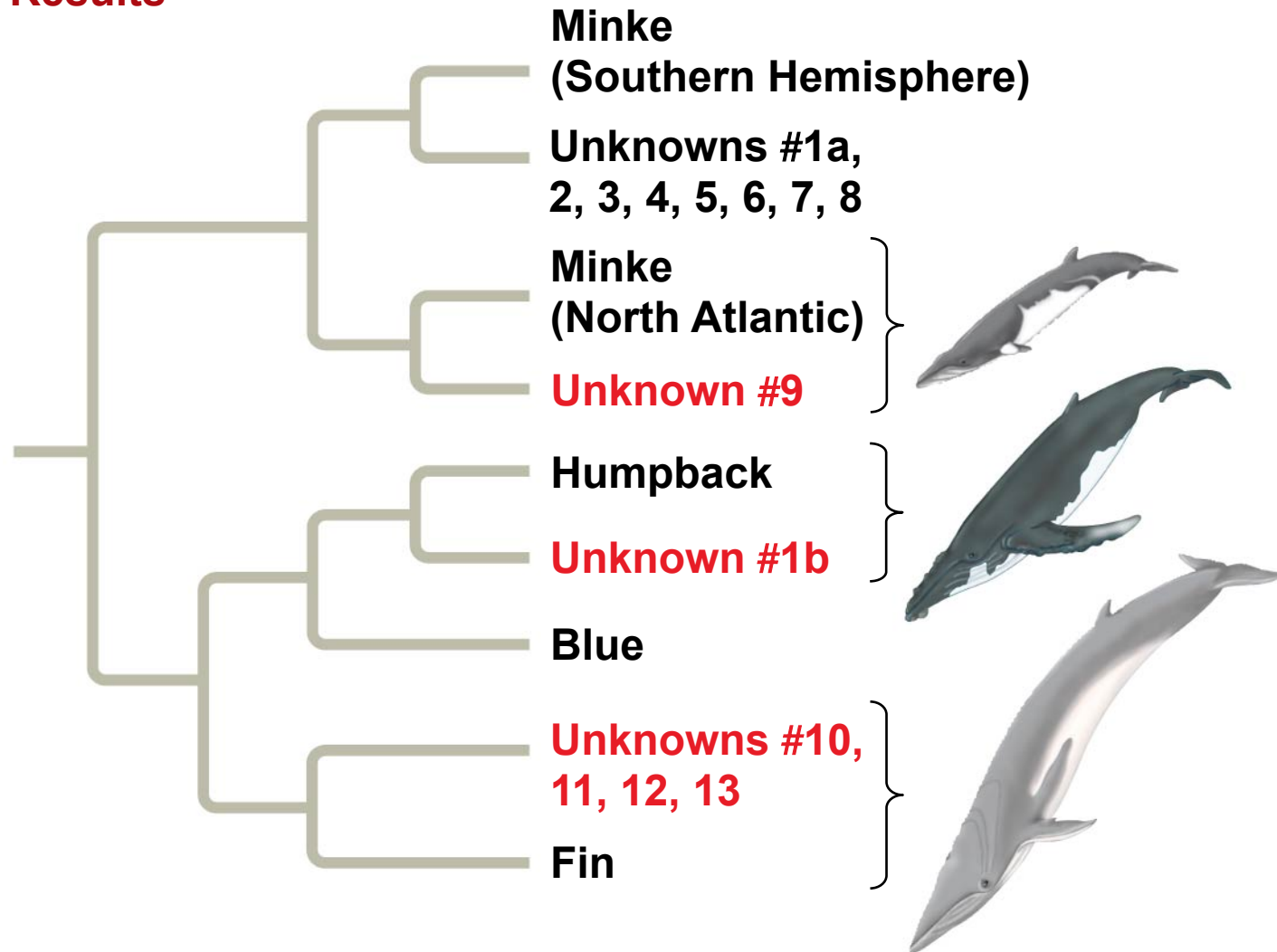
**Branch point:
where lineages diverge**



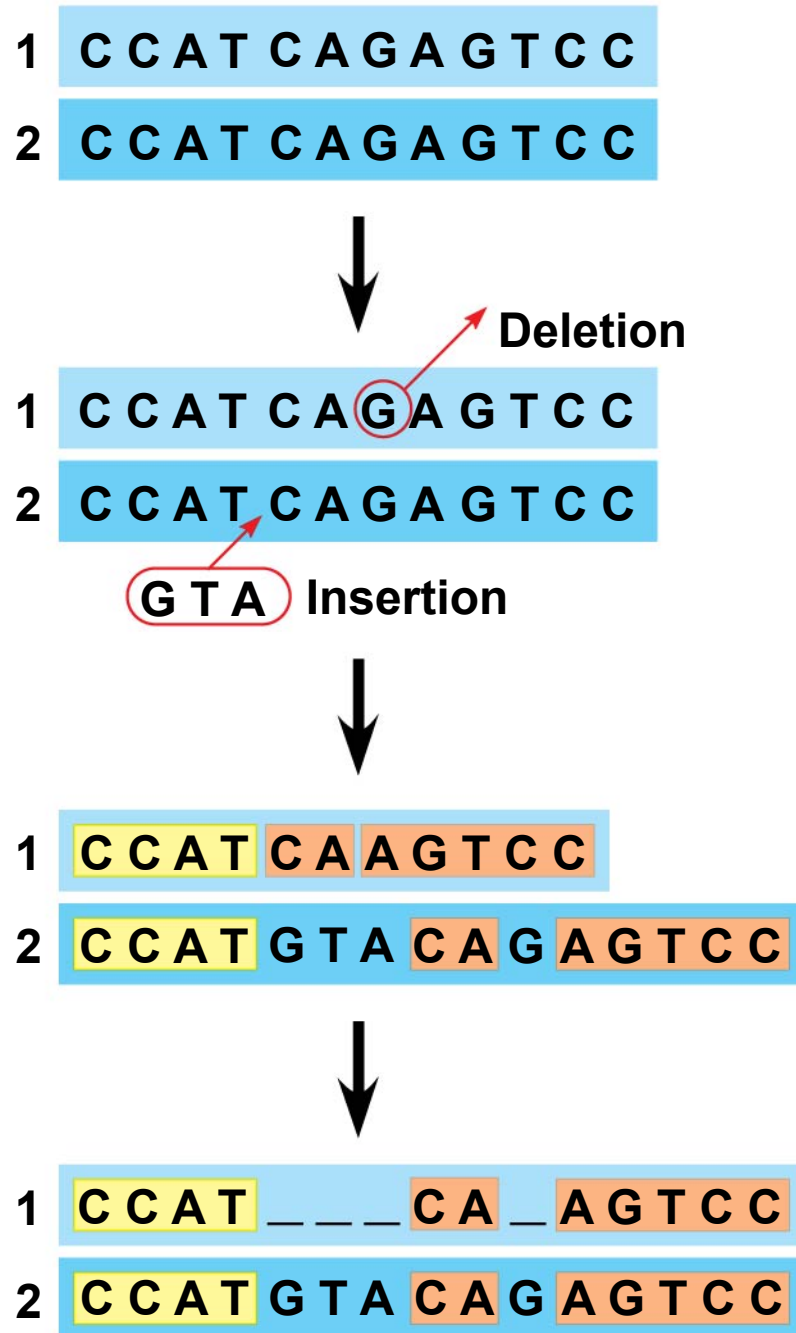
**This branch point
represents the common
ancestor of taxa A–G.**

**This branch point forms a
polytomy: an unresolved
pattern of divergence.**

Results

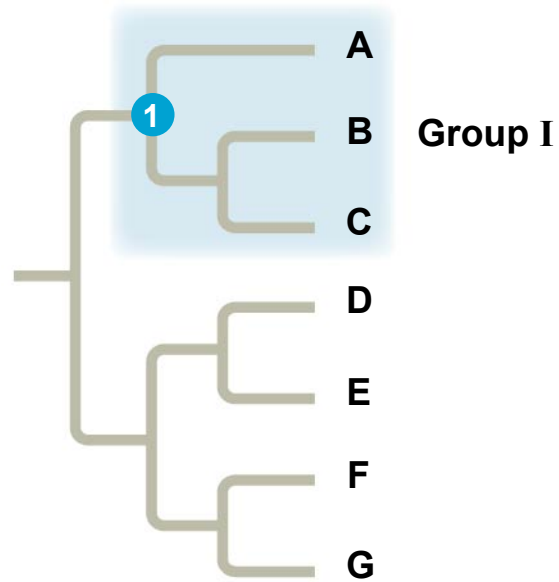




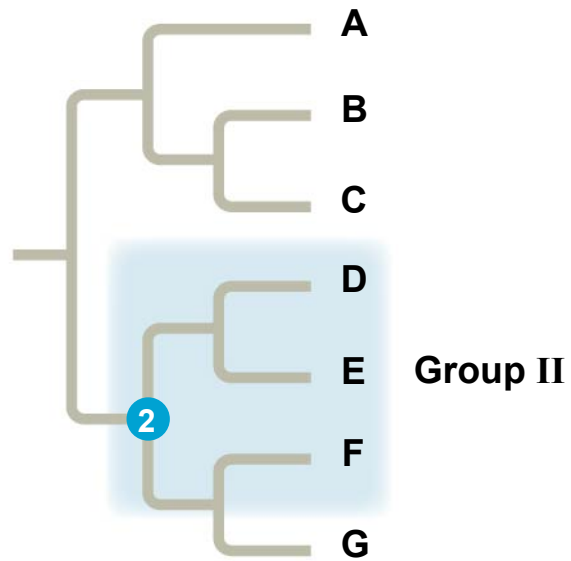


A C G G A T A G T C C A C T A G G C A C T A
T C A C C G A C A G G T C T T T G A C T A G

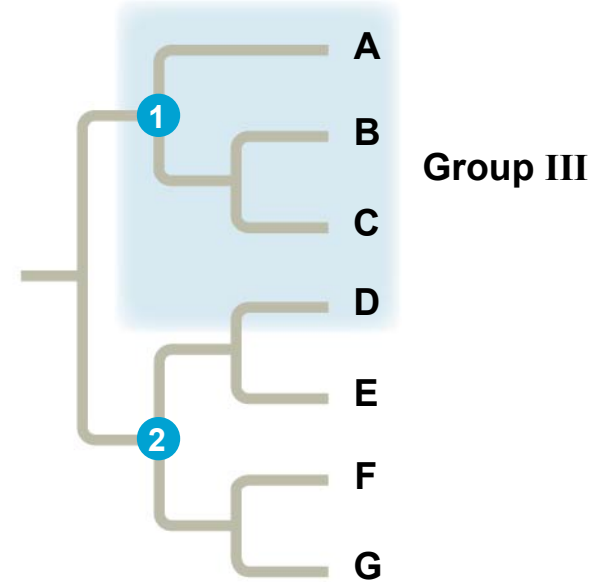
**(a) Monophyletic group
(clade)**



(b) Paraphyletic group

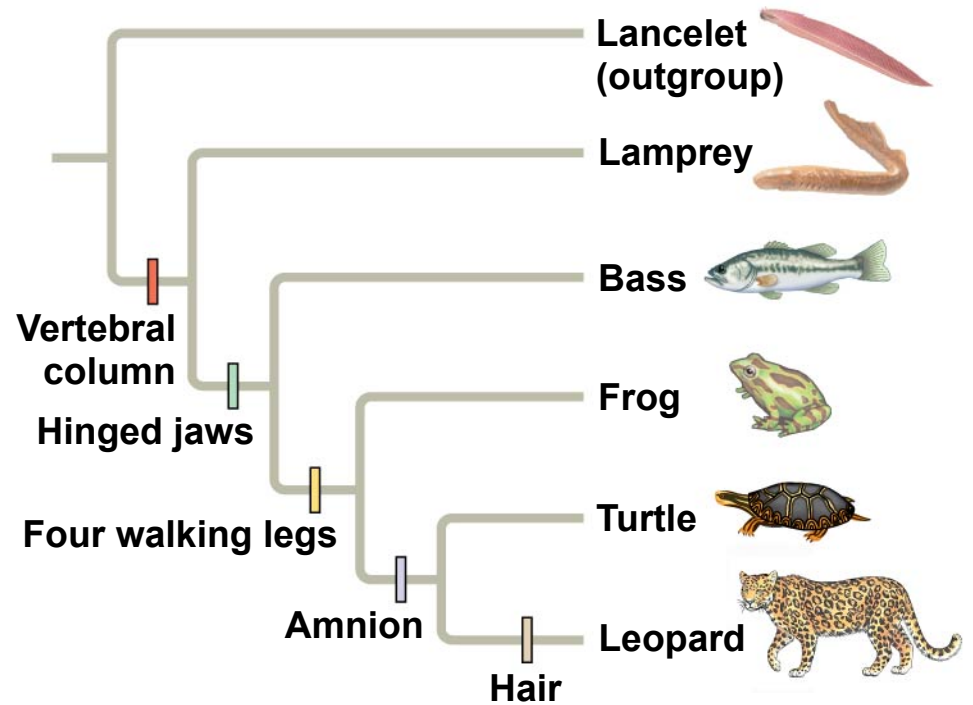


(c) Polyphyletic group

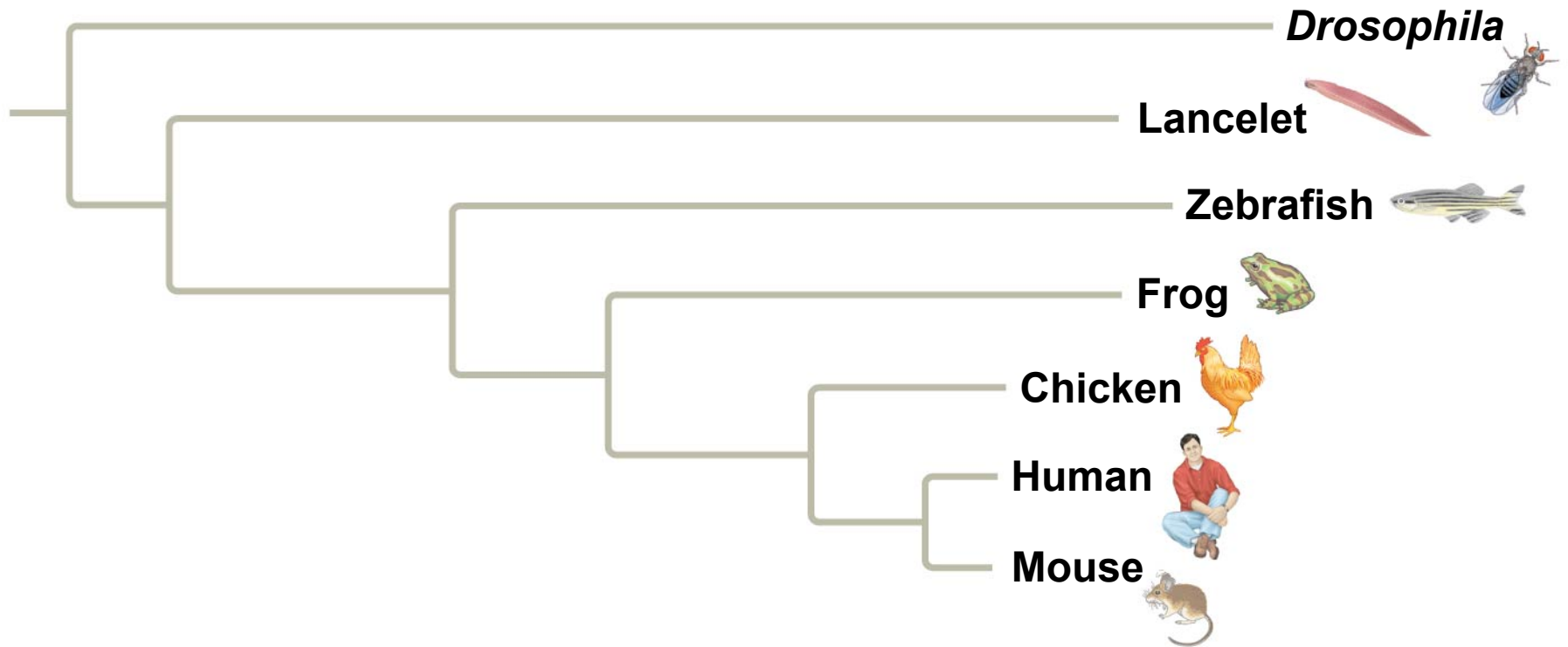


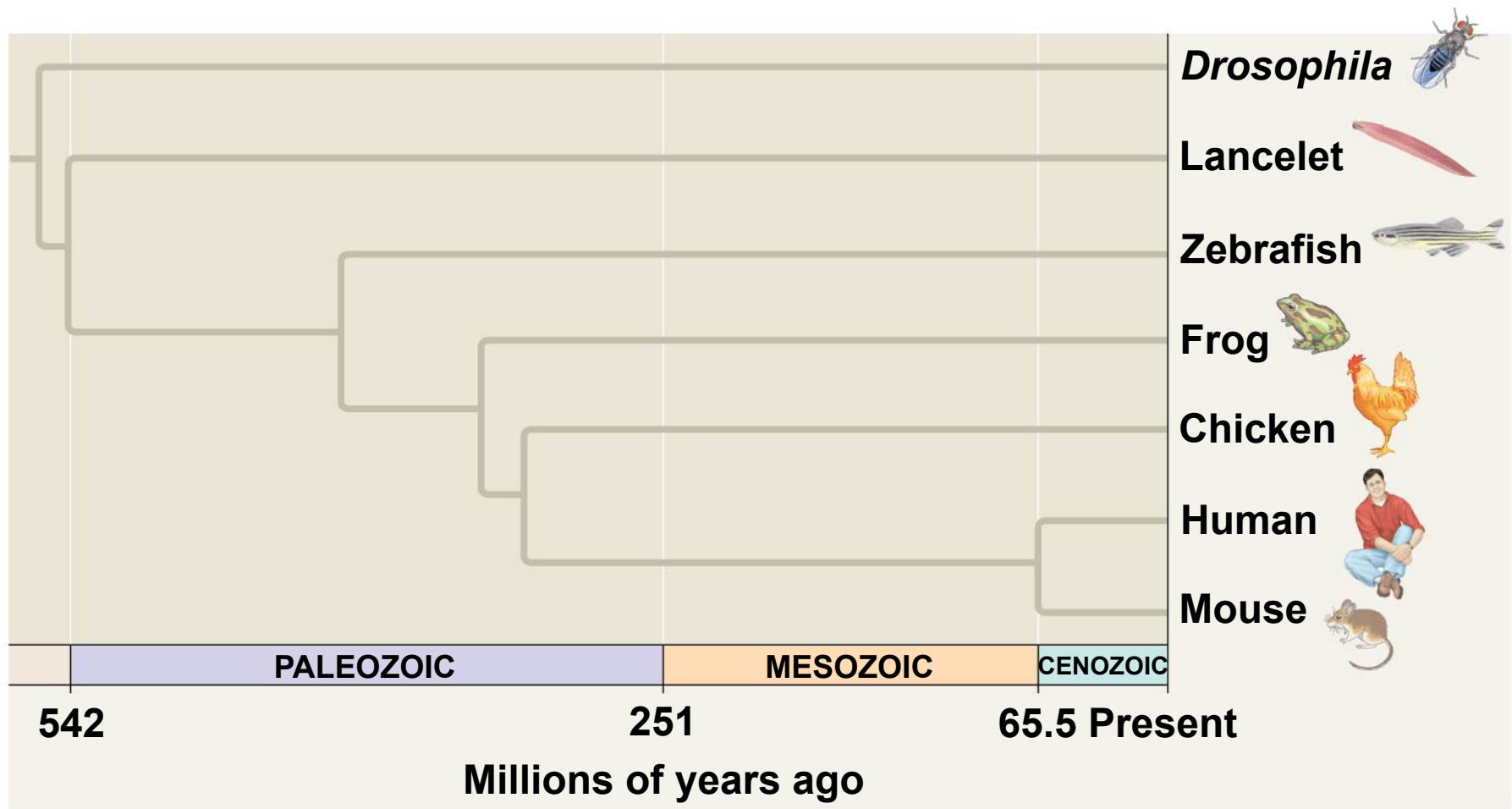
		TAXA					
		Lancelet (outgroup)	Lamprey	Bass	Frog	Turtle	Leopard
CHARACTERS	Vertebral column (backbone)	0	1	1	1	1	1
	Hinged jaws	0	0	1	1	1	1
	Four walking legs	0	0	0	1	1	1
	Amnion	0	0	0	0	1	1
	Hair	0	0	0	0	0	1

(a) Character table



(b) Phylogenetic tree





Technique



Species I

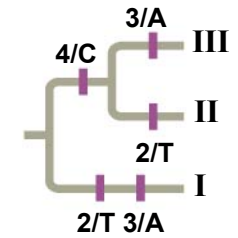
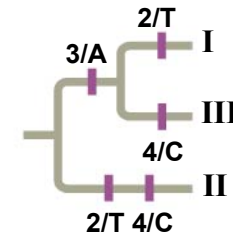
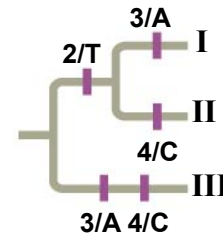
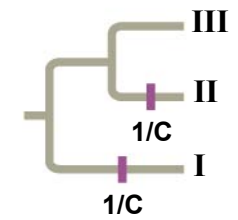
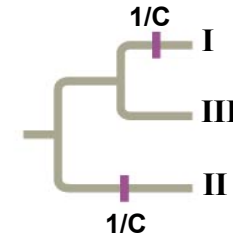
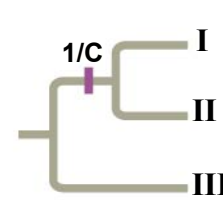


Species II



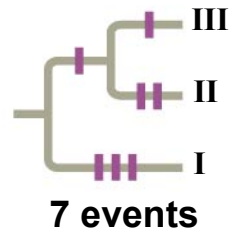
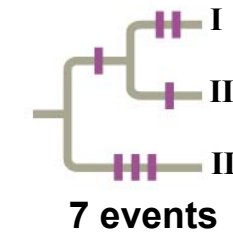
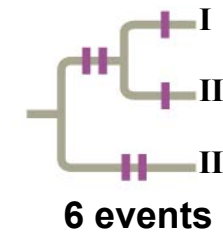
Species III

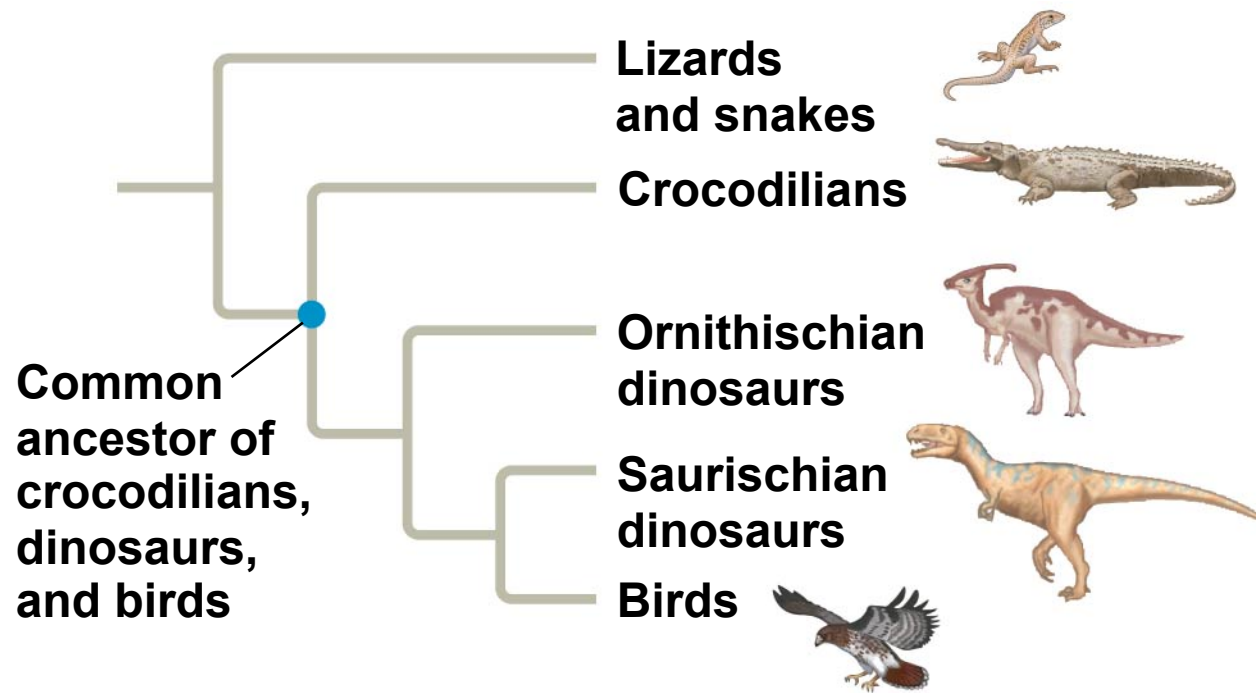
Three phylogenetic hypotheses:



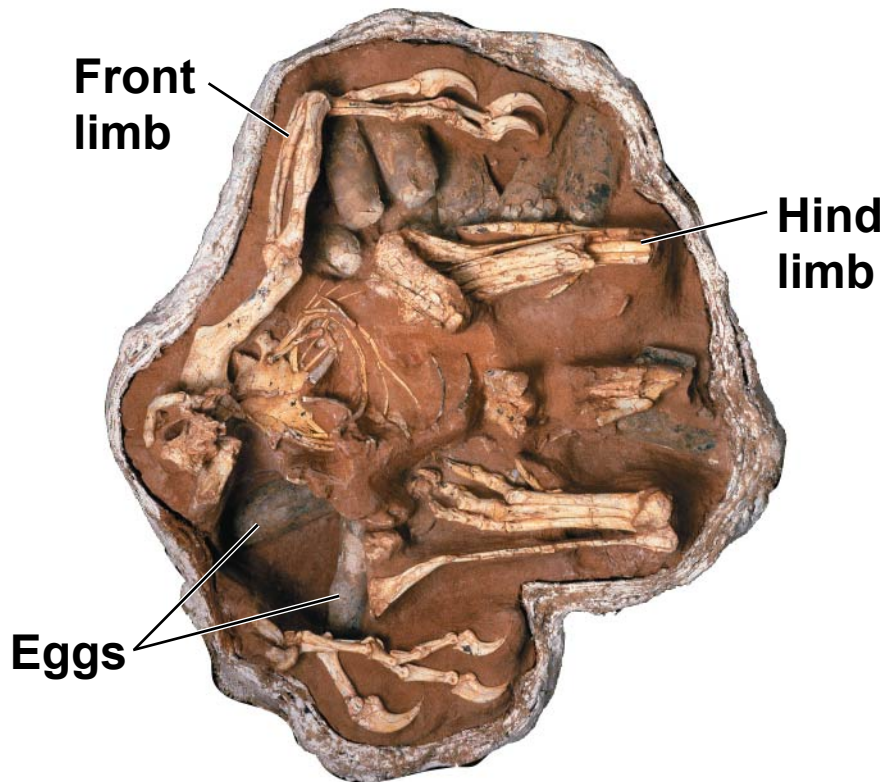
	Site			
	1	2	3	4
Species I	C	T	A	T
Species II	C	T	T	C
Species III	A	G	A	C
Ancestral sequence	A	G	T	T

Results









(a) Fossil remains of *Oviraptor* and eggs



(b) Artist's reconstruction of the dinosaur's posture based on the fossil findings

