28. Phylogenetic Inference and Systematic Methods (*RHM:* *Chapter 24)*

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### I. Introduction *(550-551)*

A. Biodiversity

B. The Bigger Questions

C. Systematics

1. definition

2. taxonomy

3. phylogenetic reconstruction

D. Importance of Systematics to Biological Sciences

II. Taxonomy, Classification and Nomenclature *(551-552)*

A. The Linnaean System

B. Information Retrieval

C. General Form of a Classification

1. nested hierarchy

2. formal categories

3. inconsistency of taxonomic levels

D. Classification as a Reflection of Phylogeny

1. Assumption of monophyly

2. Recency of common ancestry

3. Inconsistency of taxonomic levels

III. Phylogenetic Reconstruction *(552-560)*

A. Form of Phylogenetic Trees

B. Reading Phylogenetic Trees

C. Sources of Data for Phylogenetic Reconstruction

D. Homology *versus* Homoplasy

IV. Constructing Phylogenetic Trees *(561-567)*

A. Traditional Approaches

B. Phylogenetic Systematics and Cladistic Methods

1. character polarity

2. synapomorphies

3. principle of parsimony

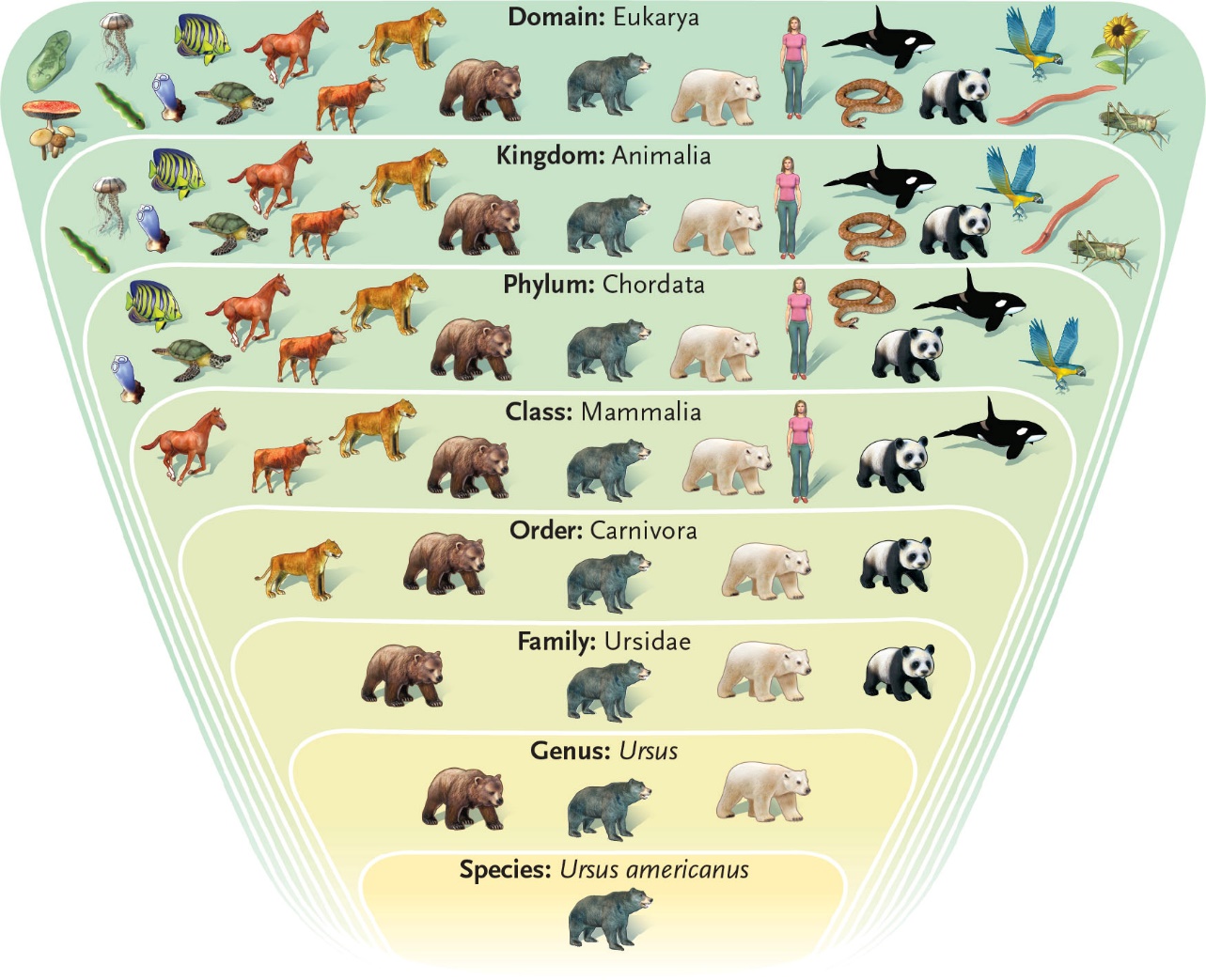
V. Phylogenetic Trees and Classification *(560-561)*

A. Problems with Traditional Approaches

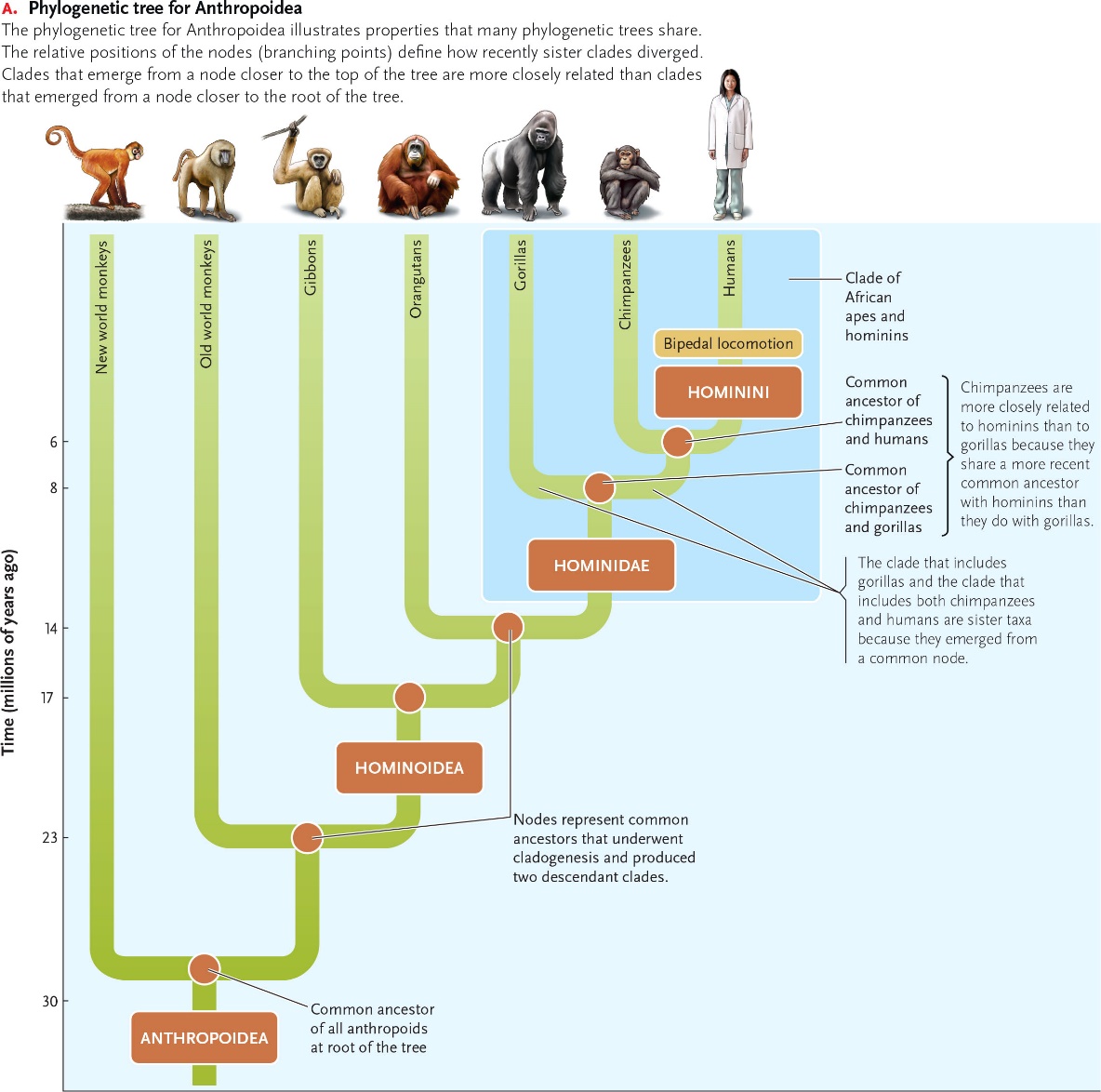
B. Phylogenetic Classification

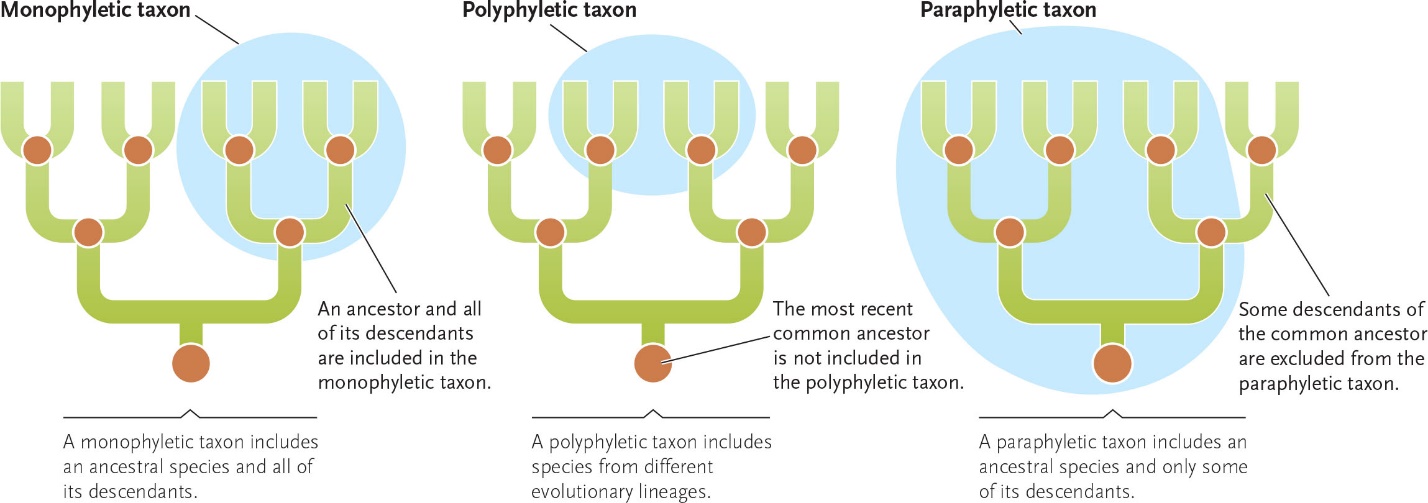
C. PhyloCode

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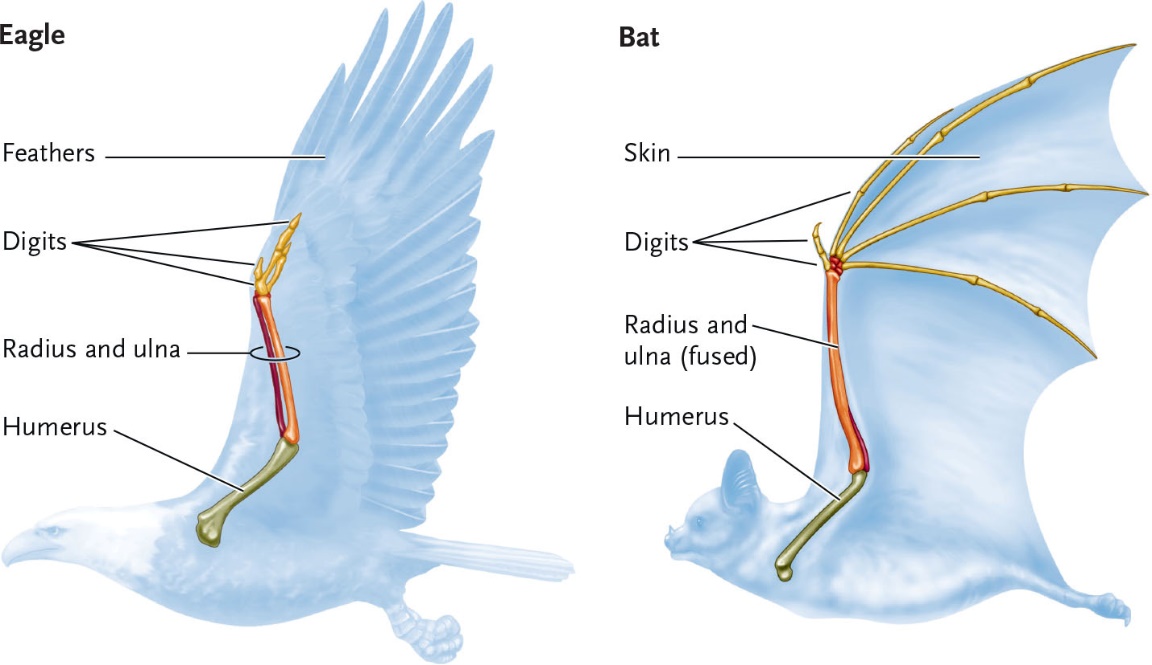


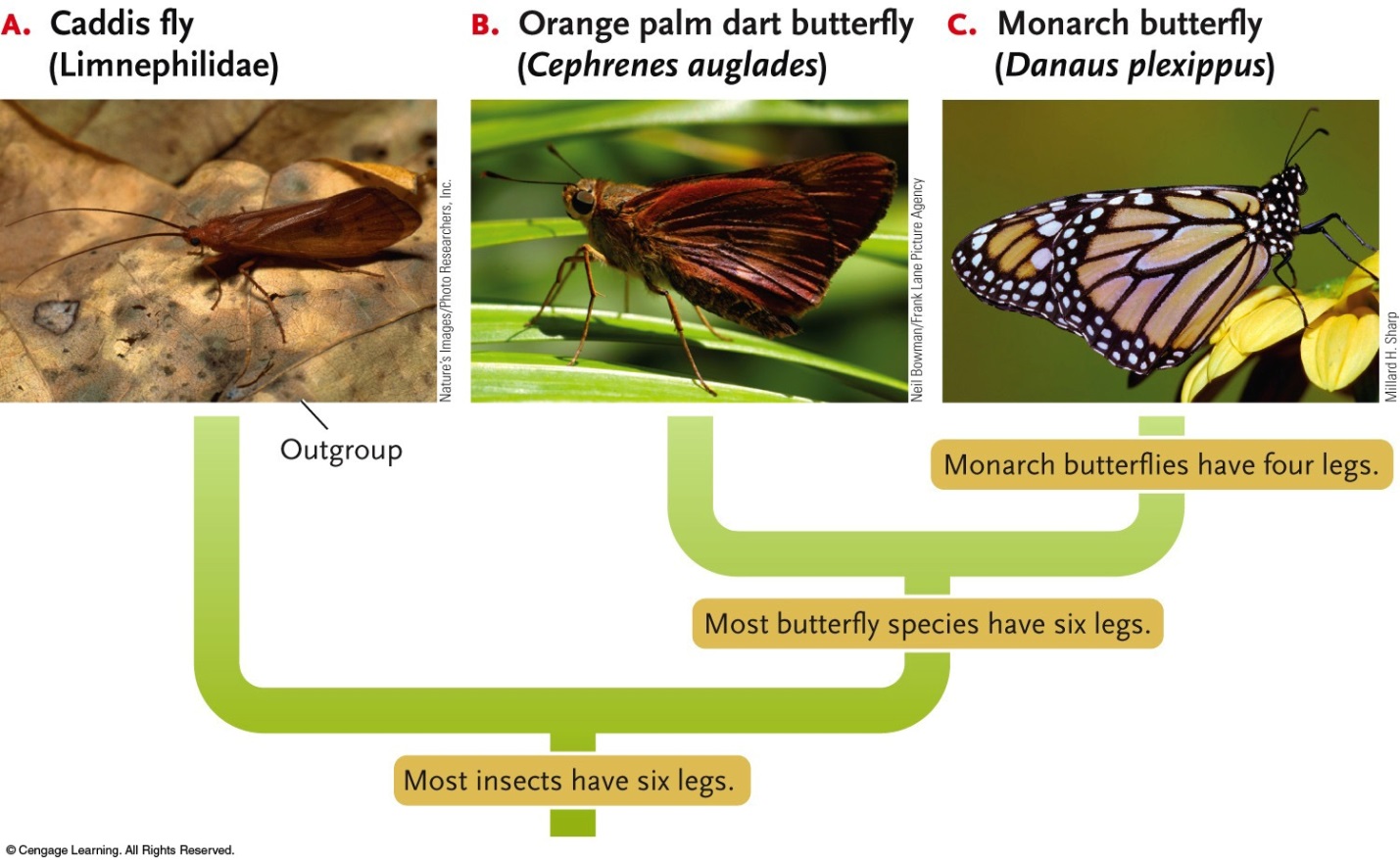
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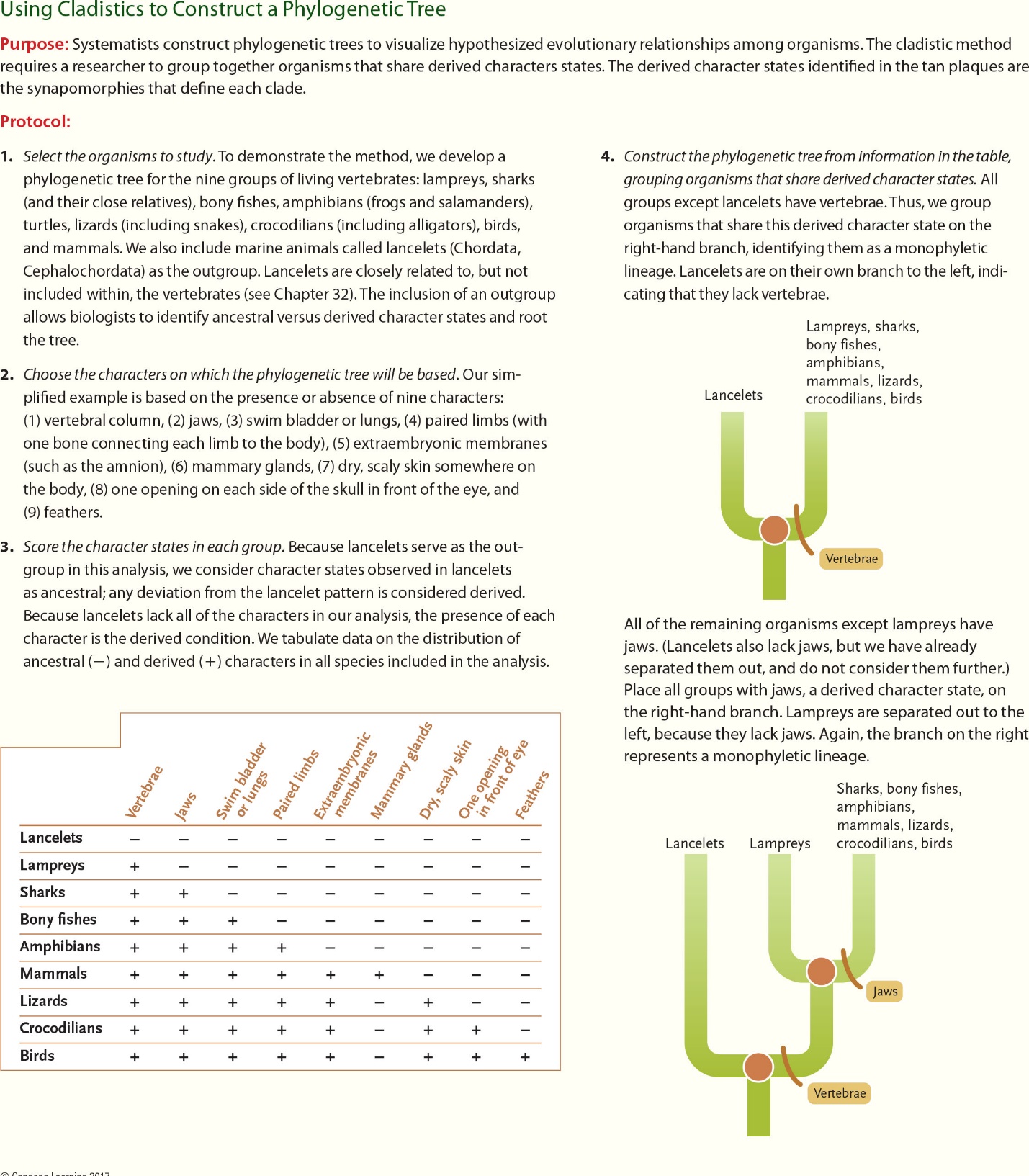


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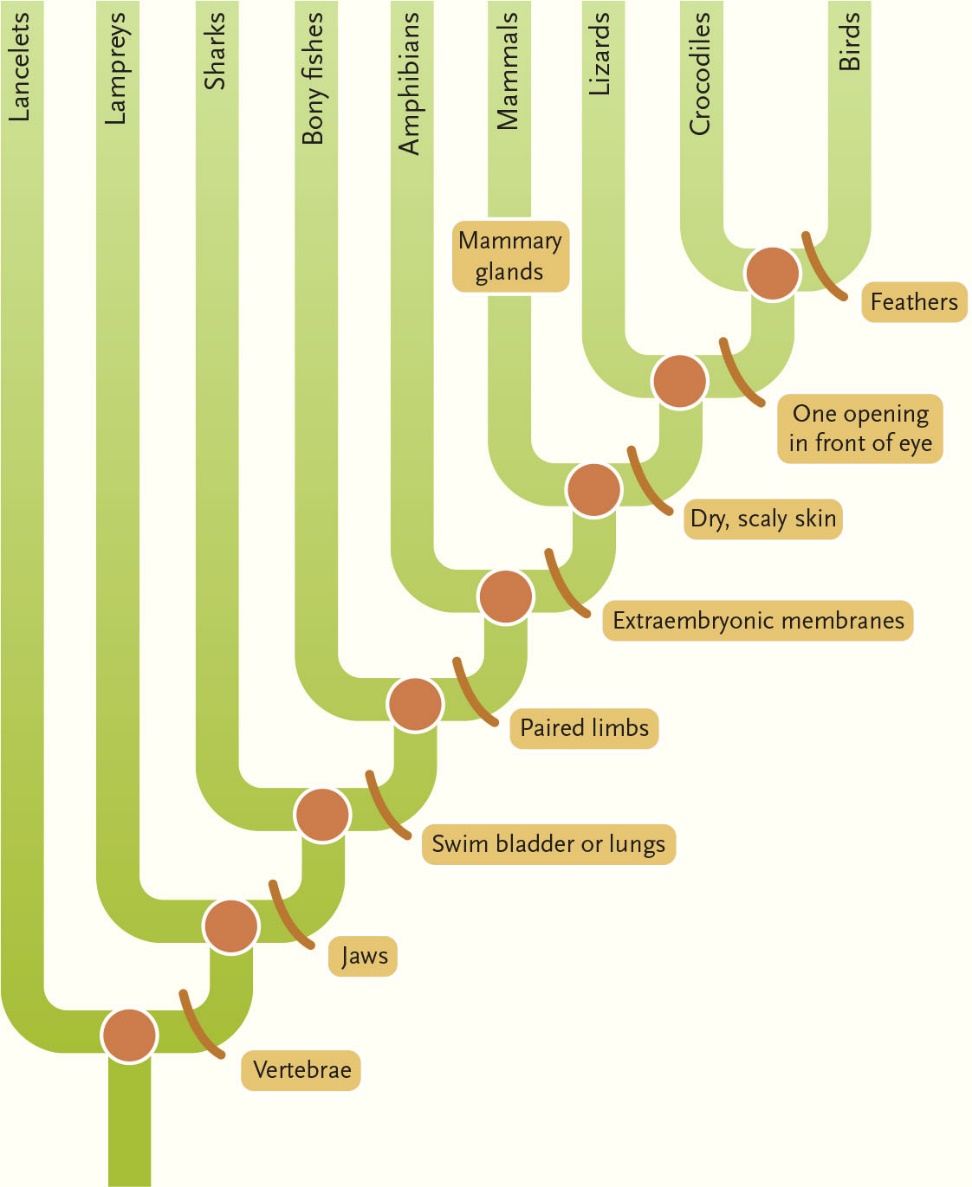




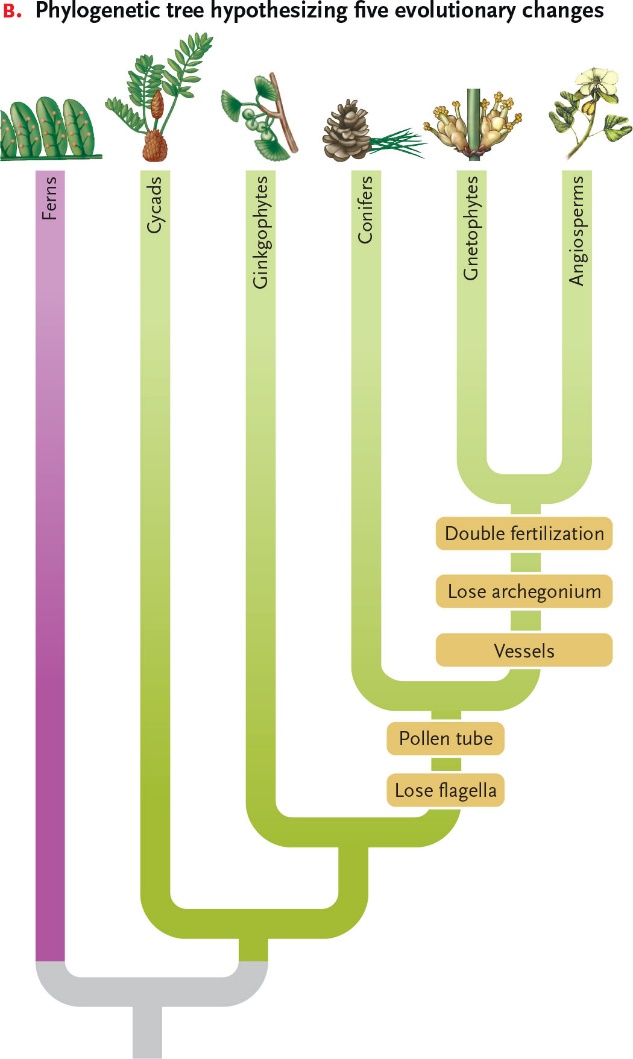
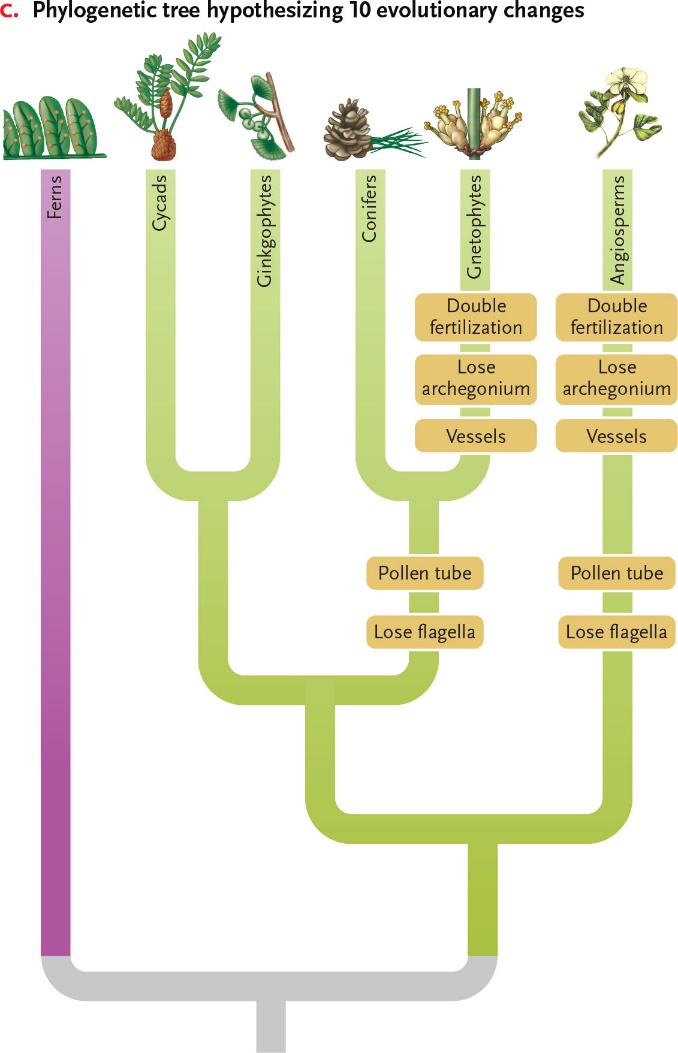
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