



FIGURE 5.4. An example of monophyletic and paraphyletic groups in vertebrate evolution. A phylogenetic tree of the relationships among two mammals, two birds, and three reptiles is shown. Mammals share a common ancestor (at node M) to the exclusion of birds and reptiles and therefore are a monophyletic group. Birds are also a monophyletic group (sharing an ancestor at node B). Although reptiles share a common ancestor (at node R), not all descendants of this common ancestor are reptiles; some are birds. Reptiles are not a monophyletic group; they are a paraphyletic group.