

## 5. Taxonomy as an Evidence for Evolution

### a. The argument stated

"Taxonomic summaries lend themselves to diagrammatic representation by a tree....

"Now everyone understands that the various parts of a real tree are related to one another in a branching fashion because the whole organism is the product of growth from a single seed, growth accompanied by branching and differentiation. If anyone were to suggest that the various branches, twigs, and leaves had been independently created and secondarily joined together, his sanity would be doubted . . . . The analogy cannot be avoided: the fact that no other type of diagram can symbolize the data of taxonomy so readily as can a tree strongly suggests that, like a real tree, the tree of life owes its branching character to organic growth and differentiation -- in other words, to evolution.

"The various taxonomic categories simply represent varying degrees of blood relationship. Thus, all members of the phylum Chordata have common ancestors, but they are exceedingly remote, and hence only the most fundamental chordate characters are held in common by extreme members of the phylum. Within any class, however, the degree of relationship is much closer, and hence more numerous and fundamental characters are held in common by diverse members of a class. All birds, for example, share many characters in common. As one goes down the taxonomic scale this trend becomes stronger until finally members of a single species differ only in minor characters, and this because of their common inheritance. It is difficult to study any group of organisms in detail without feeling that this argument is a cogent one."

-- Edward O. Dodson, *A Textbook of Evolution* (Philadelphia: W. B. Saunders Company, 1952), pp. 36-37.

"Naturalists, as we have seen, try to arrange the species, genera, and families in each class, on what is called the Natural System. But what is meant by this system? Some authors look at it merely as a scheme for arranging together those living objects which are most alike, and for separating those which are most unlike; or as an artificial method of enunciating, as briefly as possible, general propositions -- that is, but one sentence to give the characters common, for instance, to all mammals, but another those common to all carnivora, but another those common to the dog-genus, and then, by adding a single sentence, a full description is given of each kind of dog. The ingenuity and utility of this system are indisputable. But many naturalists think that something more is meant by the Natural System; they believe that it reveals the plan of the Creator; but unless it be specified whether order in time or space, or both, or what else is meant by the plan of the Creator, it seems to me that nothing is added to our knowledge. Expressions such as that famous one by Linnaeus, which we often meet with in a more or less concealed form, namely, that characters do not make the genus, but that the genus gives the characters, seem to imply that some deeper bond is included in our classifications than mere resemblance. I believe that this is the case,