

5. (10 points) Hennig coined the term semaphoront to fix an organism at a particular stage of its ontogeny. Why was this necessary in the context of phylogenetic analysis?

6. (40 points) Briefly contrast the following pairs of terms (Use diagrams if they help):
transformational vs. taxic homology

parsimony vs. compatibility analysis

Manhattan distance vs. Euclidean distance

epistemology vs. ontology

DNA hybridization studies vs. restriction site studies

Lundberg rooting vs. outgroup rooting

Neighbor Joining vs. Unweighted Pair Group Method (UPGM) for tree building

procrustes analysis vs. thin-plate spline analysis in morphometrics

Continuous characters vs. discrete-state characters

ANOVA vs. correlation analysis