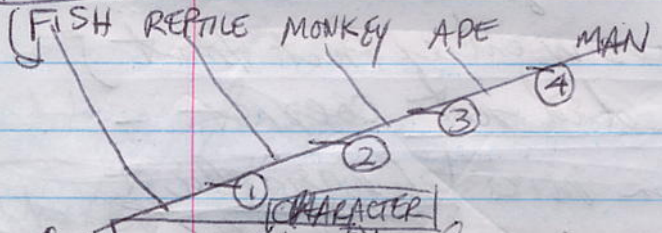


Say

forks in a cladogram (phylogenetic tree, branch diagram) represent differences between organisms that possess or lack a certain character. When character traits are different enough, an outgroup forms. <sup>10 outgroup below!!</sup>

PHYLO TREE

Animal characteristics - criteria refine separation



- Criterion # 1 Has limbs: No (0), yes (1)
- 2 Has fur/hair: No (0), yes (1)
- 3 Has a tail: yes (0), No (1)
- 4 Walks bipedally: No (0), yes (1)

Character #	1	2	3	4	FULL!!
Fish	0	0	0	0	
reptile	1	0	0	0	
monkey	1	1	0	0	
ape	1	1	1	0	
man	1	1	1	1	

#'s of similarities helpful grouping. Character #'s at branches show where group change occurred. Lots of data needed

WRITE

H-W EQUILIBRIUM is hypothetical, but represents a mathematical model for species. - 2 forms of allele in population - use phenotype (dom or rec) freq to determine genes + phenos of 2<sup>nd</sup> generation - given freq of 1 homozygous combo (ex pp) you can calculate the other freq (q<sup>2</sup>, then 2pq).

25  
x 25  
-----  
125  
50  
-----  
1025  
p<sup>2</sup> = 0.25

Self H/O for conditions

Say

selective pressure