

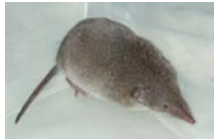
1. African Savannah Elephant
(*Loxodonta africana*)



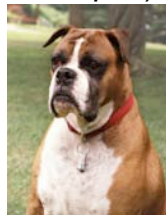
2. Chimpanzee
(*Pan troglodytes*)



3. Common Shrew
(*Sorex araneus*)



4. Dog
(*Canis lupus*)



5. European Hedgehog
(*Erinaceus europaeus*)



6. Gray, Short-tailed Opossum
(*Monodelphis domestica*)



7. Horse
(*Equus caballus*)



8. Mouse
(*Mus musculus*)



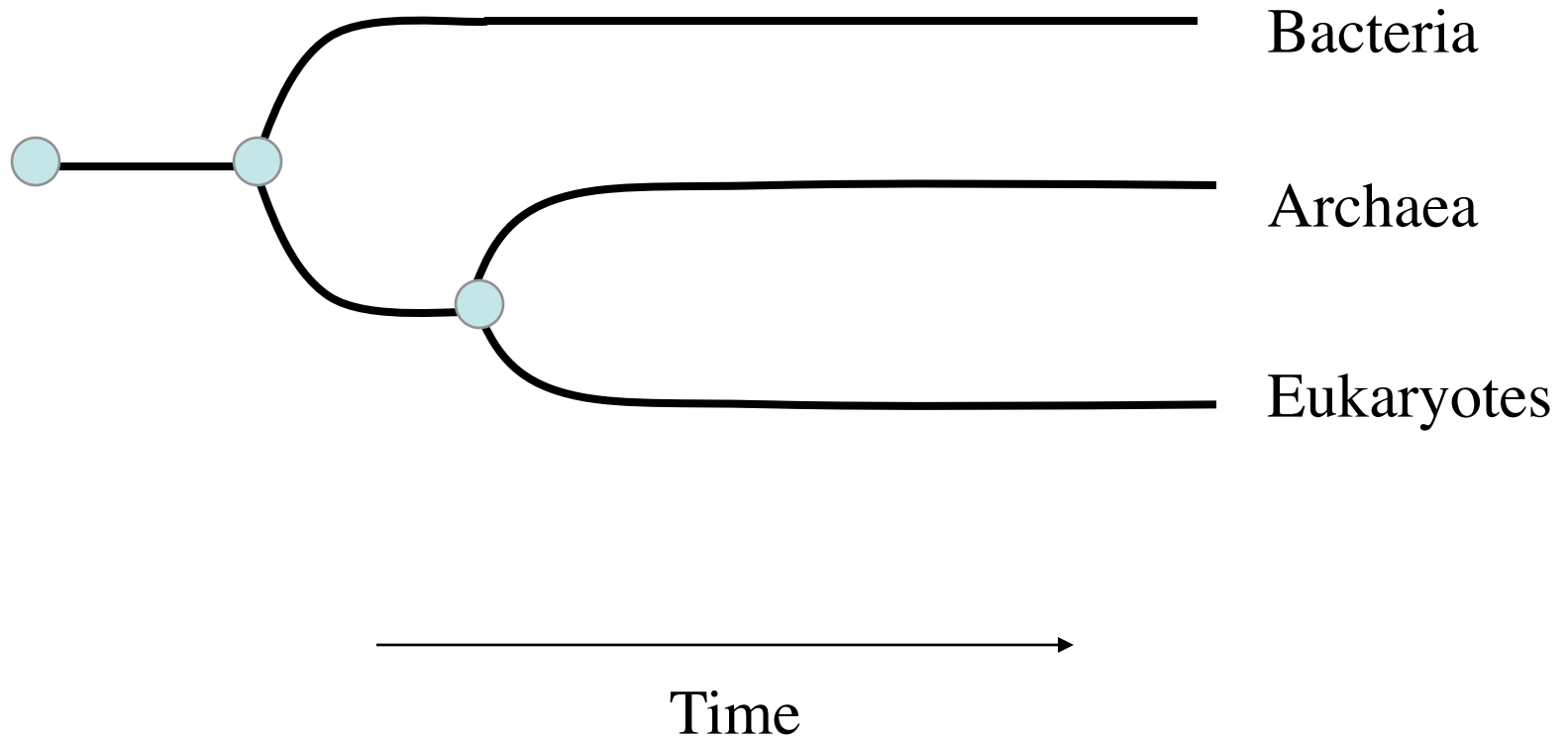
9. Nine-banded Armadillo
(*Dasypus novemcinctus*)



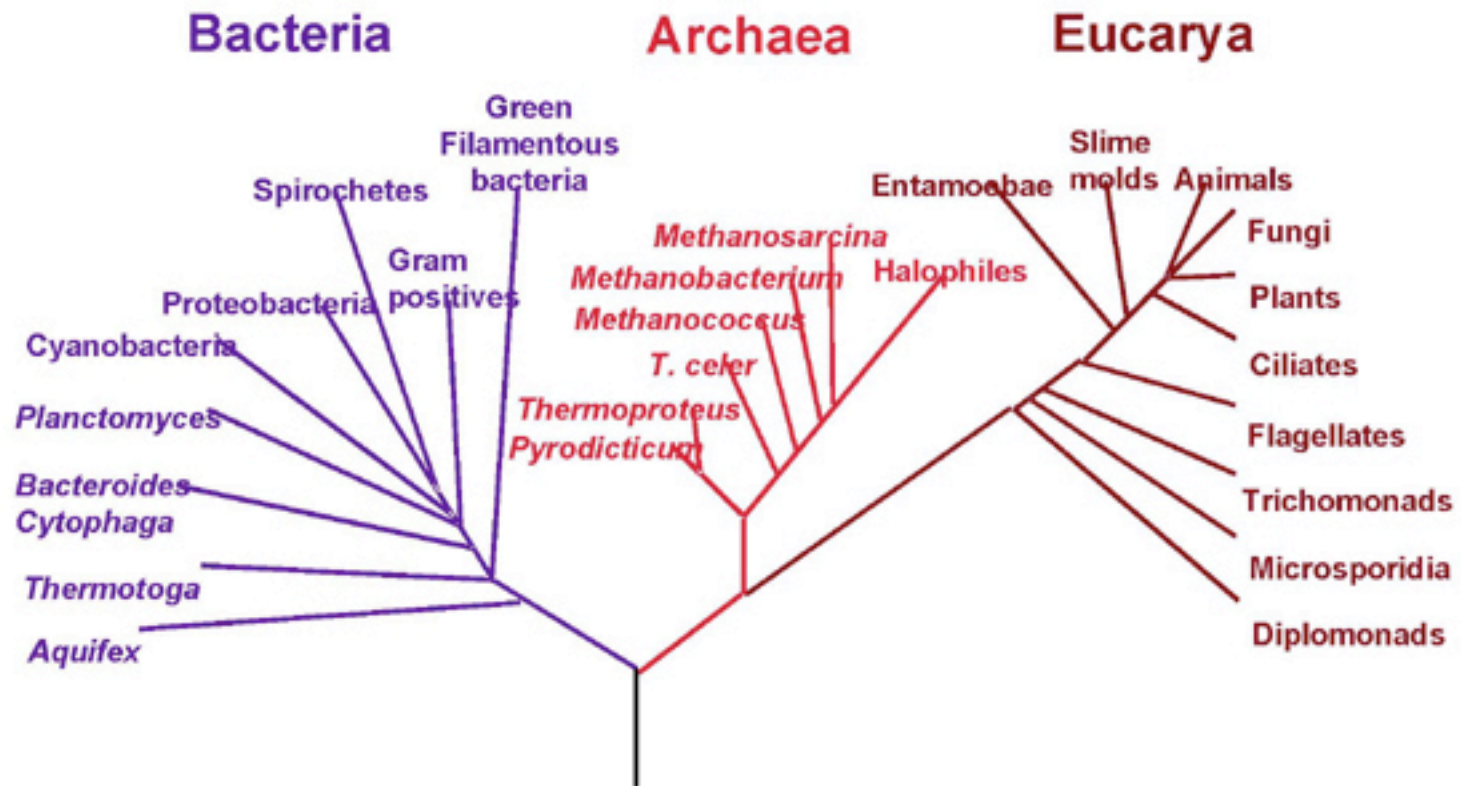
10. Tenrec
(*Echinops telfairi*)



Phylogenetic Tree of Life



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Two ways to make phylogenetic trees:

1. Using physical characteristics

2. Using DNA sequence

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2. Using DNA sequence

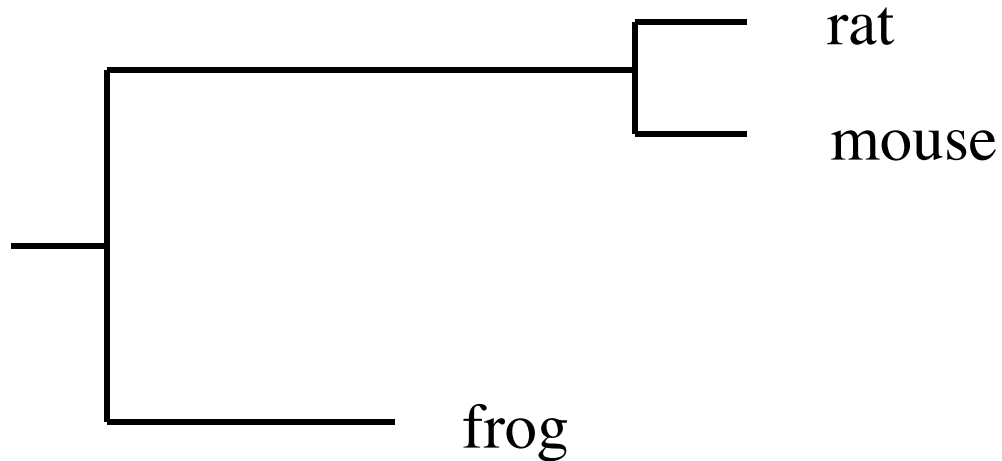
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1. Using physical characteristics



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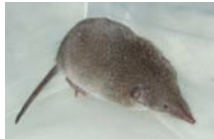
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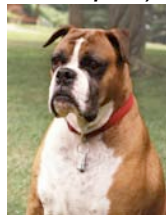
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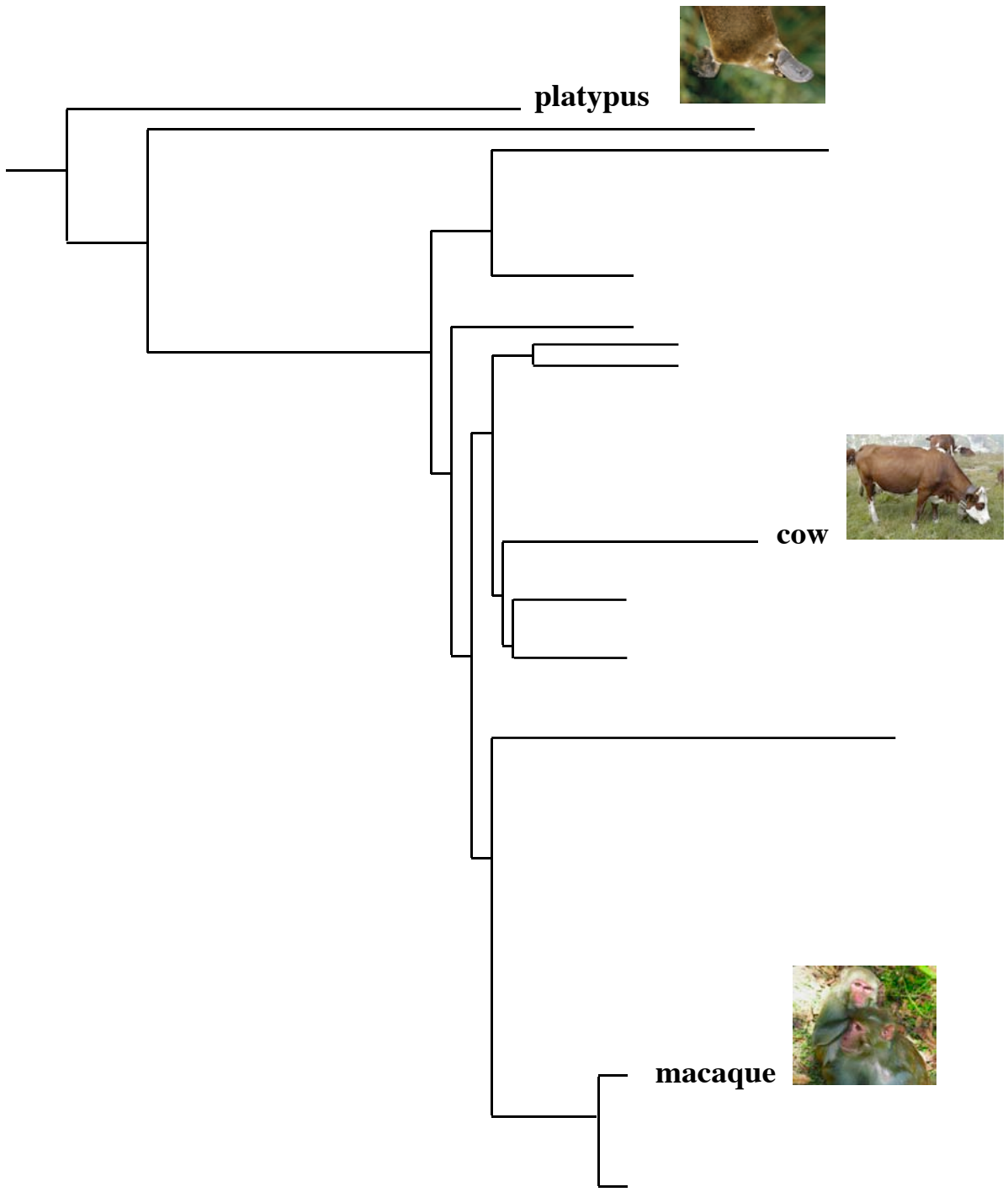


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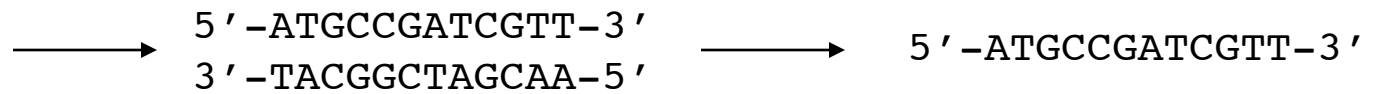


Two ways to make phylogenetic trees:

1. Using physical characteristics

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How to write a DNA sequence



Two ways to make phylogenetic trees:

1. Using physical characteristics

2. Using DNA sequence

5'-GATGACGTACG-3'

5'-CAACATGGAAG-3'

5'-GATTACGTACG-3'

Two ways to make phylogenetic trees:



2. Using DNA sequence

5'-GATGACGTACG-3'

“first”

5'-CAACATGGAAG-3'

“second”

5'-GATTACGTACG-3'

“third”

Two ways to make phylogenetic trees:

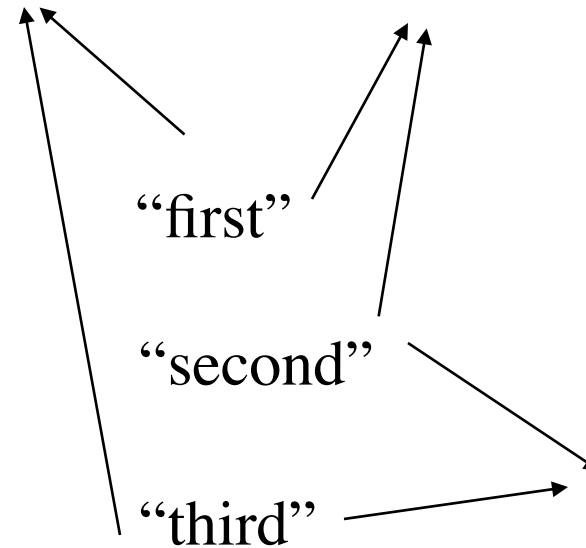


2. Using DNA sequence

5'-GATGACGTACG-3'

5'-CAACATGGAAG-3'

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Two ways to make phylogenetic trees:

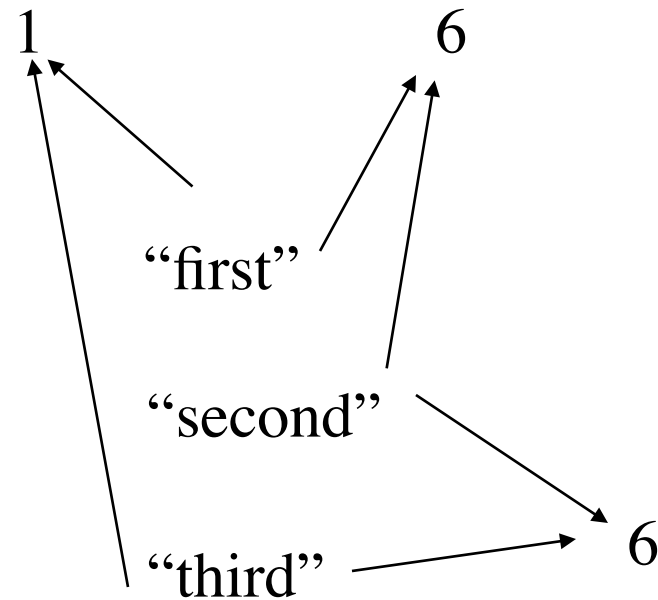


2. Using DNA sequence

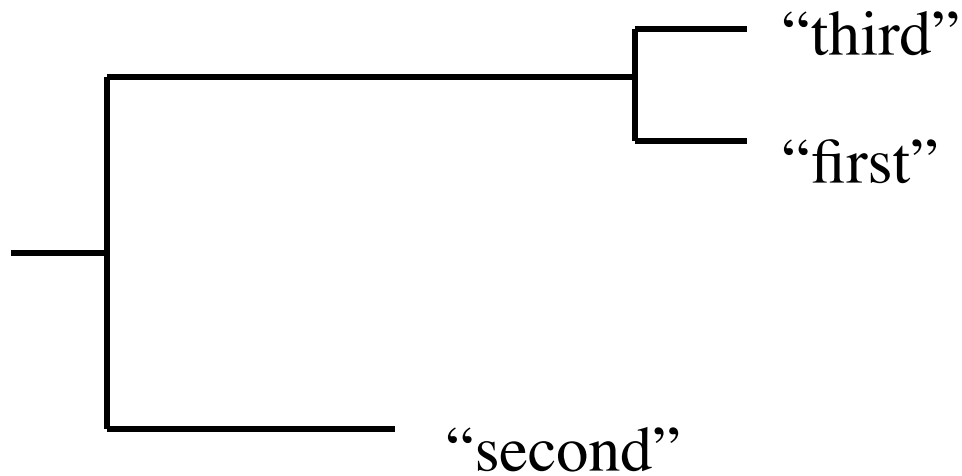
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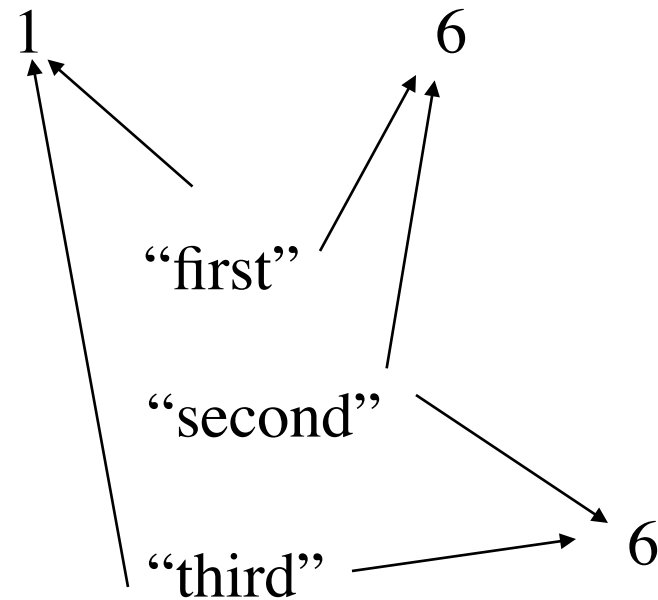


2. Using DNA sequence

5'-GATGACGTACG-3'

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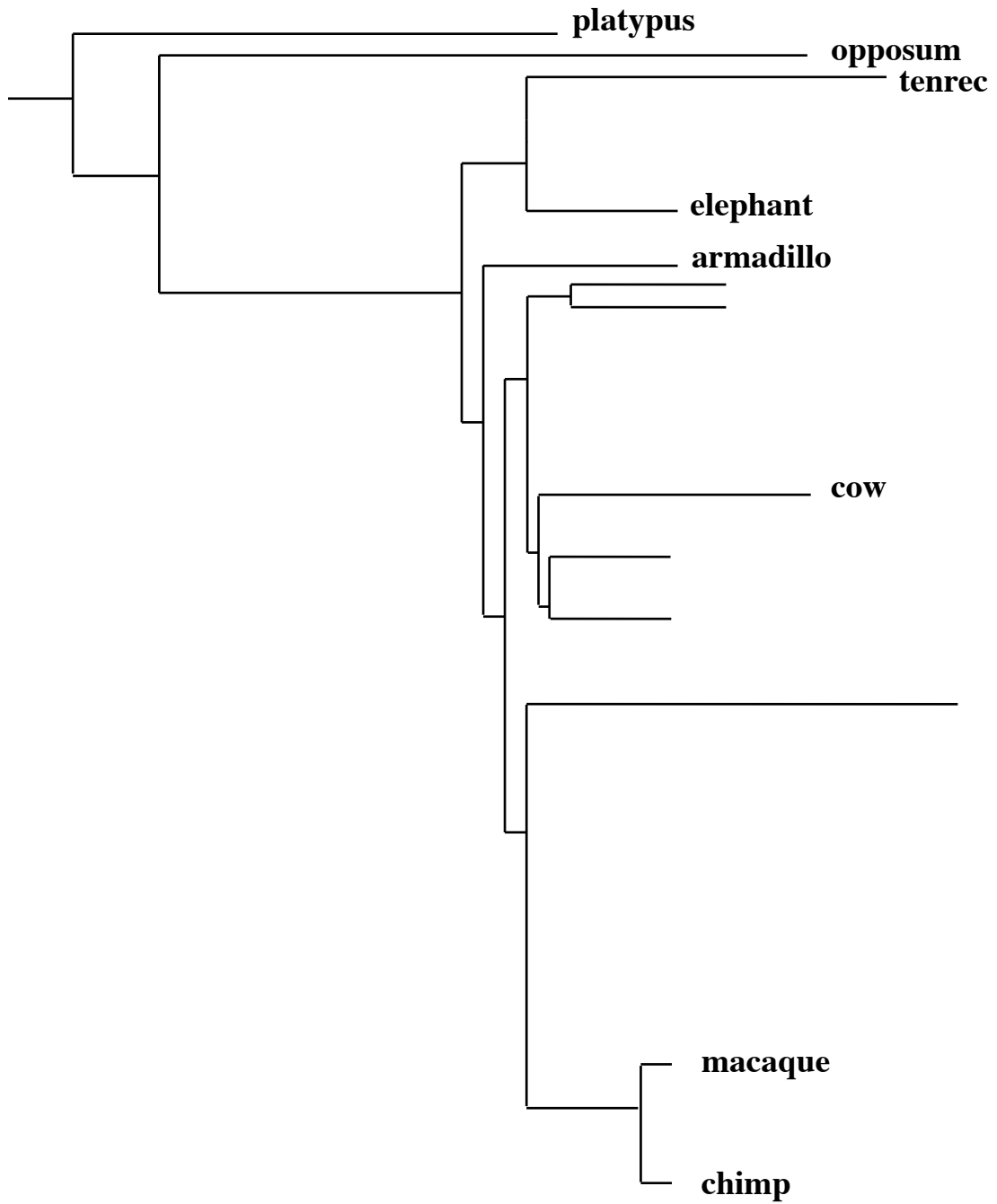
5'-GATTACGTACG-3'

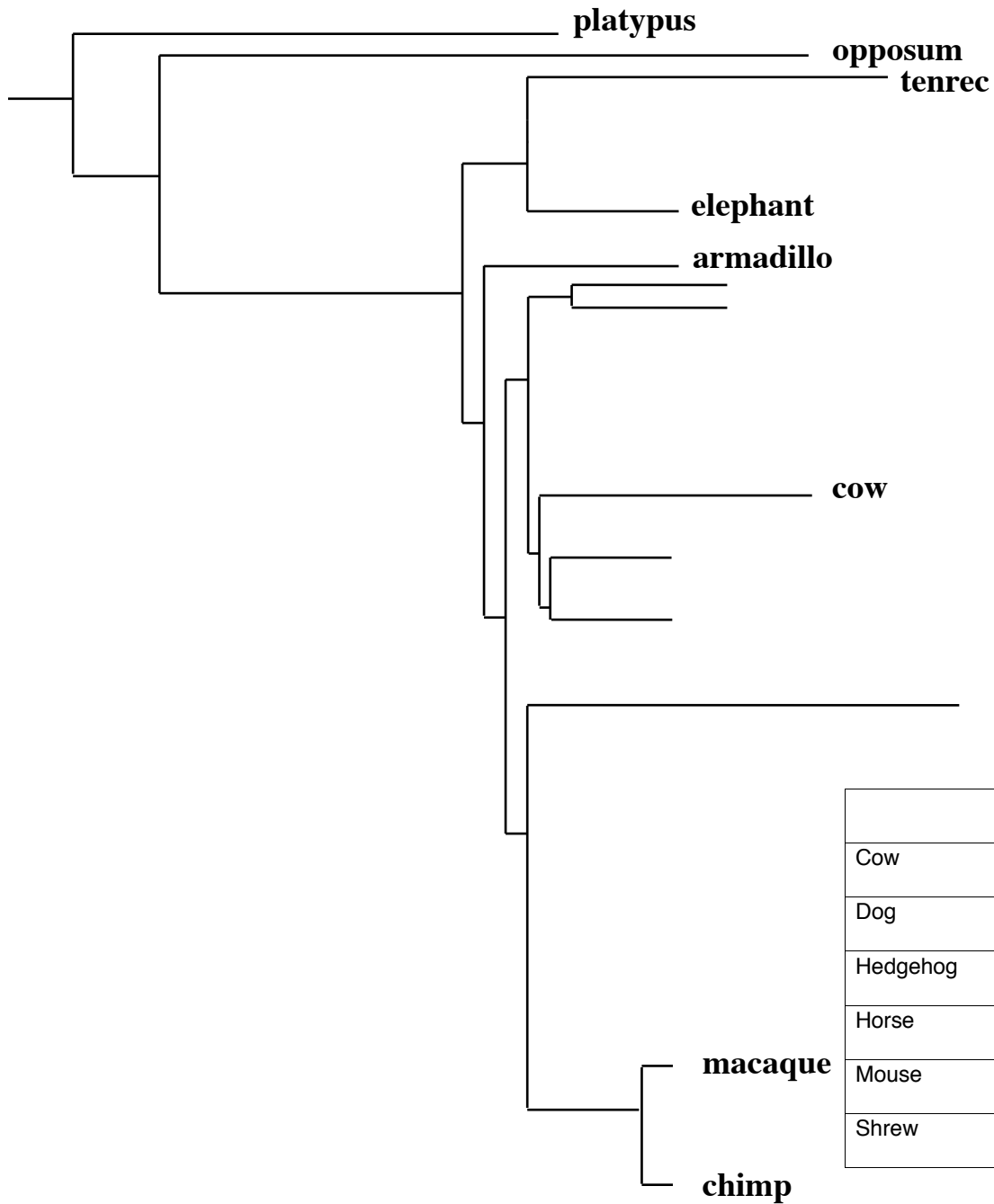


Cow: 5' -ACCGTATTTGCCGAAG-3'
Dog: 5' -AGCGTAATTGCCGTAG-3'
Hedgehog: 5' -AGCGTAGTTTCCGTAC-3'
Horse: 5' -AGCGTACTTGCCGTAG-3'
Mouse: 5' -ATAGTAGATCGCGCAT-3'
Shrew: 5' -AGCGTAGTTACCGTAC-3'

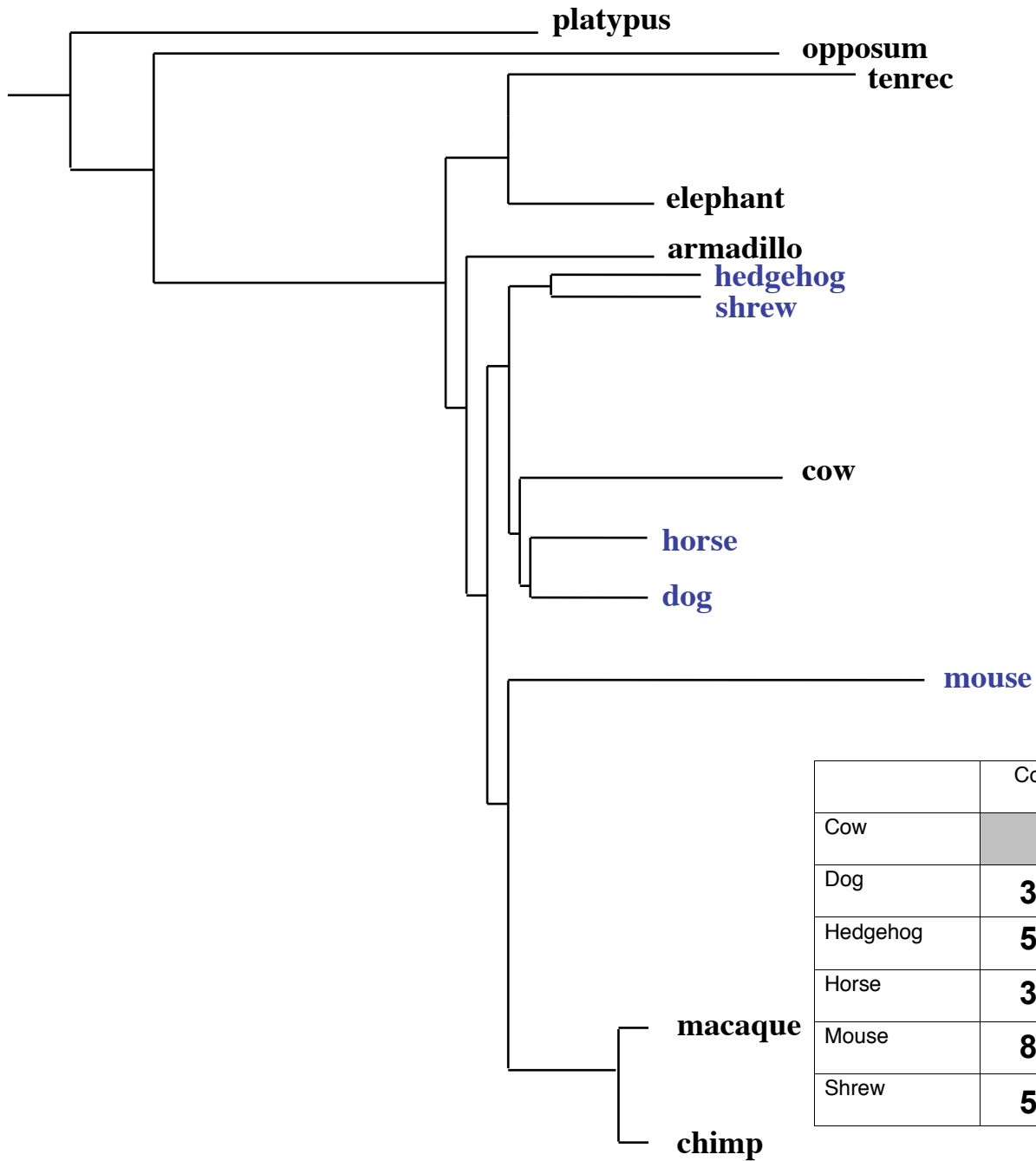
	Cow	Dog	Hedgehog	Horse	Mouse	Shrew
Cow						
Dog						
Hedgehog		3				
Horse						
Mouse						
Shrew						

	Cow	Dog	Hedgehog	Horse	Mouse	Shrew
Cow						
Dog	3					
Hedgehog	5	3				
Horse	3	1	3			
Mouse	8	8	7	8		
Shrew	5	3	1	3	7	





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Do everyone's trees based on physical characteristics look the same? Why or why not?

Do everyone's DNA-based trees look the same? Why or why not?

Which method do you think is used to generate current, scientifically accepted phylogenetic trees?

ATGCCGATCGTACGACACATATCGTCATCGTACTGACTGTCTAGTCTAAACACATCCATCGTACTGACTGCATCGATC
TACTGACTGCATCGTACTGACTGCACATATCGTCATCGTACTGACTGTCTAGTCTAAACACATCCCACATATCGTTTA
CATCGTACTGACTGTCTAGTCTAAACACATCCCACATATCGTCATCGTACTGACTGTCTAGTCTAAACACATCCCAGC
CATATCGTCATCGTACTGACTGTCTAGTCTAAACACATCCTATGCCGATCGTACGACACATATCGTCATCGTACTGCC
ACTGTCTAGTCTAAACACATCCATCGTACTGACTGCATCGTACTGACTGCATCGTACTGACTGCACATATCGTCATA
TCGTACTGACTGTCTAGTCTAAACACATCCCACATATCGTCATCGTACTGACTGTCTAGTCTAAACACATCCCACCTT
ATATCGTCATCGTACTGACTGTCTAGTCTAAACACATCCCACATATCGTCATCGTACTGACTGTCTAGTCTAAACACA
GCCGATCGTACGACACATATCGTCATCGTACTGCCCTACGGGACTGTCTAGTCTAAACACATCCATCGTACTGACTGC
TGACTGCATCGTACTGACTGCACATATCGTCATAACATAGACTTCGTACTGACTGTCTAGTCTAAACACATCCCACATA
CGTACTGACTGTCTAGTCTAAACACATCCCACCTTACCCATGCATCGTACTGACTGTCTAGTCTAAACACATCCCACA
ATCGTACTGACTGTCTAGTCTAAACACATCCCAGCATCCATCCATATCGTCATCGTACTGACTGTCTAGTCTAAACAC
GCCGATCGTACGACACATATCGTCATCGTACTGCCCTACGGGACTGTCTAGTCTAAACACATCCATCGTACTGACTGC
TGACTGCATCGTACTGACTGCACATATCGTCATAACATAGACTTCGTACTGACTGTCTAGTCTAAACACATCCCACATA
CGTACTGACTGTCTAGTCTAAACACATCCCACCTTACCCATGATATCGTCATCGTACTGACTGTCTAGTCTAAACACA
TATCGTCATCGTACTGACTGTCTAGTCTAAACACATCCTATACATATCGTCATCGTACTGACTGTCTAGTCTAAACAC
GCCGATCGTACGACACATATCGTCATCGTACTGCCCTACGGGACTGTCTAGTCTAAACACATCCATCGTACTGACTGC
TGACTGCATCGTACTGACTGCACATATCGTCATAACATAGACTTCGTACTGACTGTCTAGTCTAAACACATCCCACATA
CGTACTGACTGTCTAGTCTAAACACATCCCACCTTACCCATGATATCGTCATCGTACTGACTGTCTAGTCTAAACACA
TATCGTCATCGTACTGACTGTCTAGTCTAAACACATCCTATAGCCGATCGTACGACACATATCGTCATCGTACTGCC
CTGTCTAGTCTAAACACATCCATCGTACTGACTGCATCGTACGCCGATCGTACGACACATATCGTCATCGTACTGCC
CTGTCTAGTCTAAACACATCCATCGTACTGACTGCATCGTACTGACTGCATCGTACTGACTGCACATATCGTCATA
CGTACTGACTGTCTAGTCTAAACACATCCCACATATCGTCATCGTACTGACTGTCTAGTCTAAACACATCCCACCTTA
ATCGTACTGACTGTCTAGTCTAAACACATCCCACATATCGTCATCGTACTGACTGTCTAGTCTAAACACATCCCAGCA
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CTGTCTAGTCTAAACACATCCATCGTACTGACTGCATCGTACGCCGATCGTACGACACATATCGTCATCGTACTGCC
GTACTGACTGTCTAGTCTAAACACATCCCACATATCGTCATCGTACTGACTGTCTAGTCTAAACACATCCCACCTTAC
ATCGTCATCGTACTGACTGTCTAGTCTAAACACATCCCACACTGTCTAGTCTAAACACATCCATCGTACTGACTGCAT
CGATCGTACGACACATATCGTCATCGTACTGCCCTACGGGACTGTCTAGTCTAAACACATCCATCGTACTGACTGCAT

Which animal's placement on the DNA-based tree surprised you the most, and why?

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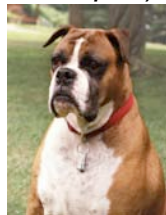
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