Données de mutations

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|     MUTATION DISTANCES AMONG 20 SPECIES (FITCH AND MARGOLIASH)     |
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|     The source of this data is a paper by Fitch and Margoliash     |
| in Science(1967).   For a more recent reference see Scientific     |
| American (1972?).                                                  |
| Every species has a protein  molecule, Cytochrome c, which varies  |
| from species to species but has a similar function for all. It     |
| consists of a long chain of  amino acids. There are only a few     |
| acids,  but different  molecules are  obtained  by varying  the    |
| acids in each  position in the chain. The  number of positions     |
| with different  acids measures  distance between  two species.     |
| these distances are given in the data below.                       |
| For example, the amino acids in Cytochrome c for two species look  |
| like this:                                                         |
|  Moth            XXYVPLY .........SEXI                             |
|  Screwworm fly   XXYVPLY .........LSEI                             |
| where the whole chain is 110 in length, and the letters represent  |
| particular amino acids. Each difference contributes to mutation    |
| distance according to the minimum number of nucleotides that would|
| need to be changed to convert one into the other.                  |
| Fitch & Margoliash used these data to construct a phylogenetic     |
| tree.                                                              |
| Ref: Science, v. 155, 279-284.                                     |
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Man                 0
Monkey             01  0
Dog                13 12  0
Horse              17 16 10  0
Donkey             16 15 08 01  0
Pig                13 12 04 05 04  0
Rabbit             12 11 06 11 10 06  0
Kangaroo           12 13 07 11 12 07 07  0
Pekin Duck         17 16 12 16 15 13 10 14  0
Pigeon             16 15 12 16 15 13 08 14 03  0
Chicken            18 17 14 16 15 13 11 15 03 04  0
King Penguin       18 17 14 17 16 14 11 13 03 04 02  0
Snapping Turtle    19 18 13 16 15 13 11 14 07 08 08 08  0
Rattlesnake        20 21 30 32 31 30 25 30 24 24 28 28 30  0
Tuna               31 32 29 27 26 25 26 27 27 27 26 27 27 38  0
Screwworm Fly      33 32 24 24 25 26 23 26 26 26 26 28 30 40 34  0
Moth               36 35 28 33 32 31 29 31 30 30 31 30 33 41 41 16  0
Bakers Mould       63 62 64 64 64 64 62 66 59 59 61 62 65 61 72 58 59  0
Bread Yeast        56 57 61 60 59 59 59 58 62 62 62 61 64 61 66 63 60 57  0
Skin Fungus        66 65 66 68 67 67 67 68 66 66 66 65 67 69 69 65 61 61 41 0
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