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*Isomorphism and Symmetries in Random Phylogenetic Trees.*

The probability that two randomly selected phylogenetic trees are isomorphic is found to be asymptotic to a decreasing exponential modulated by a polynomial factor. The number of symmetrical nodes in a random phylogenetic tree of large size obeys a limiting Gaussian distributions. Precise estimates for these two problems are obtained by means of bivariate generating functions, singularity analysis, and quasi-powers approximations. (Received September 04, 2009)