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A population model for Λ-coalescents with neutral mutations

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Abstract

Bertoin and Le Gall (2003) introduced a certain probability measure valued Markov process that describes the evolution of a population, such that a sample from this population would exhibit a genealogy given by the so-called Λ-coalescent, or coalescent with multiple collisions, introduced independently by Pitman (1999) and Sagitov (1999). We show how this process can be extended to the case where lineages can experience mutations. Regenerative compositions enter naturally into this model, which is somewhat surprising, considering a negative result by Möhle (2007).

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