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# Is Diversification Limited? - A birth-death model comparison

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## Abstract

The aim of this thesis is to study how the two events of evolution, speciation and extinction, has changed in 32 bird phylogenies. The main question to answer is if the diversification rate (speciation rate using a modified birth-death process called the reconstructed process, describing the process of a phylogeny where the extinct species has been removed. Six different diversification scenarios, two with constant diversification rate and four with decreasing diversification rate, have been tested on the different phylogenies. A comparison of how well the models perform under the assumption that all extant (now living) species is represented in the phylogeny, i.e. complete sampling, compared to the assumption that there only is a subsample of all extant species in the phylogeny, i.e. random sampling, is also done. The result in this thesis indicates that the diversification rate is decreasing because of a declining speciation rate.

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