

Found ModelTest-RN6: **ModelTest-RN6**

ModelTest-NG v0.1.7 released on 17.03.2021 by The Exelixis Lab.
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Alexandros Stamatakis.
Latest version: <https://github.com/ddarriba/modeltest>

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Print 36 FASTA files
Pre-existent tree found for TF105009_treefam.tree!
Processing: TF105009_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF103001_treefam.tree!
Processing: TF103001_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF103005_treefam.tree!
Processing: TF103005_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF103002_treefam.tree!
Processing: TF103002_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF103006_treefam.tree!
Processing: TF103006_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF101009_treefam.tree!
Processing: TF101009_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF102005_treefam.tree!
Processing: TF102005_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF106002_treefam.tree!
Processing: TF106002_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF101003_treefam.tree!
Processing: TF101003_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF105004_treefam.tree!
Processing: TF105004_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF102001_treefam.tree!
Processing: TF102001_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF103008_treefam.tree!
Processing: TF103008_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF101010_treefam.tree!
Processing: TF101010_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF101007_treefam.tree!
Processing: TF101007_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF106001_treefam.tree!
Processing: TF106001_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF105007_treefam.tree!
Processing: TF105007_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF105010_treefam.tree!
Processing: TF105010_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF102002_treefam.tree!
Processing: TF102002_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF101004_treefam.tree!
Processing: TF101004_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF105003_treefam.tree!
Processing: TF105003_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF105002_treefam.tree!
Processing: TF105002_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF101005_treefam.tree!
Processing: TF101005_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF102003_treefam.tree!
Processing: TF102003_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF101001_treefam.tree!
Processing: TF101001_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF105006_treefam.tree!
Processing: TF105006_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF101006_treefam.tree!
Processing: TF101006_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF103009_treefam.tree!
Processing: TF103009_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF105001_treefam.tree!
Processing: TF105001_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF105005_treefam.tree!
Processing: TF105005_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF101002_treefam.tree!
Processing: TF101002_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF102004_treefam.tree!
Processing: TF102004_treefam.fasta
ModelTest-NG timed out for data/model_gen/V0_mammalian_aa/alignments/TF102004_treefam.fasta
- Using fallback parameter estimation
USING FALLBACK METHOD FOR PROTEIN PARAMETERS...
*Traceback (most recent call last):
  File "/Users/krishna/Projects/historianEval/src/model_gen_aa/extract_params.py", line 636, in <module>
    main()
  File "/Users/krishna/Projects/historianEval/src/model_gen_aa/extract_params.py", line 626, in main
    extractor.process_folder()
  File "/Users/krishna/Projects/historianEval/src/model_gen_aa/extract_params.py", line 488, in process_folder
    result = self.process_alignment(filepath, tree_file)
  File "/Users/krishna/Projects/historianEval/src/model_gen_aa/extract_params.py", line 413, in process_alignment
    protein_params = self.estimate_protein_parameters(alignment)
  File "/Users/krishna/Projects/historianEval/src/model_gen_aa/extract_params.py", line 266, in estimate_protein_parameters
    sub_counts, total_subs = self.count_aa_substitutions(alignment)
  File "/Users/krishna/Projects/historianEval/src/model_gen_aa/extract_params.py", line 252, in count_aa_substitutions
    aa1, aa2 = seq1[k], seq2[k]
KeyboardInterrupt
Traceback (most recent call last):
  File "/Users/krishna/Projects/historianEval/src/main_aa.py", line 169, in <module>
    main()
  File "/Users/krishna/Projects/historianEval/src/main_aa.py", line 161, in main

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Pre-existent tree found for TF101008_treefam.tree!
Processing: TF101008_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF103007_treefam.tree!
Processing: TF103007_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF103004_treefam.tree!
Processing: TF103004_treefam.fasta
- Using ModelTest-NG parameters
Pre-existent tree found for TF105008_treefam.tree!
Processing: TF105008_treefam.fasta
- Using ModelTest-NG parameters
Successfully processed 36 alignments
Results saved to: data/model_gen/V0_mammilian_aa/protein_evolution_parameters.csv
Summary statistics saved to: data/model_gen/V0_mammilian_aa/parameter_summary.csv
Distribution plots saved to output folder
Protein evolution analysis complete!
Substitution parameters extracted for V0_mammilian_aa.
Trees cleaned and moved to data/model_gen/V0_mammilian_aa/trees.

Attaching package: 'phytools'

The following object is masked from 'package:vegan':

  scores

Attaching package: 'dplyr'

The following object is masked from 'package:nlme':

  collapse

The following object is masked from 'package:ape':

  where

The following objects are masked from 'package:stats':

  filter, lag

The following objects are masked from 'package:base':

  intersect, setdiff, setequal, union

Starting RPANDA analysis with Birth-Death AND Coalescent models...
Tree folder: data/model_gen/V0_mammilian_aa/trees
CSV file: data/model_gen/V0_mammilian_aa/protein_evolution_parameters.csv
Output file: data/model_gen/V0_mammilian_aa/protein_evolution_parameters_with_rates.csv

=== BIRTH-DEATH MODEL COMBINATIONS ===
BCSTDCST: Birth constant, Death constant
BEXPCDST: Birth exponential, Death constant
BLINCDST: Birth linear, Death constant
BCSTDEXP: Birth constant, Death exponential
BEXPDEXP: Birth exponential, Death exponential
BLINDEXP: Birth linear, Death exponential
BCSTDLIN: Birth constant, Death linear
BEXPDLIN: Birth exponential, Death linear
BLINDLIN: Birth linear, Death linear

=== COALESCENT MODEL COMBINATIONS ===
COALCST: Constant effective population size
COALEXP: Exponential population growth
COALLIN: Linear population growth
COALSTEP: Step function population change
COALLOG: Logistic population growth

Reading CSV file...
Found 36 tree files
Processing tree: TF101001_treefam.tree
Tree is not ultrametric, attempting to make ultrametric...
=== FITTING BIRTH-DEATH MODELS ===
Fitting BD BCSTDCST model...
Fitting BD BEXPCDST model...
Fitting BD BLINCDST model...
Fitting BD BCSTDEXP model...
Fitting BD BEXPDEXP model...
Fitting BD BLINDEXP model...
Fitting BD BCSTDLIN model...
Fitting BD BEXPDLIN model...
Fitting BD BLINDLIN model...
=== FITTING COALESCENT MODELS ===
Fitting Coalescent COALCST model...
Fitting Coalescent COALEXP model...
Fitting Coalescent COALLIN model...
Fitting Coalescent COALSTEP model...
Fitting Coalescent COALLOG model...
Processing tree: TF101002_treefam.tree
Tree is not ultrametric, attempting to make ultrametric...
=== FITTING BIRTH-DEATH MODELS ===
Fitting BD BCSTDCST model...
Fitting BD BEXPCDST model...
Fitting BD BLINCDST model...
Fitting BD BCSTDEXP model...
Fitting BD BEXPDEXP model...
Fitting BD BLINDEXP model...
Fitting BD BCSTDLIN model...
Fitting BD BEXPDLIN model...
Fitting BD BLINDLIN model...
=== FITTING COALESCENT MODELS ===
Fitting Coalescent COALCST model...
Fitting Coalescent COALEXP model...
Fitting Coalescent COALLIN model...
Fitting Coalescent COALSTEP model...
Fitting Coalescent COALLOG model...
Processing tree: TF101003_treefam.tree
Tree is not ultrametric, attempting to make ultrametric...
=== FITTING BIRTH-DEATH MODELS ===
Fitting BD BCSTDCST model...
Fitting BD BEXPCDST model...
Fitting BD BLINCDST model...
Fitting BD BCSTDEXP model...
Fitting BD BEXPDEXP model...
Fitting BD BLINDEXP model...
Fitting BD BCSTDLIN model...
Fitting BD BEXPDLIN model...
Fitting BD BLINDLIN model...
=== FITTING COALESCENT MODELS ===
Fitting Coalescent COALCST model...
Fitting Coalescent COALEXP model...
Fitting Coalescent COALLIN model...
Fitting Coalescent COALSTEP model...
Fitting Coalescent COALLOG model...
Processing tree: TF101004_treefam.tree
Tree is not ultrametric, attempting to make ultrametric...
=== FITTING BIRTH-DEATH MODELS ===
Fitting BD BCSTDCST model...
Fitting BD BEXPCDST model...
Fitting BD BLINCDST model...
Fitting BD BCSTDEXP model...
Fitting BD BEXPDEXP model...
Fitting BD BLINDEXP model...
Fitting BD BCSTDLIN model...
Fitting BD BEXPDLIN model...

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[illegible]

[illegible]

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Fitting BD BLINDLIN model...
=== FITTING COALESCENT MODELS ===
Fitting Coalescent COALCST model...
Fitting Coalescent COALEXP model...
Fitting Coalescent COALLIN model...
Fitting Coalescent COALSTEP model...
Fitting Coalescent COALOG model...
Processing tree: TF106001_treefam.tree
Tree is not ultrametric, attempting to make ultrametric...
=== FITTING BIRTH-DEATH MODELS ===
Fitting BD BCSTD CST model...
Fitting BD BEXPCD ST model...
Fitting BD BLINC DST model...
Fitting BD BCSTD EXP model...
Fitting BD BEXP DEXP model...
Fitting BD BLINDEX P model...
Fitting BD BCSTD LIN model...
Fitting BD BEXP DLIN model...
Fitting BD BLINDLIN model...
=== FITTING COALESCENT MODELS ===
Fitting Coalescent COALCST model...
Fitting Coalescent COALEXP model...
Fitting Coalescent COALLIN model...
Fitting Coalescent COALSTEP model...
Fitting Coalescent COALOG model...
Processing tree: TF106002_treefam.tree
Tree is not ultrametric, attempting to make ultrametric...
=== FITTING BIRTH-DEATH MODELS ===
Fitting BD BCSTD CST model...
Fitting BD BEXPCD ST model...
Fitting BD BLINC DST model...
Fitting BD BCSTD EXP model...
Fitting BD BEXP DEXP model...
Fitting BD BLINDEX P model...
Fitting BD BCSTD LIN model...
Fitting BD BEXP DLIN model...
Fitting BD BLINDLIN model...
=== FITTING COALESCENT MODELS ===
Fitting Coalescent COALCST model...
Fitting Coalescent COALEXP model...
Fitting Coalescent COALLIN model...
Fitting Coalescent COALSTEP model...
Fitting Coalescent COALOG model...
There were 37 warnings (use warnings() to see them)
Matching tree files with CSV entries...
Merging data...
Writing results...

==== SUMMARY ====
CSV entries: 36
Tree files processed: 36
Successful matches: 36
Output written to: data/model_gen/V0_mammilian_aa/protein_evolution_parameters_with_rates.csv

==== RATE ESTIMATES SUMMARY ====
Speciation rate - Mean: 376.4160, Range: 0.4807 - 8623.9451
Extinction rate - Mean: 301.3903, Range: -604.3688 - 8484.9627
Net diversification - Mean: 75.0257, Range: -2.0904 - 1211.9238

==== BEST MODELS SELECTED ====
RPANDA_BD_BCSTD CST: 18 cases
RPANDA_BD_BCSTD EXP: 1 cases
RPANDA_BD_BEXP DEXP: 4 cases
RPANDA_BD_BEXP DEXP: 2 cases
RPANDA_BD_BLINC DST: 2 cases
RPANDA_BD_BLINDLIN: 9 cases

==== MODEL TYPE DISTRIBUTION ====
birth_death: 36 cases

==== MODEL COMPARISON NOTES ====
The output CSV now includes:
- Birth-Death Models: 9 different combinations of birth/death rate variations
- Coalescent Models: 5 different population demographic models
- all_models_aic: AIC values for all fitted models
- best_models_ranking: Models ranked by AIC (best to worst)
- delta_aic: Delta AIC values relative to best model
- effective_type: Indicates whether best model was 'birth_death' or 'coalescent'
- effective_pop_size: Effective population size (for coalescent models)
- growth_rate: Population growth rate (for coalescent models)
- coalescent_params: Detailed coalescent model parameters

==== MODEL SELECTION SUMMARY ====
Birth-Death models selected: 36 (100.0%)
Coalescent models selected: 0 (0.0%)

RPANDA analysis with Birth-Death AND Coalescent models complete!
Enhanced model comparison workflow includes demographic and diversification processes.
Tree topology parameters extracted for V0_mammilian_aa.
COMPLETEEEEEETETETETET!!!!
(phylo) krishna@imac historianEval %
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