Additional MrBayes Tutorials

- Partitioned analysis
- Identifying positively selected sites
- Sampling across the GTR model space
- Testing a topological hypothesis
- Testing the molecular clock
- Total-evidence dating with fossils
- Inferring ancestral states
Using R for Phylogenetics

- Introduction to R for phylogenetics
- Using R to examine MCMC convergence in MrBayes
Resources

- My page (people.sc.fsu.edu/~fronquis/mrbayes)
- MrBayes web site (mrbayes.net) with Wiki manual
- Online help in the program (type help or help <command>)
- MrBayes 3.2 tutorial: a simple analysis (primates.nex) and an analysis of partitioned data (cynmix.nex)
- Graphical summaries of the MrBayes 3.2 models on the MrBayes software page on course web site
- Papers
  - Nielsen (ed.) chapter: intro + complex partitioned analysis (kim.nex) (version 3.1)
  - Lemey et al (ed.) chapter: intro + tutorials (version 3.2)
  - Annual Review of Entomology: Review of Bayesian phylogenetics
Models supported by MrBayes 3 (simplified)
Models supported by MrBayes 3 (simplified)

Data Type
- Protein A-Y

Model Type
- Equalin/GTR
  - prset aamodelpr
- Poisson/Jones/Dayhoff/Mtrev/Mtmam/Wag/Rtrev/Cprev/Vt/Blossum/mixed
  - prset aamodelpr

State Frequencies
- fixed/est. (Dirichlet)
- prset statefreqpr

Substitution Rates
- fixed/est. (Dirichlet)
- prset aarevmatpr

Across-Site Rate Variation
- equal/gamma/propinv/invgamma/adgamma
  - lset rates

Across-Tree Rate Variation
- yes/no
- lset covarion

Parameter Variation Across Partitions

Topology Models
- unconstrained/constraints/fixed
  - constraint prset topologypr

Brlns Type
- Fixed
  - set partition, link, unlink
- Unconstrained
  - prset brlnspr
- Clock
  - prset brlnspr

Brlns Prior
- Exponential/Uniform
  - prset brlnspr
- Uniform
  - prset brlnspr
- Coalescence
  - prset brlnspr
- Birth-Death
  - prset brlnspr

Additional Parameters
- see prset (lset for diploidy)
  - Treeheight
  - Theta, Diploidy Growth
  - Speciation Extinction Treeheight Sampleprob

Inferring Site Parameters
- ancstates/possel/siteomega/siterate report

Clockrate Variation
- strict/cpp/ibr/bm
  - prset clockratepr

Dating Constraints
- unconstrained/calibrated
  - calibrate
  - prset nodeagepr
  - prset treagepr