28S

Model selected:

Model = HKY+I

partition = 010010

-lnL = 1481.2745

K = 99

freqA = 0.2535

freqC = 0.2502

freqG = 0.3087

freqT = 0.1876

kappa = 2.6142 (ti/tv = 1.3297)

p-inv = 0.9290

--

PAUP\* Commands Block:

If you want to load the selected model and associated estimates in PAUP\*,

attach the next block of commands after the data in your PAUP file:

[!

Likelihood settings from best-fit model (HKY+I) selected by AIC

with jModeltest 2.1.10 v20160303 on Thu Jul 19 18:52:01 PDT 2018]

BEGIN PAUP;

Lset base=(0.2535 0.2502 0.3087 ) nst=2 tratio=1.3297 rates=equal pinvar=0.9290;

END;

--

16S

Model selected:

Model = GTR+I+G

partition = 012345

-lnL = 4998.0343

K = 140

freqA = 0.4141

freqC = 0.1074

freqG = 0.1197

freqT = 0.3587

R(a) [AC] = 0.6729

R(b) [AG] = 6.6843

R(c) [AT] = 2.4115

R(d) [CG] = 0.5637

R(e) [CT] = 3.5806

R(f) [GT] = 1.0000

p-inv = 0.1900

gamma shape = 0.3390

--

PAUP\* Commands Block:

If you want to load the selected model and associated estimates in PAUP\*,

attach the next block of commands after the data in your PAUP file:

[!

Likelihood settings from best-fit model (GTR+I+G) selected by AIC

with jModeltest 2.1.10 v20160303 on Thu Jul 19 18:56:49 PDT 2018]

BEGIN PAUP;

Lset base=(0.4141 0.1074 0.1197 ) nst=6 rmat=(0.6729 6.6843 2.4115 0.5637 3.5806) rates=gamma shape=0.3390 ncat=4 pinvar=0.1900;

END;

COI123

PAUP\* Commands Block:

If you want to load the selected model and associated estimates in PAUP\*,

attach the next block of commands after the data in your PAUP file:

[!

Likelihood settings from best-fit model (HKY+I+G) selected by BIC

with jModeltest 2.1.10 v20160303 on Wed Jun 27 17:40:02 PDT 2018]

BEGIN PAUP;

Lset base=(0.3016 0.0842 0.1386 ) nst=2 tratio=4.2721 rates=gamma shape=0.6090 ncat=4 pinvar=0.5130;

END;

COI1--

Model selected:

Model = TrN+I+G

partition = 010020

-lnL = 903.1276

K = 145

freqA = 0.2759

freqC = 0.1287

freqG = 0.2989

freqT = 0.2964

R(a) [AC] = 1.0000

R(b) [AG] = 2.1743

R(c) [AT] = 1.0000

R(d) [CG] = 1.0000

R(e) [CT] = 56.5968

R(f) [GT] = 1.0000

p-inv = 0.4590

gamma shape = 0.6000

--

PAUP\* Commands Block:

If you want to load the selected model and associated estimates in PAUP\*,

attach the next block of commands after the data in your PAUP file:

[!

Likelihood settings from best-fit model (TrN+I+G) selected by AIC

with jModeltest 2.1.10 v20160303 on Thu Jul 19 18:54:37 PDT 2018]

BEGIN PAUP;

Lset base=(0.2759 0.1287 0.2989 ) nst=6 rmat=(1.0000 2.1743 1.0000 1.0000 56.5968) rates=gamma shape=0.6000 ncat=4 pinvar=0.4590;

END;

COI2

Model selected:

Model = TVM+I

partition = 012314

-lnL = 339.9084

K = 146

freqA = 0.1200

freqC = 0.2429

freqG = 0.1844

freqT = 0.4527

R(a) [AC] = 2035.9781

R(b) [AG] = 562.3539

R(c) [AT] = 780.4383

R(d) [CG] = 1227.7834

R(e) [CT] = 562.3539

R(f) [GT] = 1.0000

p-inv = 0.7750

--

PAUP\* Commands Block:

If you want to load the selected model and associated estimates in PAUP\*,

attach the next block of commands after the data in your PAUP file:

[!

Likelihood settings from best-fit model (TVM+I) selected by AIC

with jModeltest 2.1.10 v20160303 on Thu Jul 19 18:56:38 PDT 2018]

BEGIN PAUP;

Lset base=(0.1200 0.2429 0.1844 ) nst=6 rmat=(2035.9781 562.3539 780.4383 1227.7834 562.3539) rates=equal pinvar=0.7750;

END;

--

COI12

Model selected:

Model = TIM1+I+G

partition = 012230

-lnL = 1335.4470

K = 146

freqA = 0.2037

freqC = 0.1965

freqG = 0.2403

freqT = 0.3594

R(a) [AC] = 1.0000

R(b) [AG] = 3.8131

R(c) [AT] = 2.2129

R(d) [CG] = 2.2129

R(e) [CT] = 27.8670

R(f) [GT] = 1.0000

p-inv = 0.6370

gamma shape = 0.4090

--

PAUP\* Commands Block:

If you want to load the selected model and associated estimates in PAUP\*,

attach the next block of commands after the data in your PAUP file:

[!

Likelihood settings from best-fit model (TIM1+I+G) selected by AIC

with jModeltest 2.1.10 v20160303 on Thu Jul 19 18:58:12 PDT 2018]

BEGIN PAUP;

Lset base=(0.2037 0.1965 0.2403 ) nst=6 rmat=(1.0000 3.8131 2.2129 2.2129 27.8670) rates=gamma shape=0.4090 ncat=4 pinvar=0.6370;

END;

--

COI3

Model selected:

Model = TIM1+G

partition = 012230

-lnL = 5129.3146

K = 145

freqA = 0.3283

freqC = 0.0534

freqG = 0.1072

freqT = 0.5110

R(a) [AC] = 1.0000

R(b) [AG] = 8.8964

R(c) [AT] = 0.2994

R(d) [CG] = 0.2994

R(e) [CT] = 9.2786

R(f) [GT] = 1.0000

gamma shape = 1.3690

--

PAUP\* Commands Block:

If you want to load the selected model and associated estimates in PAUP\*,

attach the next block of commands after the data in your PAUP file:

[!

Likelihood settings from best-fit model (TIM1+G) selected by AIC

with jModeltest 2.1.10 v20160303 on Thu Jul 19 19:01:06 PDT 2018]

BEGIN PAUP;

Lset base=(0.3283 0.0534 0.1072 ) nst=6 rmat=(1.0000 8.8964 0.2994 0.2994 9.2786) rates=gamma shape=1.3690 ncat=4 pinvar=0;

END;

ITS

Model selected:

Model = GTR+G

partition = 012345

-lnL = 7397.5640

K = 141

freqA = 0.2135

freqC = 0.2455

freqG = 0.2629

freqT = 0.2781

R(a) [AC] = 1.6179

R(b) [AG] = 2.4575

R(c) [AT] = 1.5632

R(d) [CG] = 0.6692

R(e) [CT] = 1.9475

R(f) [GT] = 1.0000

gamma shape = 0.5400

--

PAUP\* Commands Block:

If you want to load the selected model and associated estimates in PAUP\*,

attach the next block of commands after the data in your PAUP file:

[!

Likelihood settings from best-fit model (GTR+G) selected by AIC

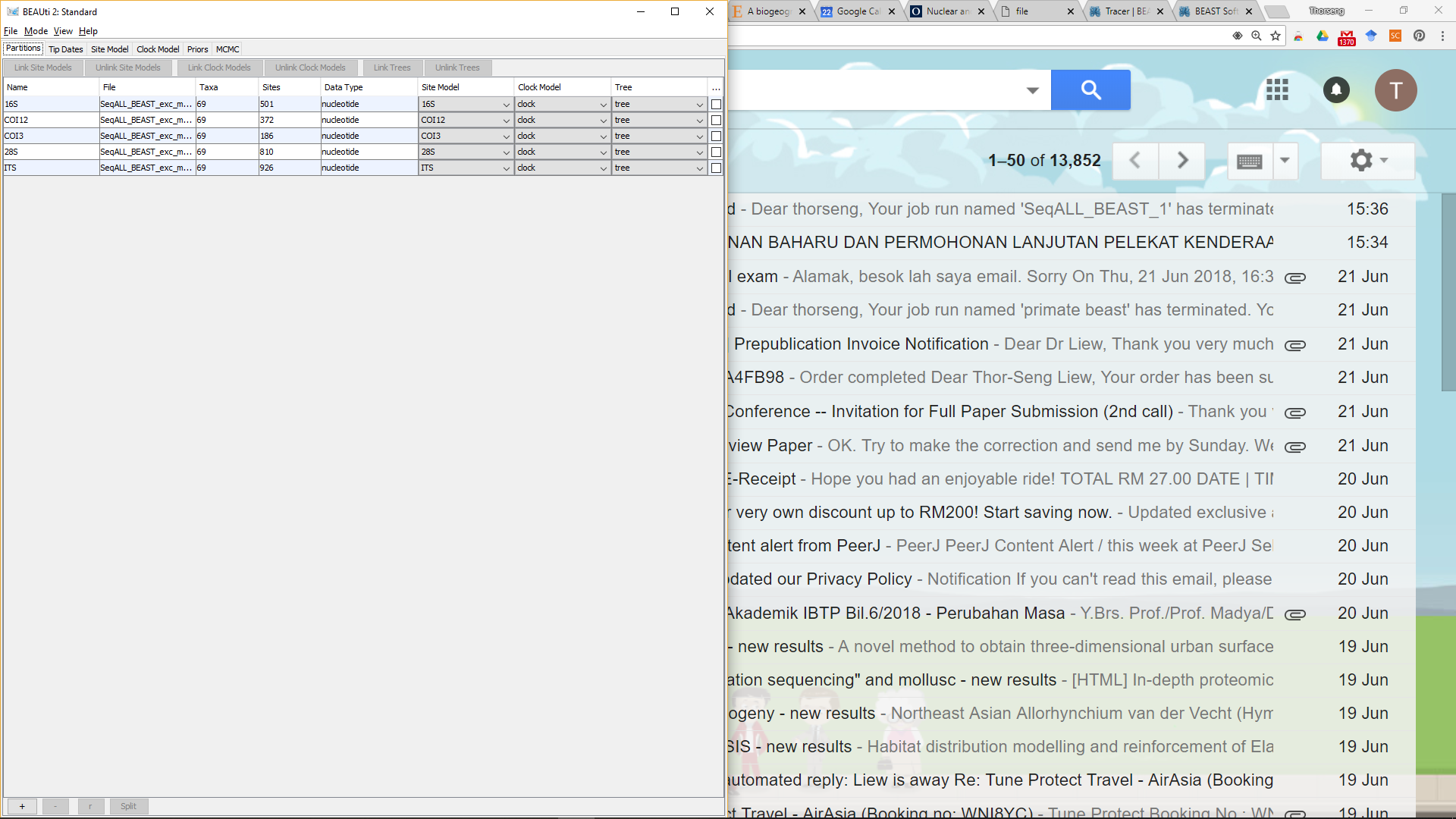
with jModeltest 2.1.10 v20160303 on Thu Jul 19 19:00:52 PDT 2018]

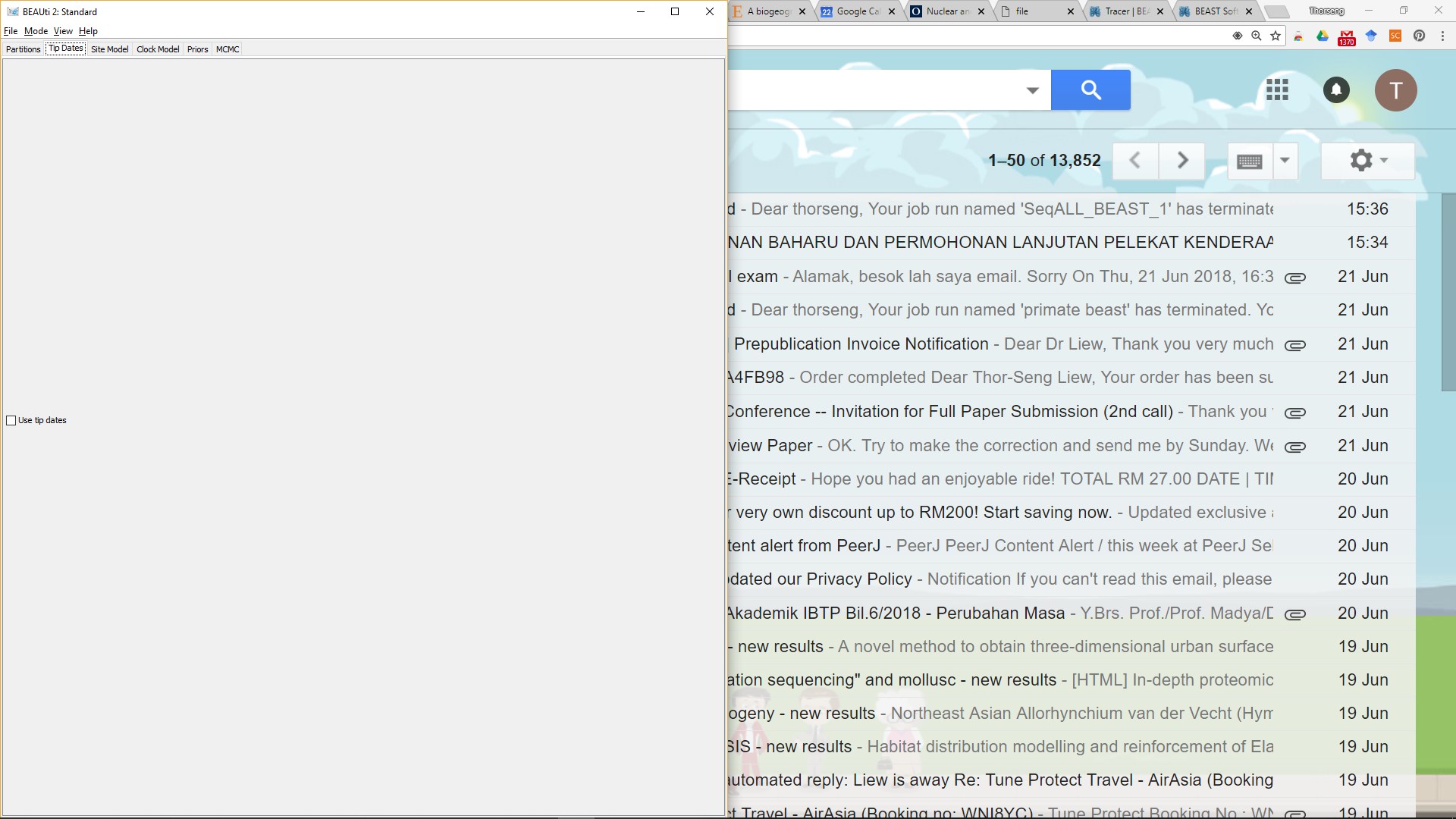
BEGIN PAUP;

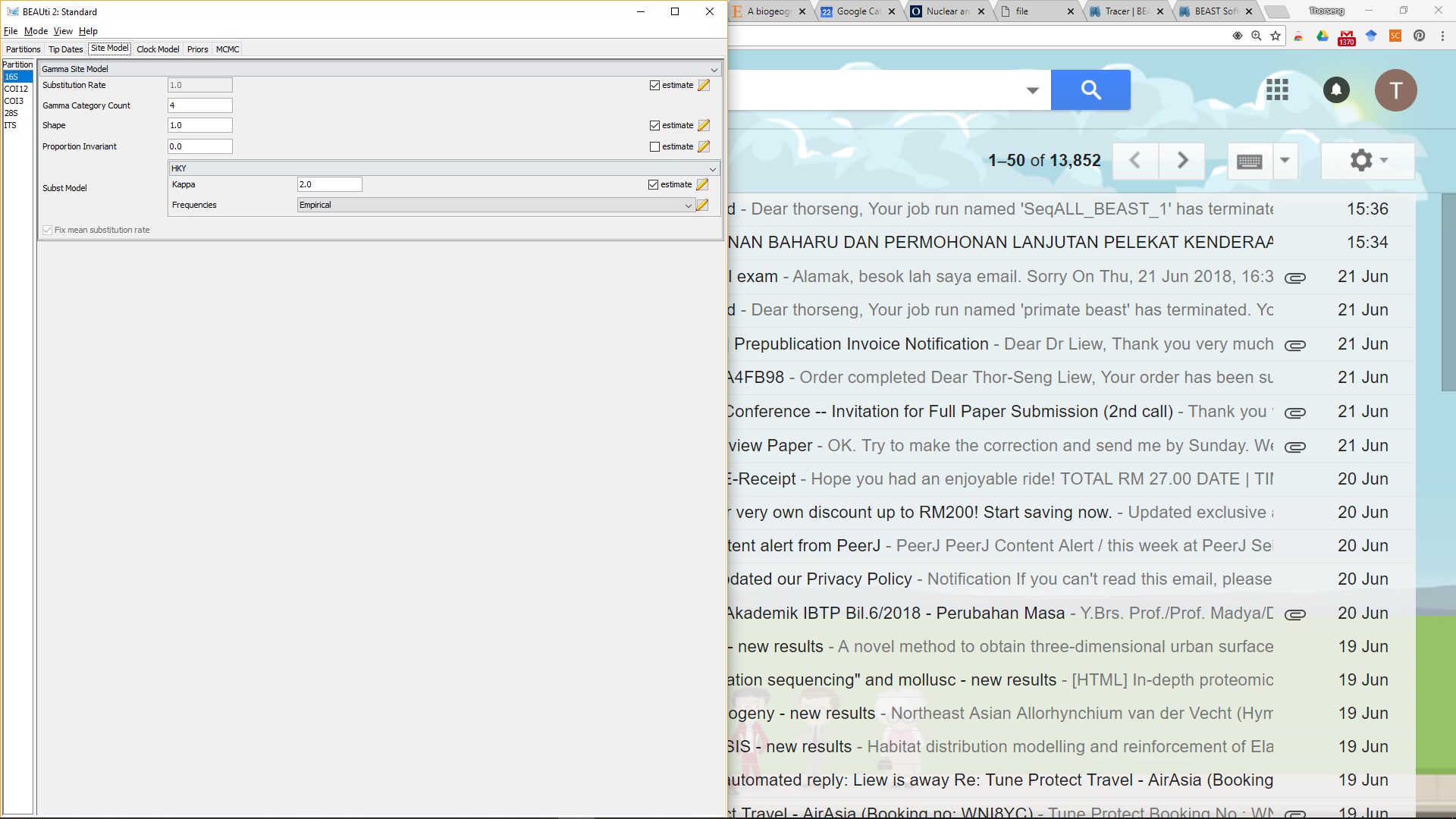
Lset base=(0.2135 0.2455 0.2629 ) nst=6 rmat=(1.6179 2.4575 1.5632 0.6692 1.9475) rates=gamma shape=0.5400 ncat=4 pinvar=0;

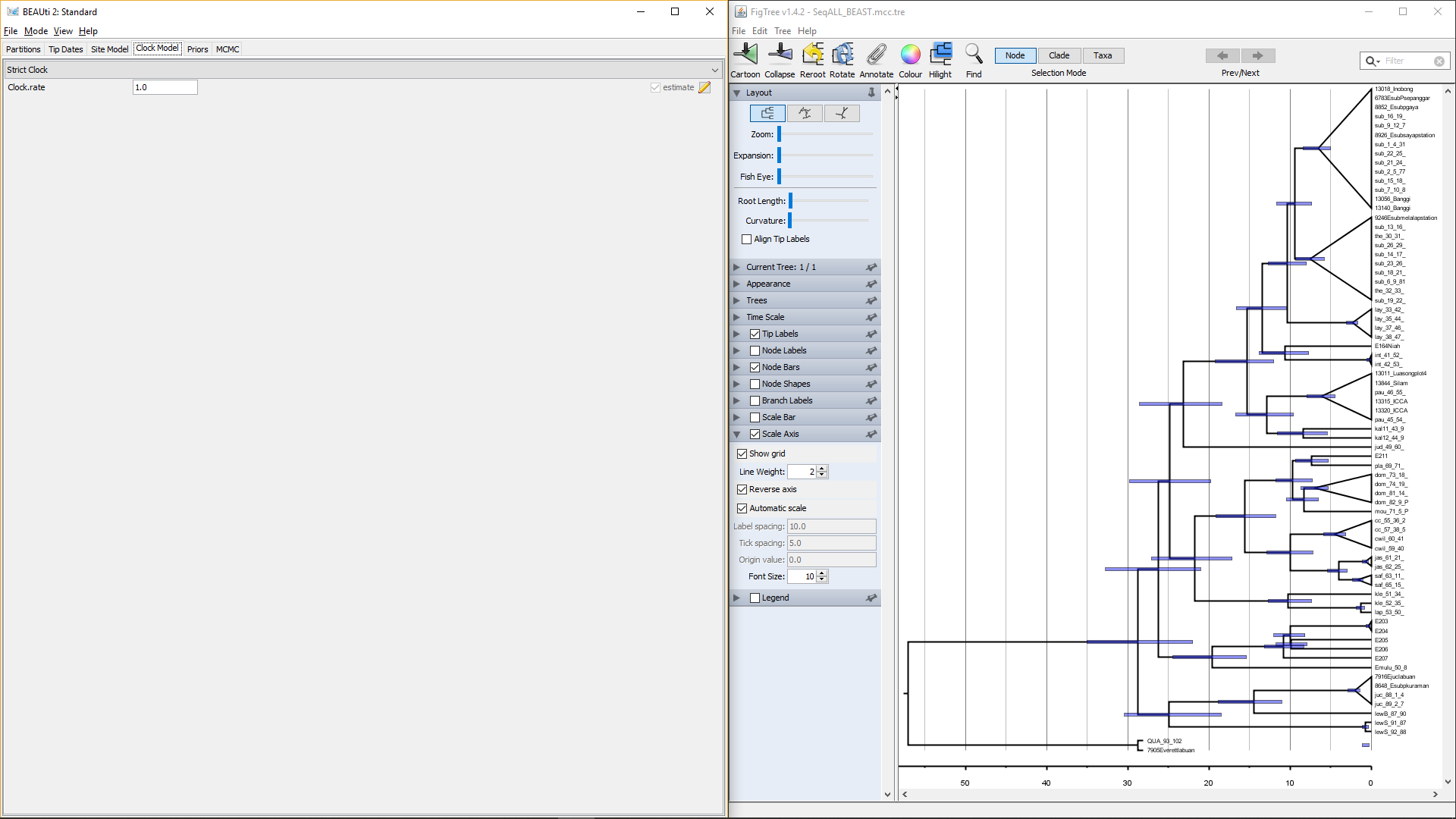
END;

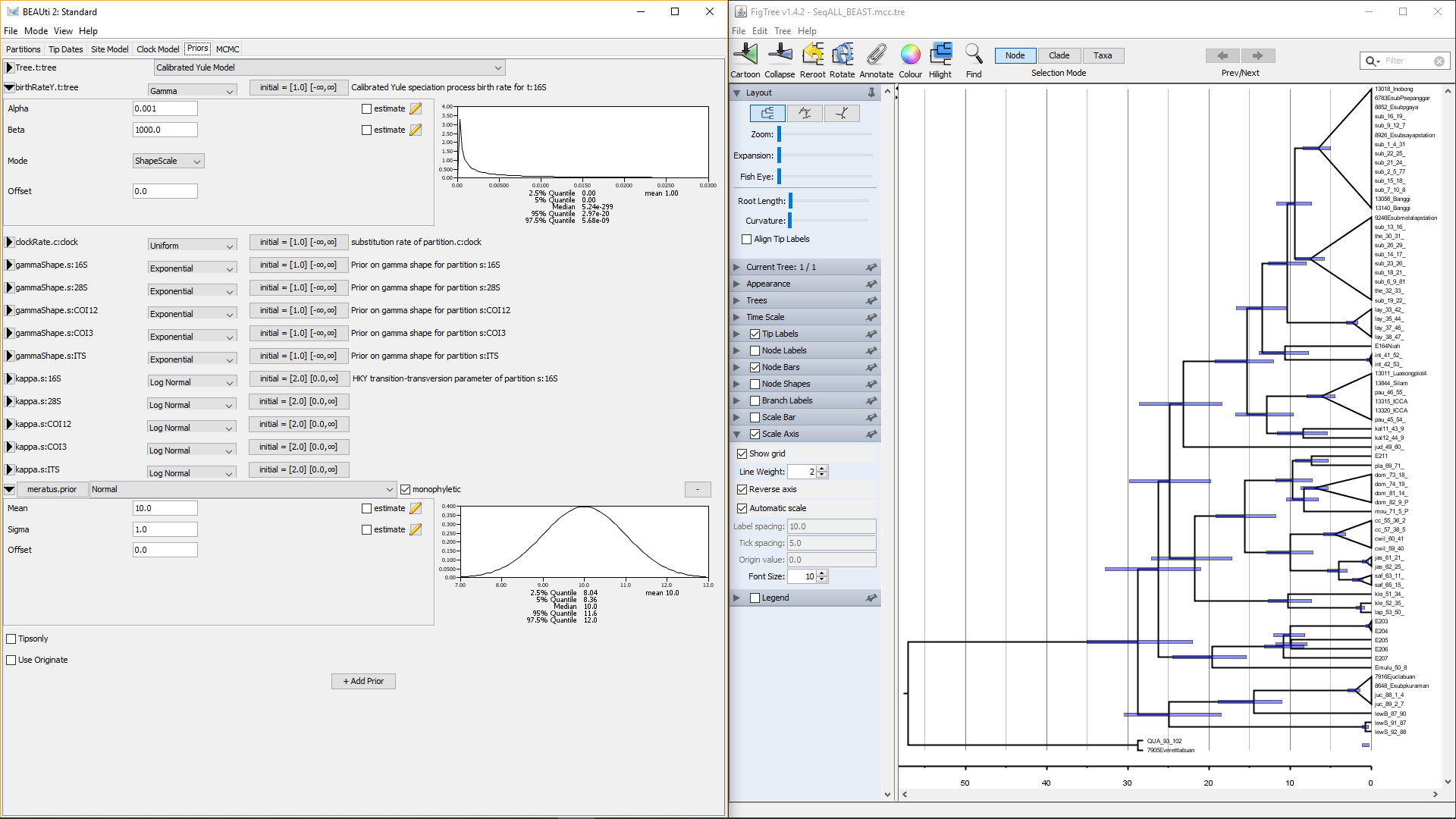
(1) SeqALL\_BEAST\_exc\_meratus\_2.xml = Normal

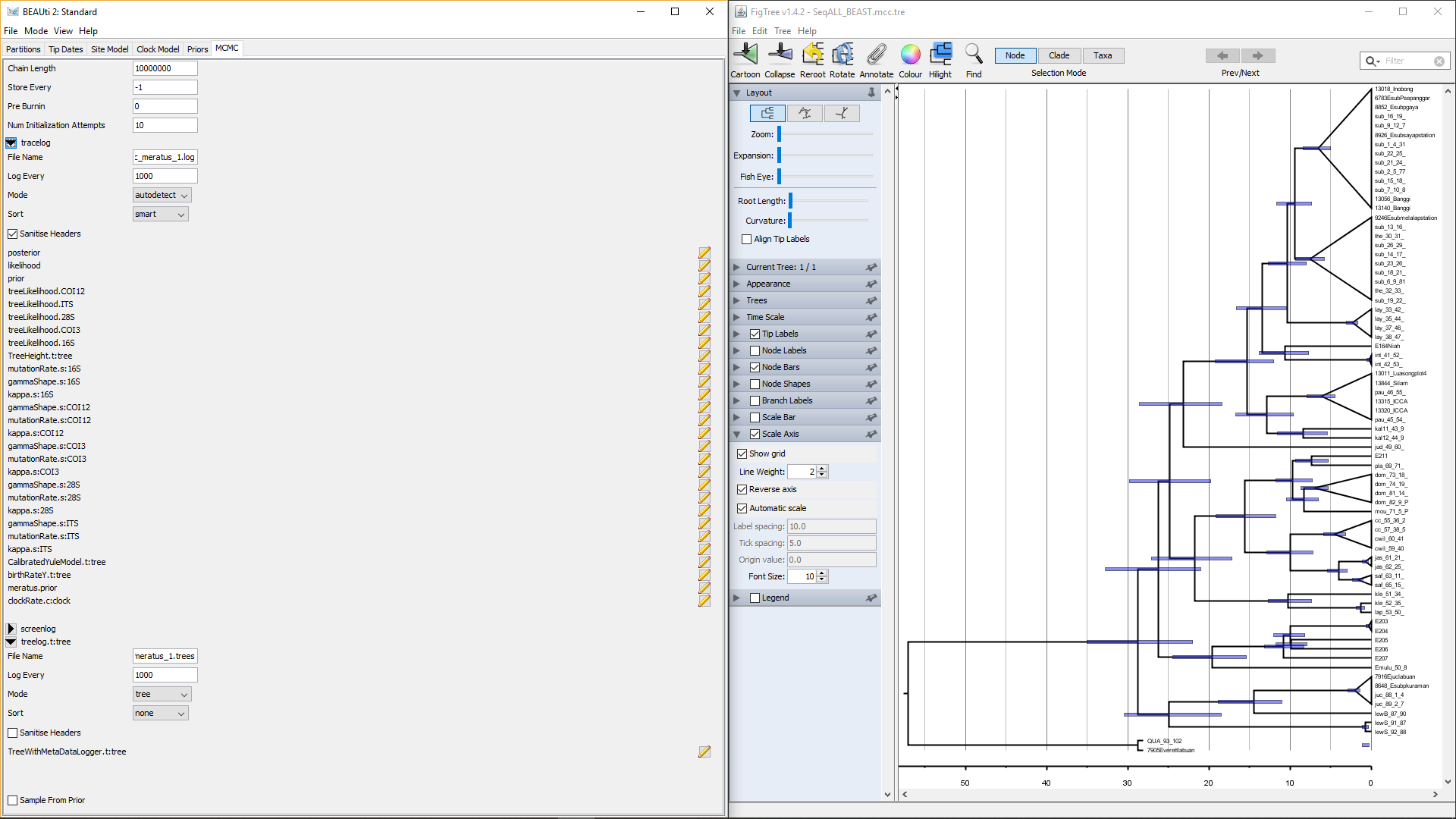




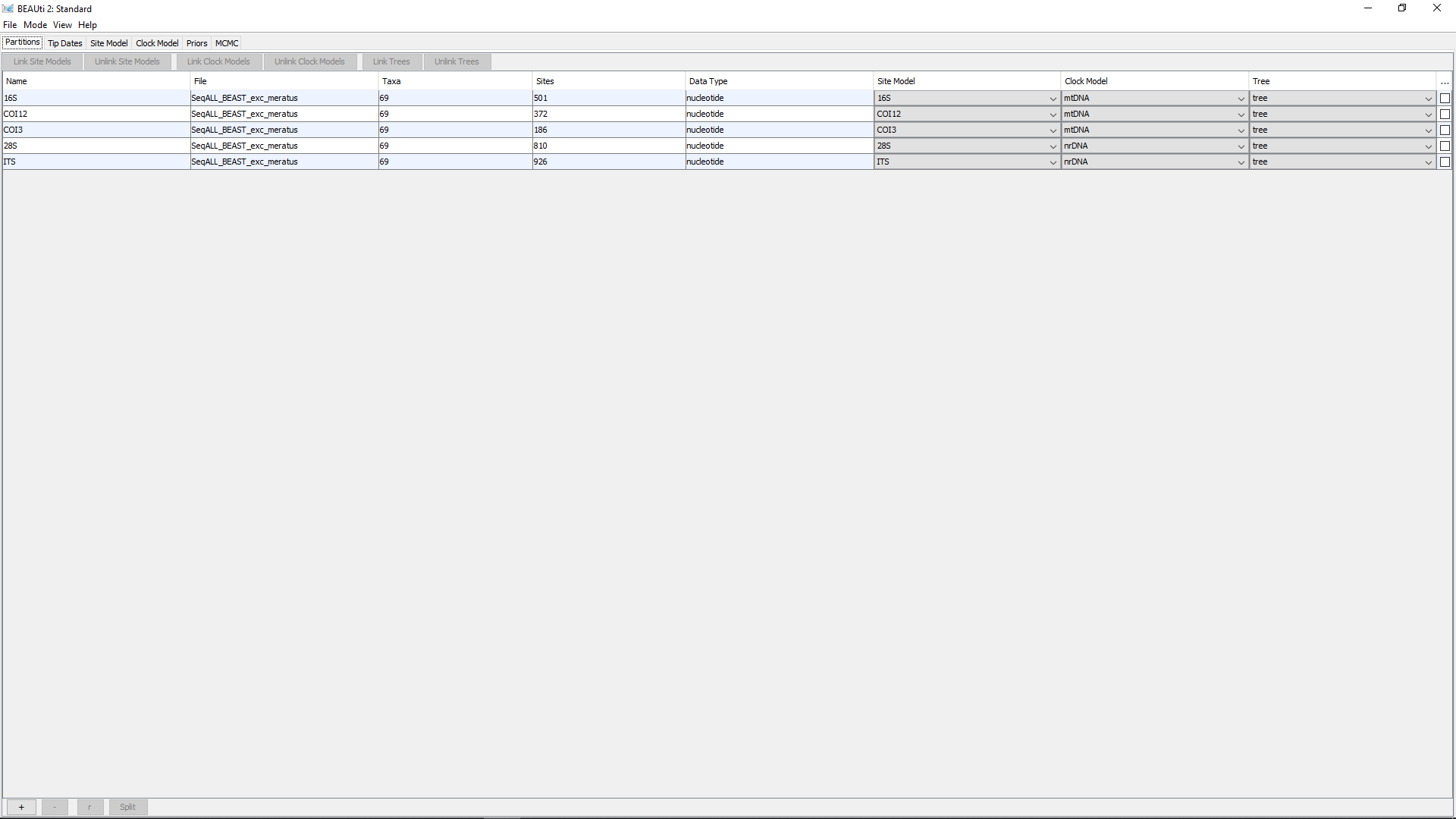








(2) SeqALL\_BEAST\_exc\_meratus\_2.xml = clock model unlink – mtDNA & nrDNA



(3) SeqALL\_BEAST\_exc\_meratus\_2.xml = clock model unlink – mtDNA & nrDNA & GTR