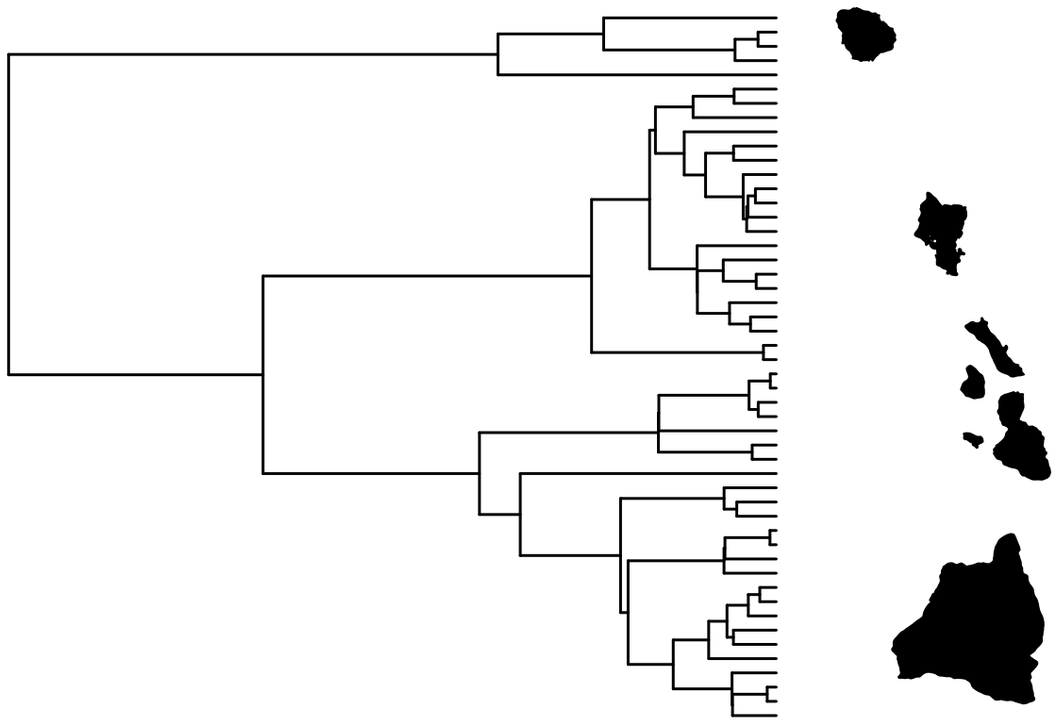
Macroevolutionary signals of insular adaptive radiations



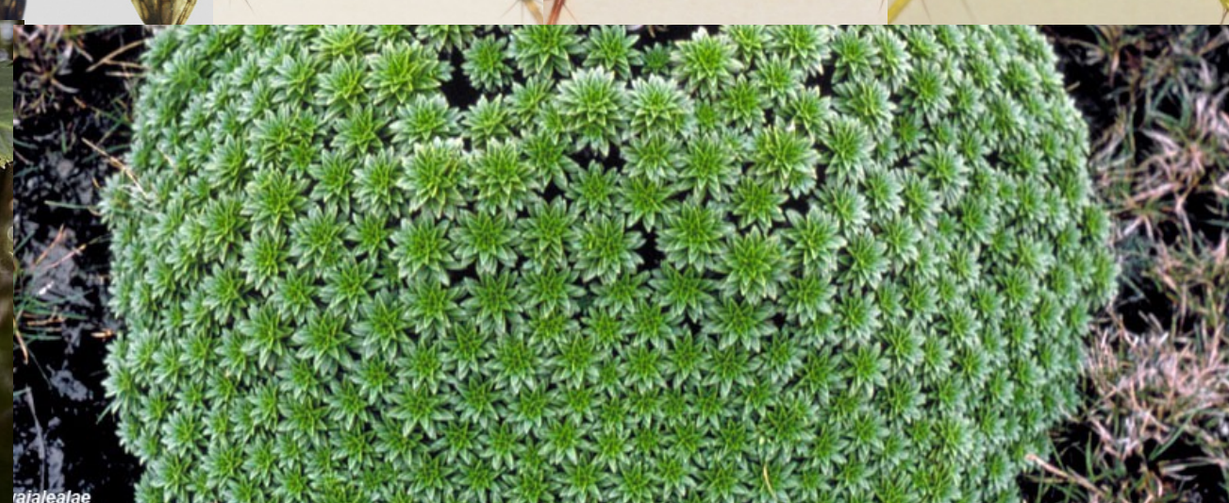
Andrew J. Rominger & Rosemary G. Gillespie
University of California Berkeley
nature.berkeley.edu/~rominger

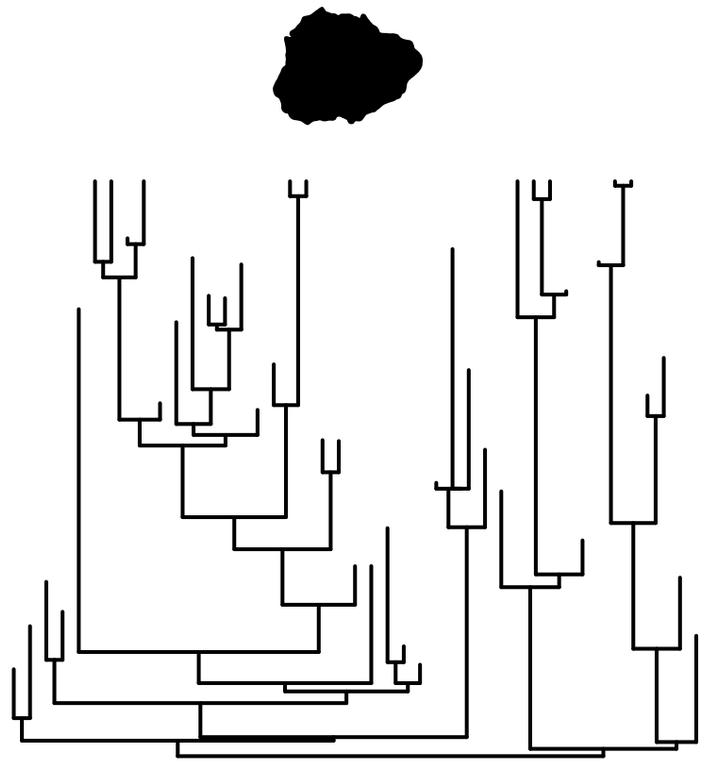


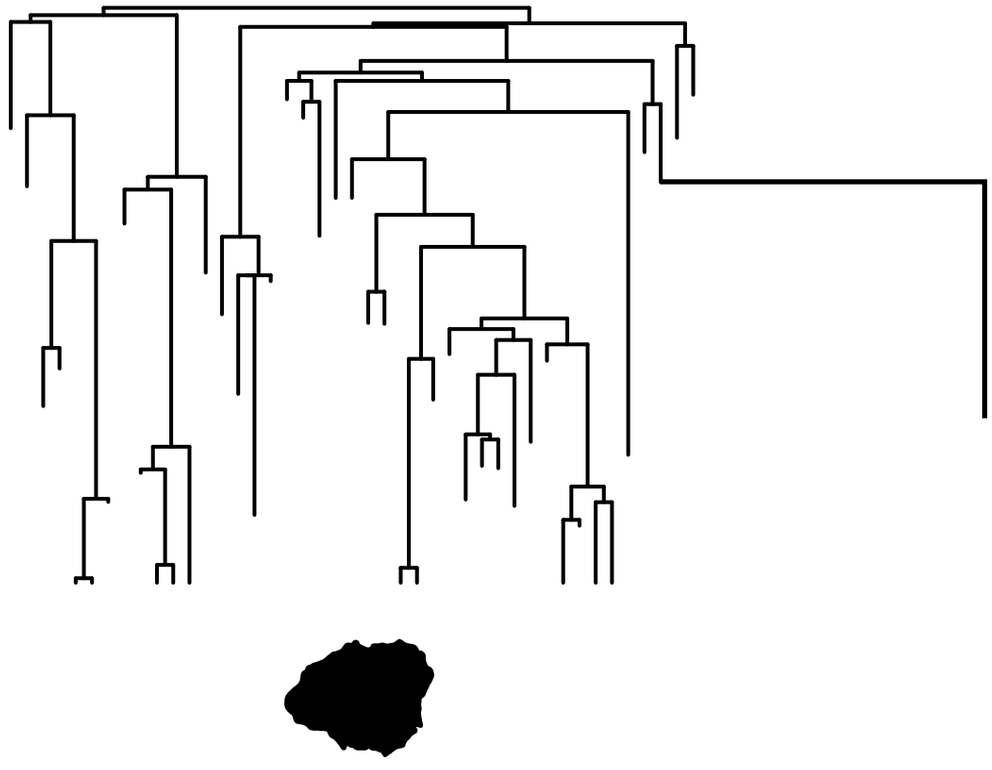


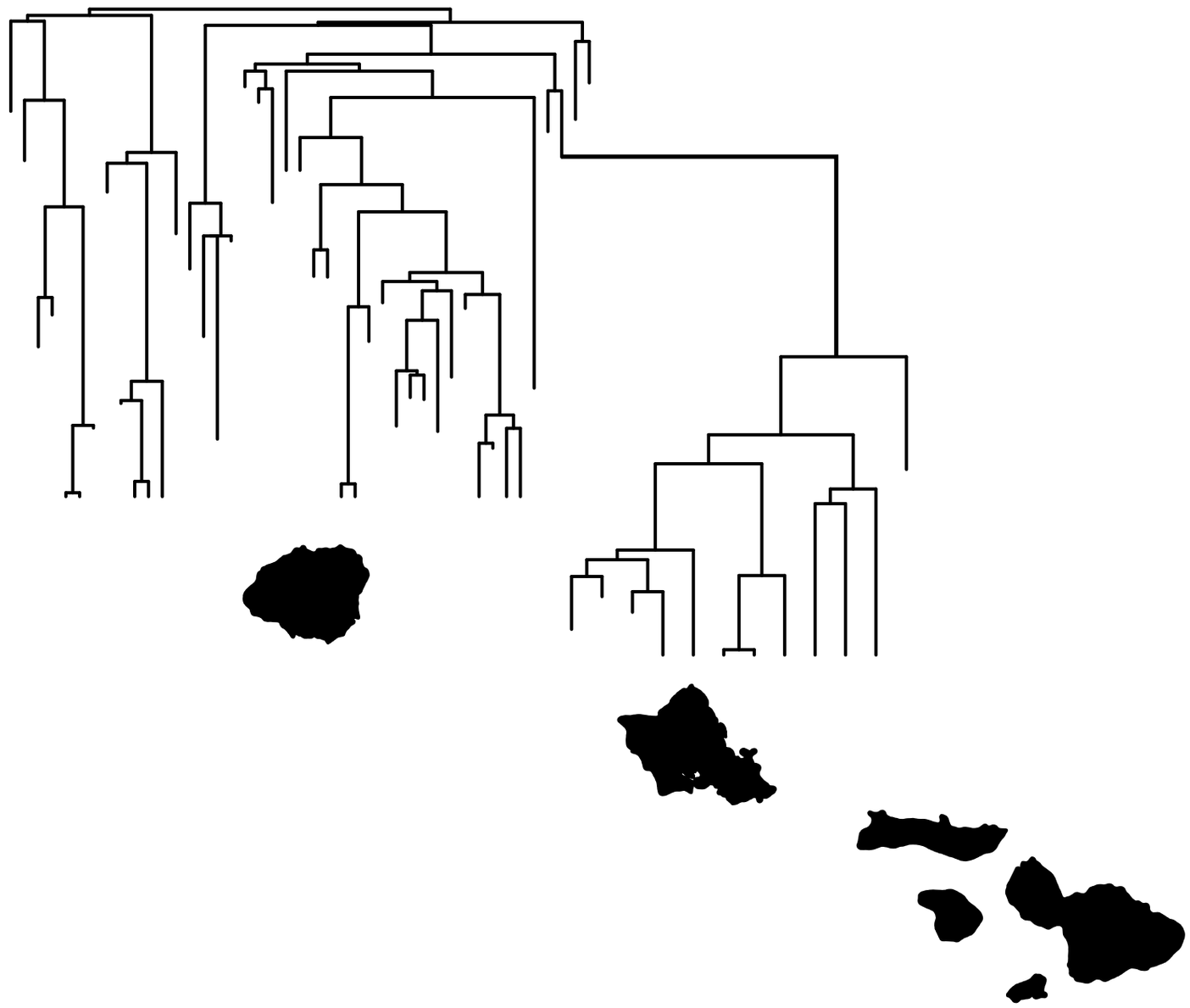


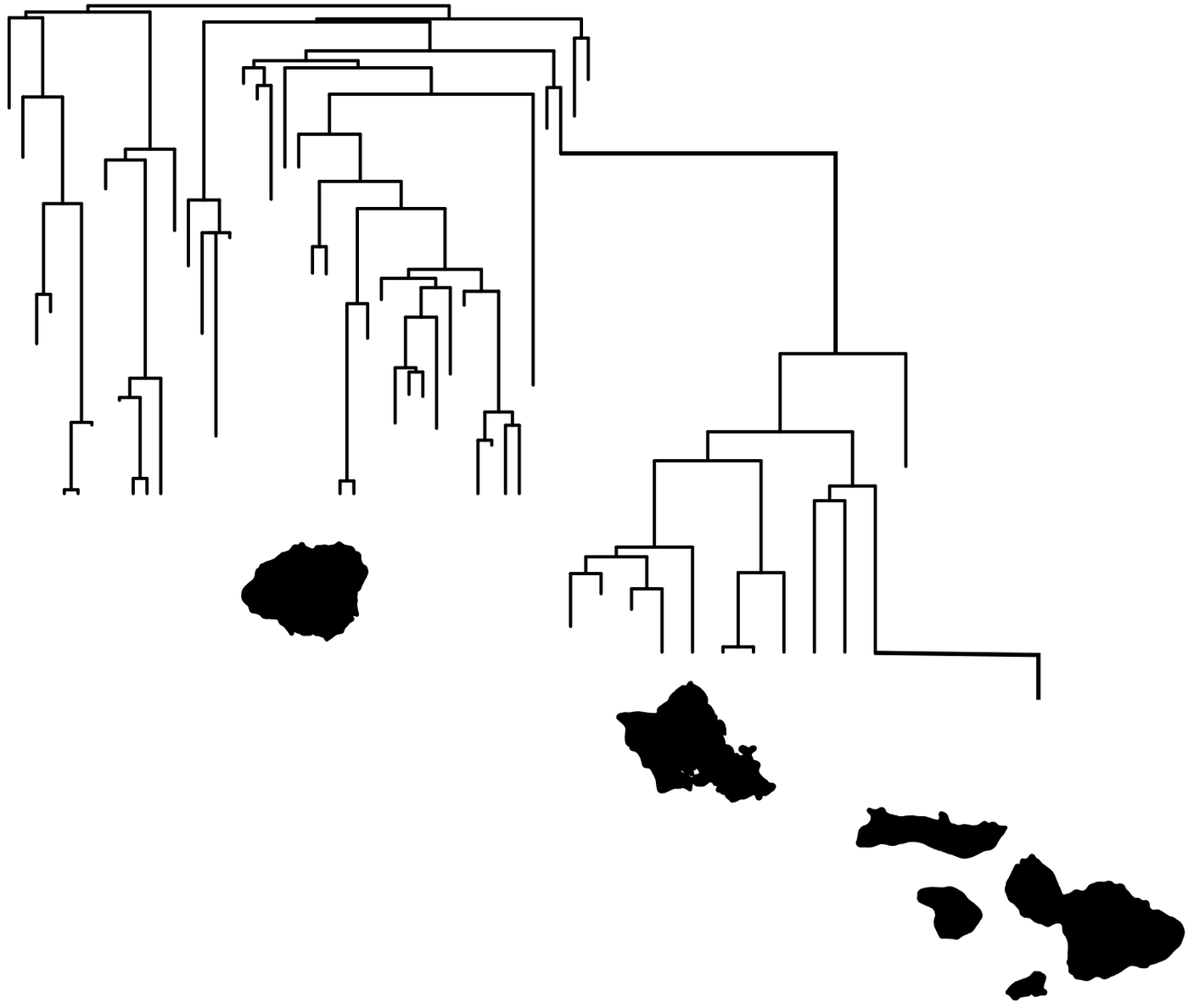


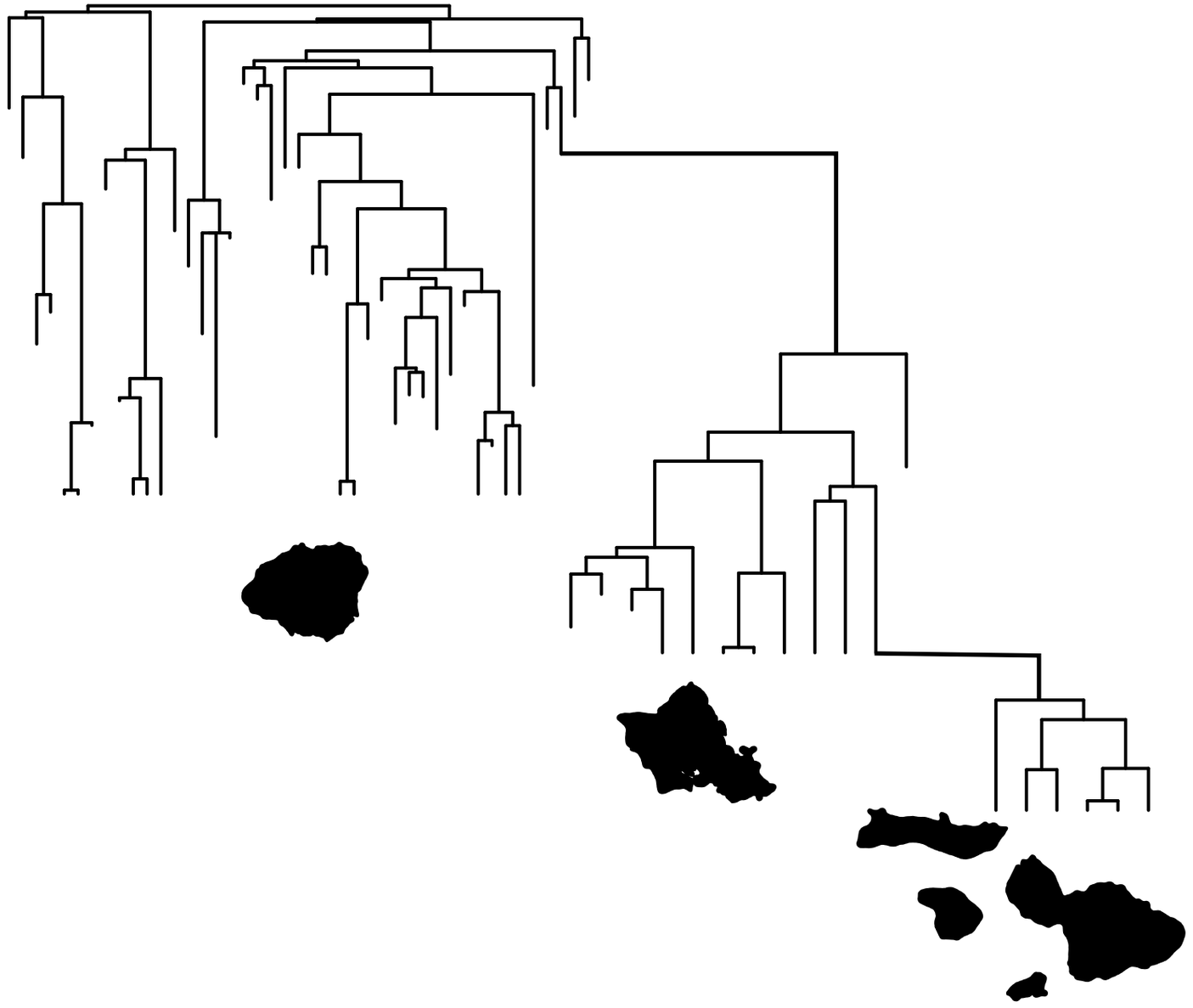


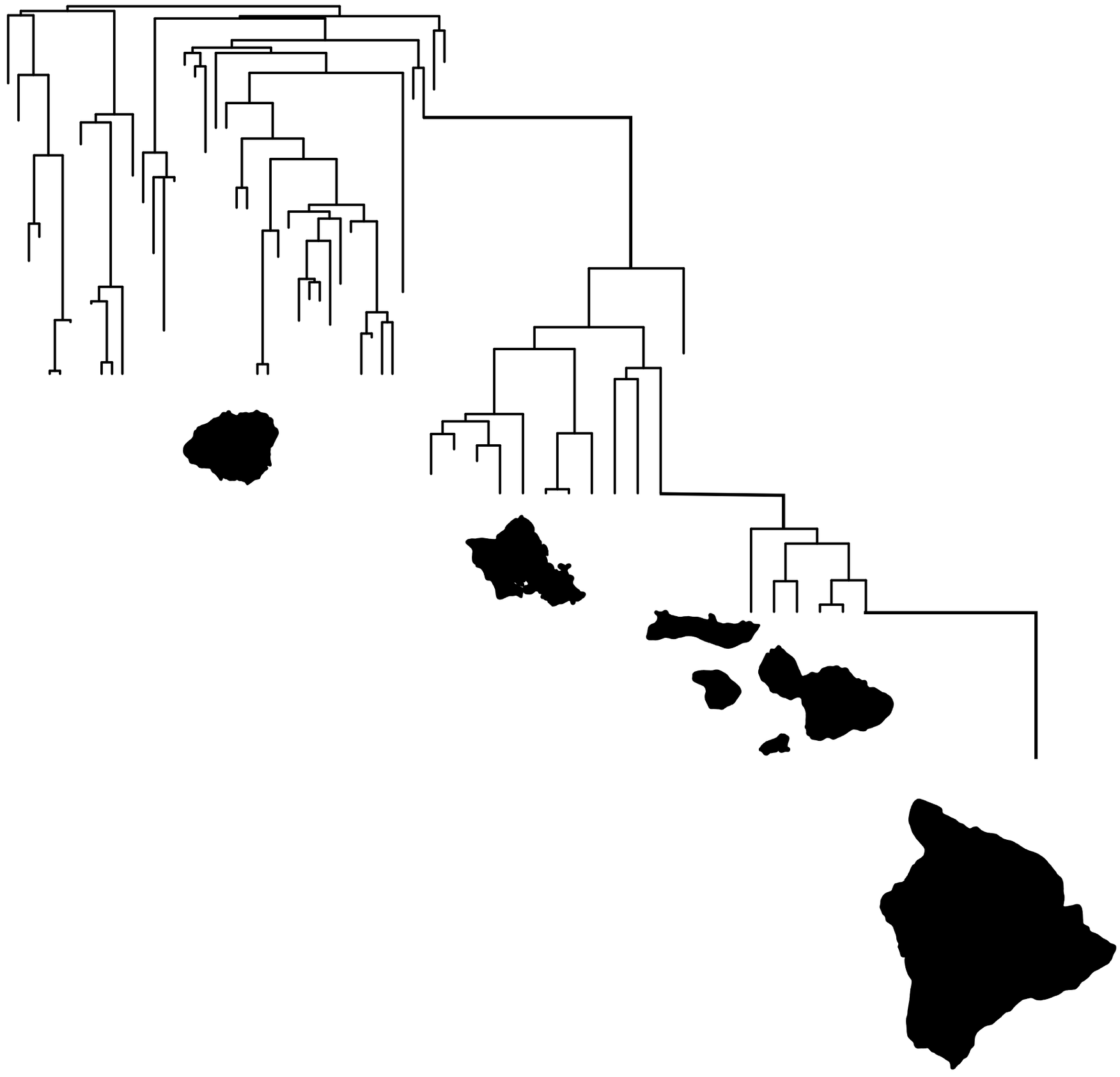


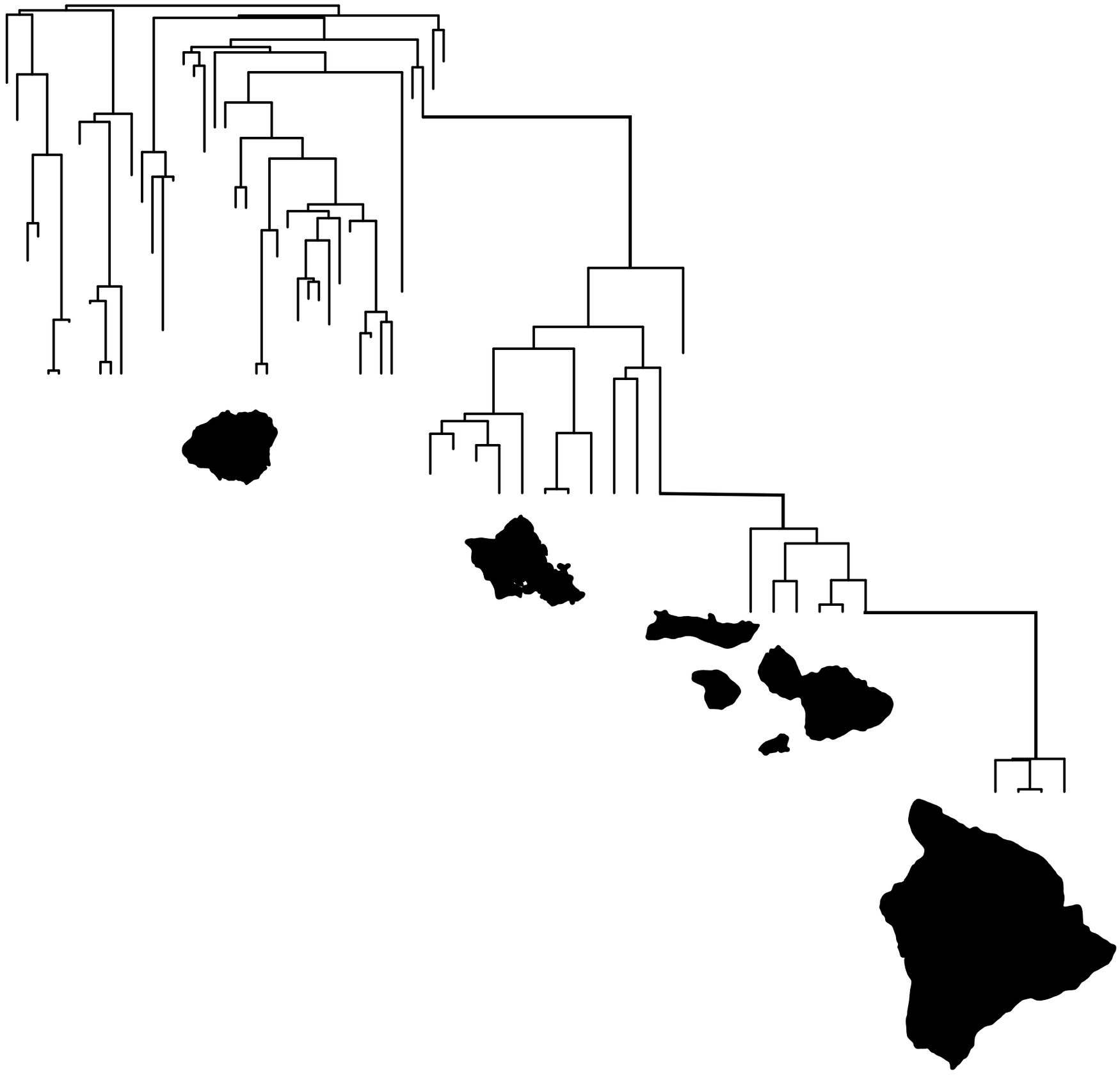






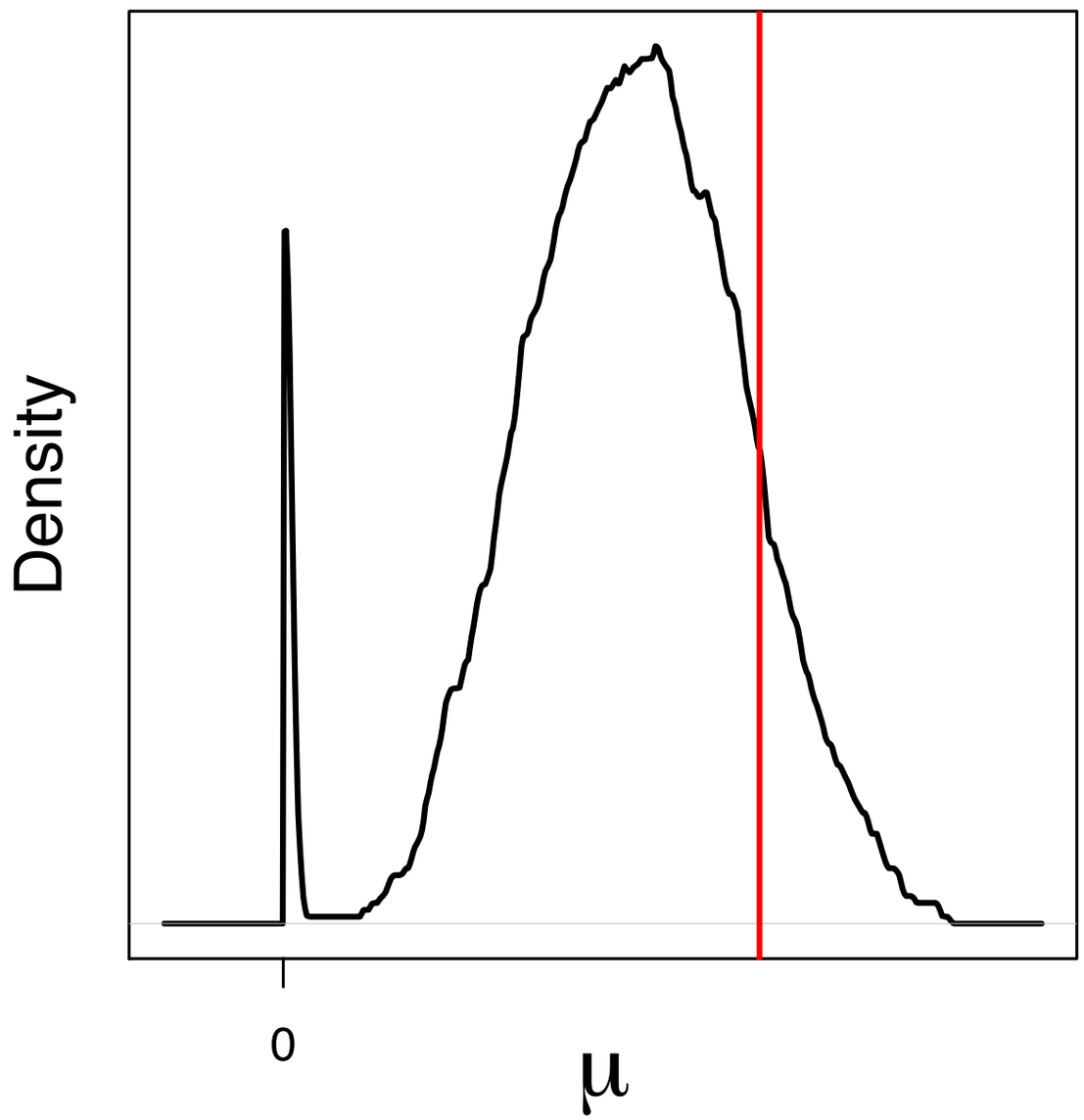






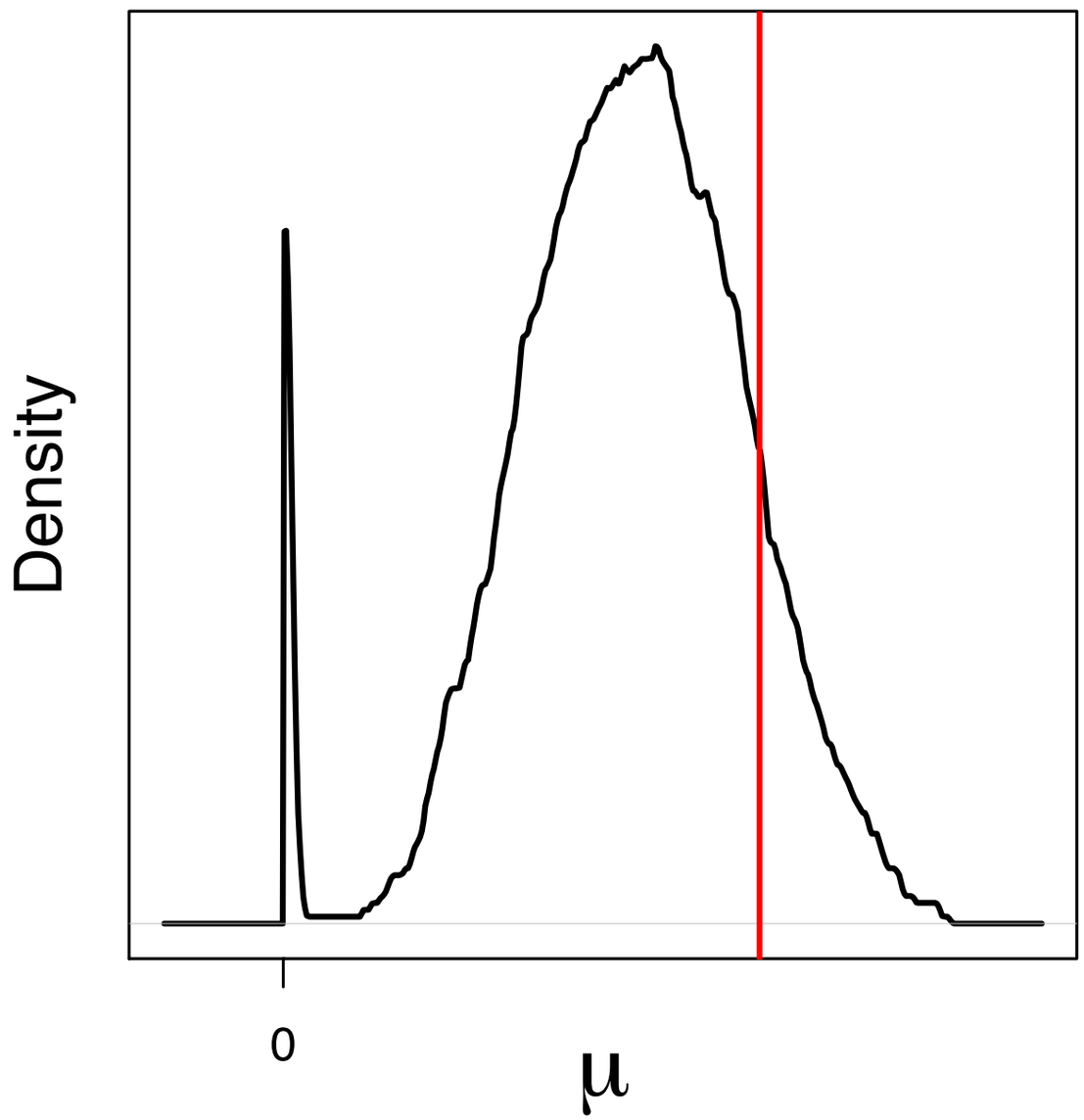
Rates are hard to estimate

Simulated

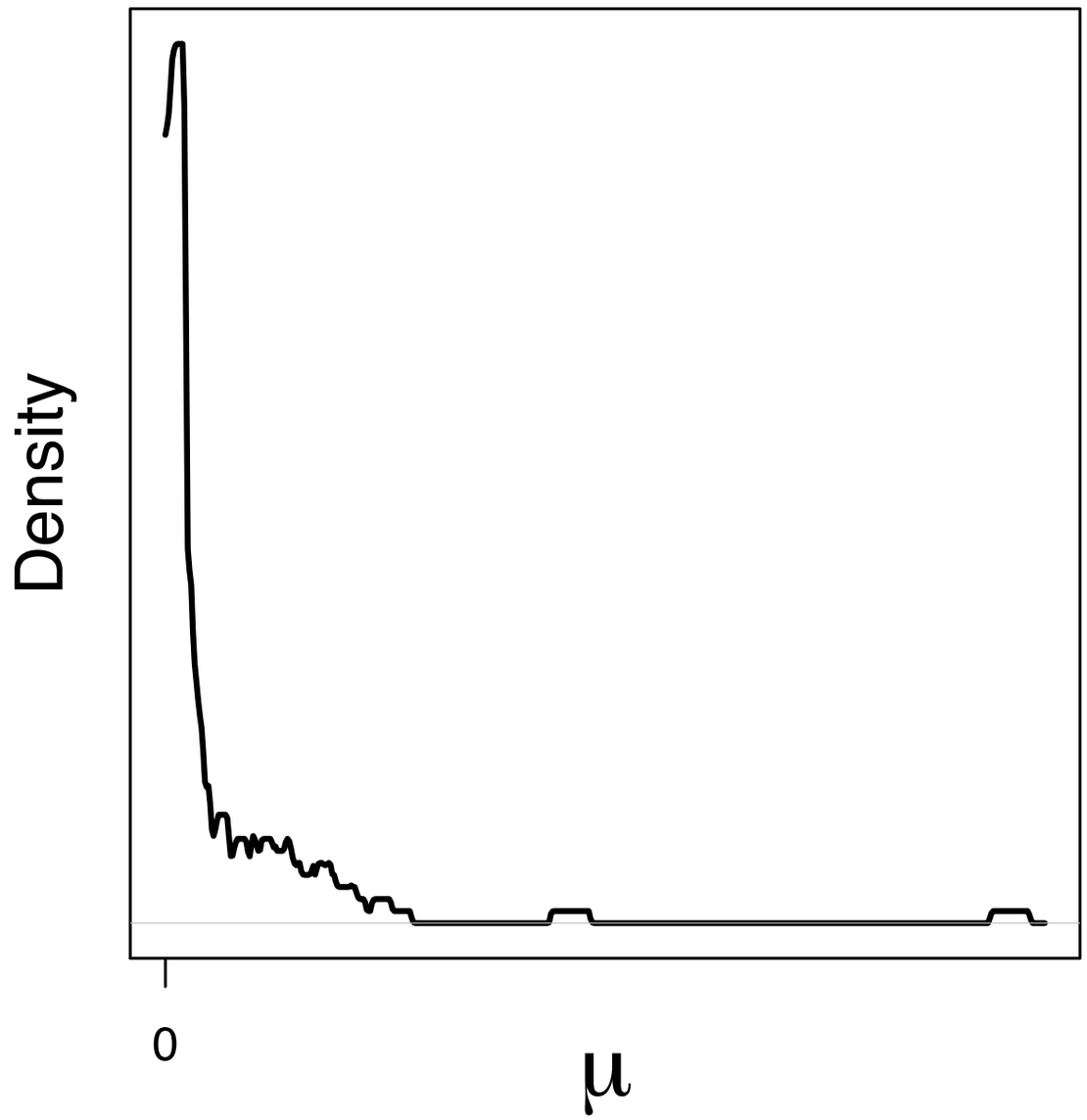


Rates are hard to estimate

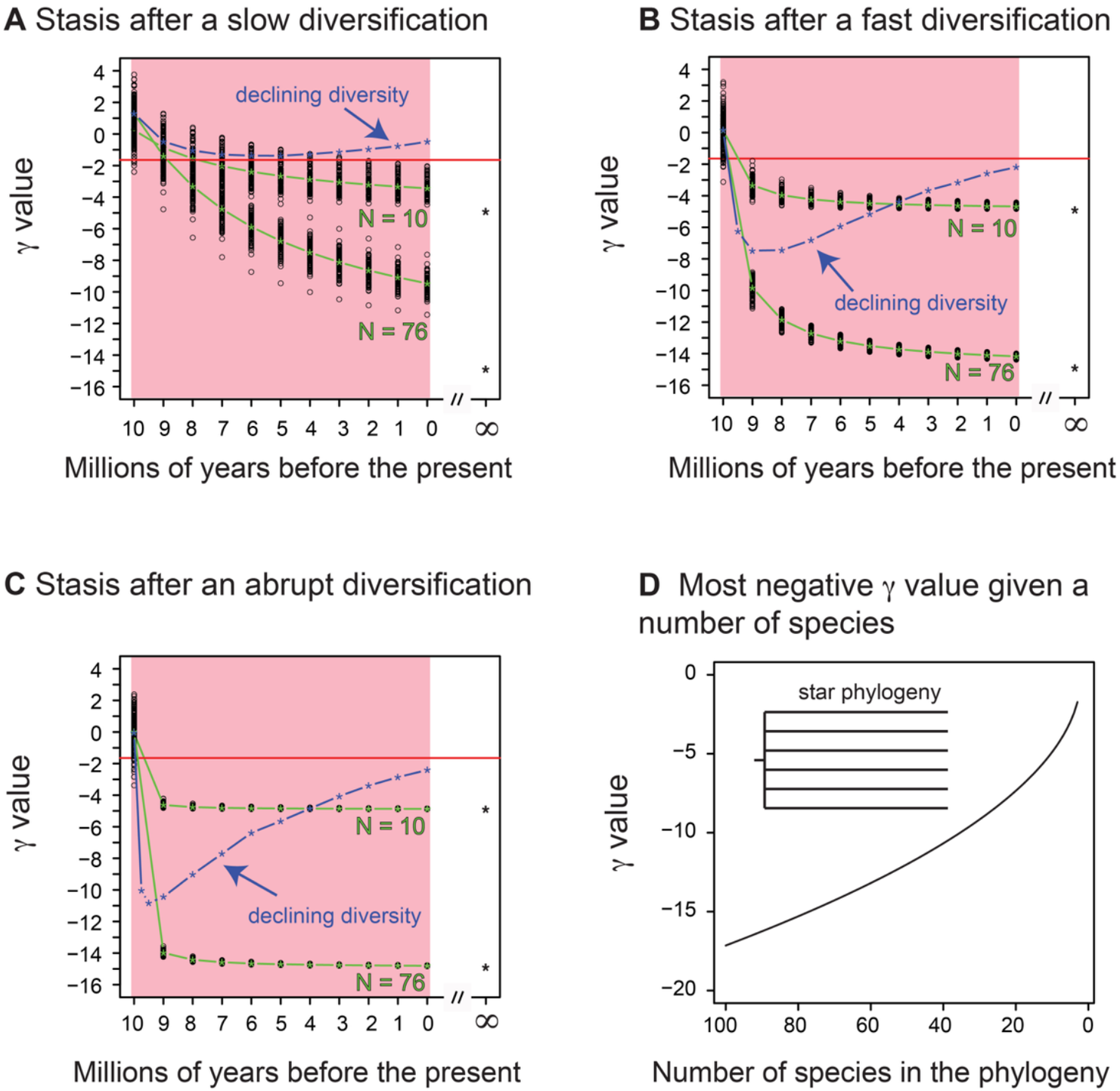
Simulated



Empirical

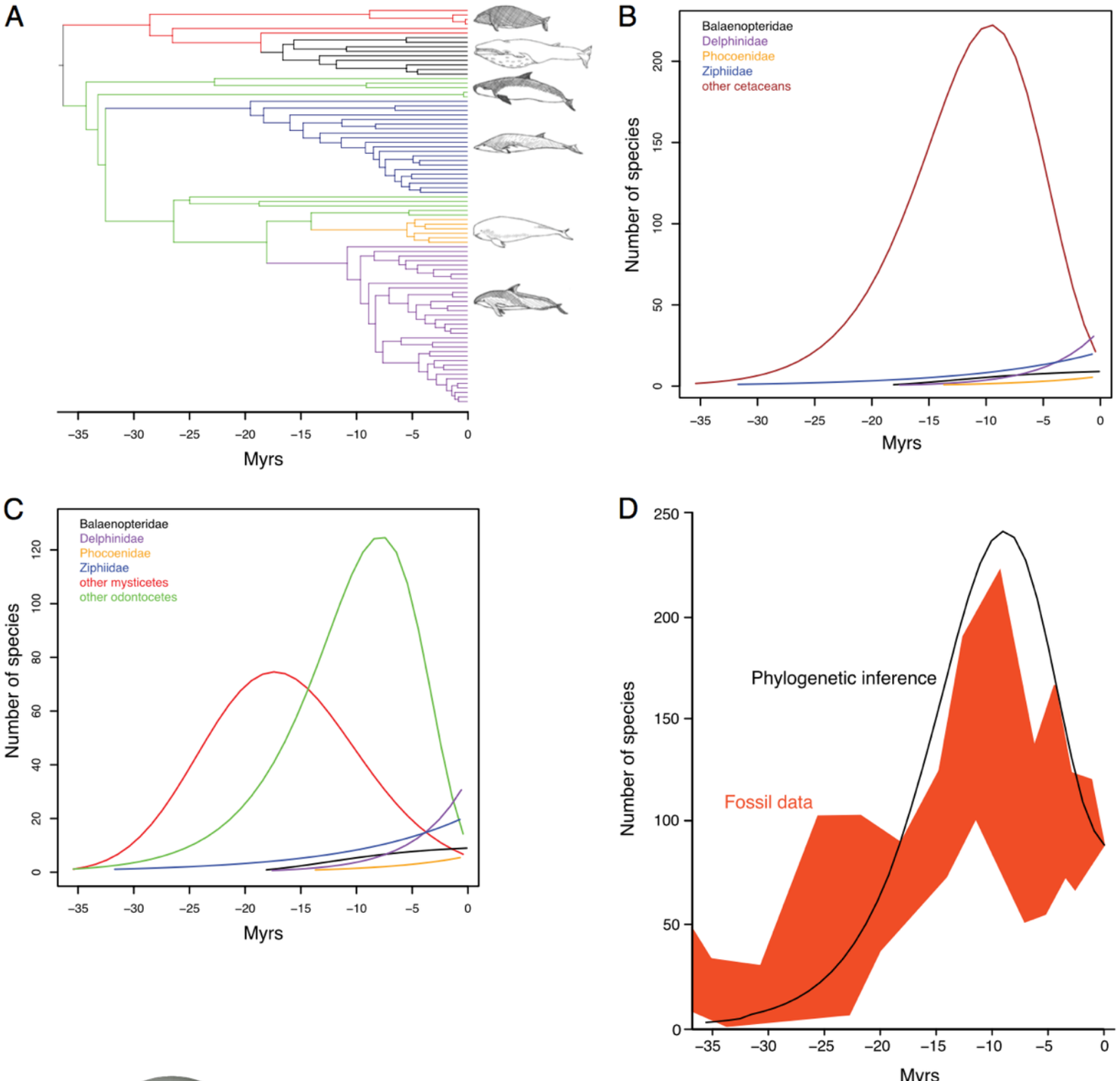


Rates are hard to estimate



Quental & Marshall. 2011. *PLoS One*

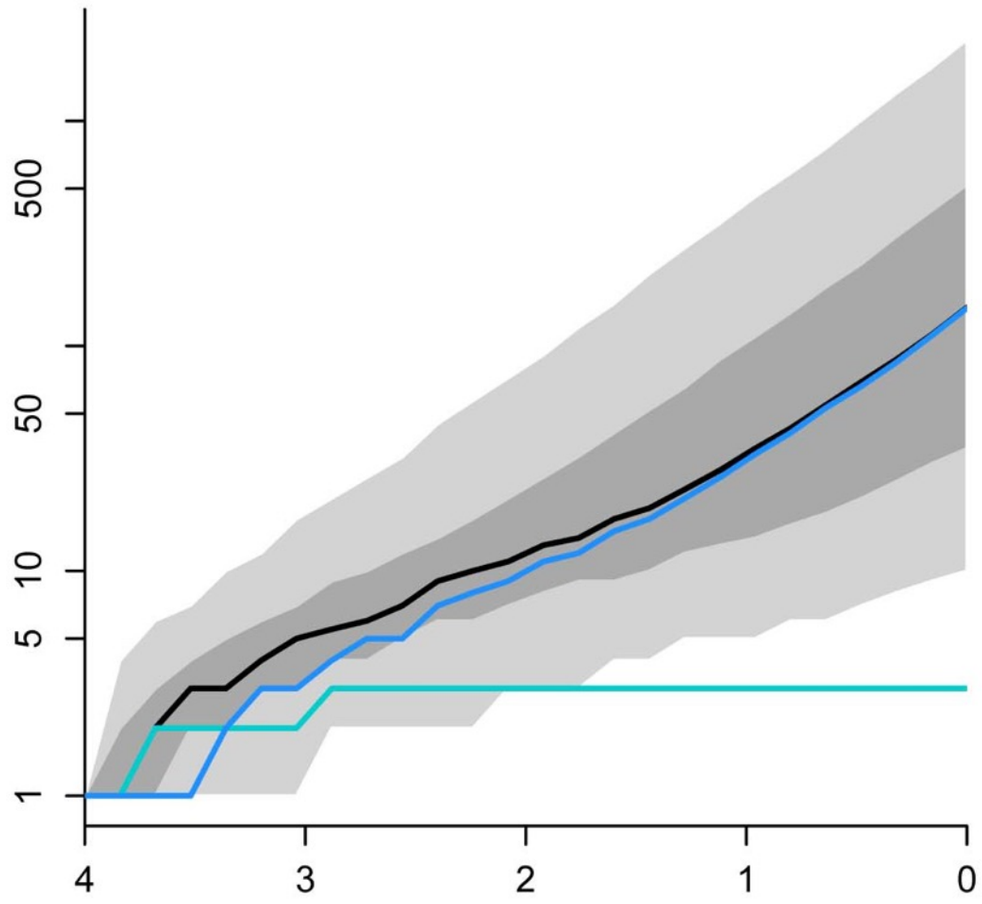
Yet there has been success

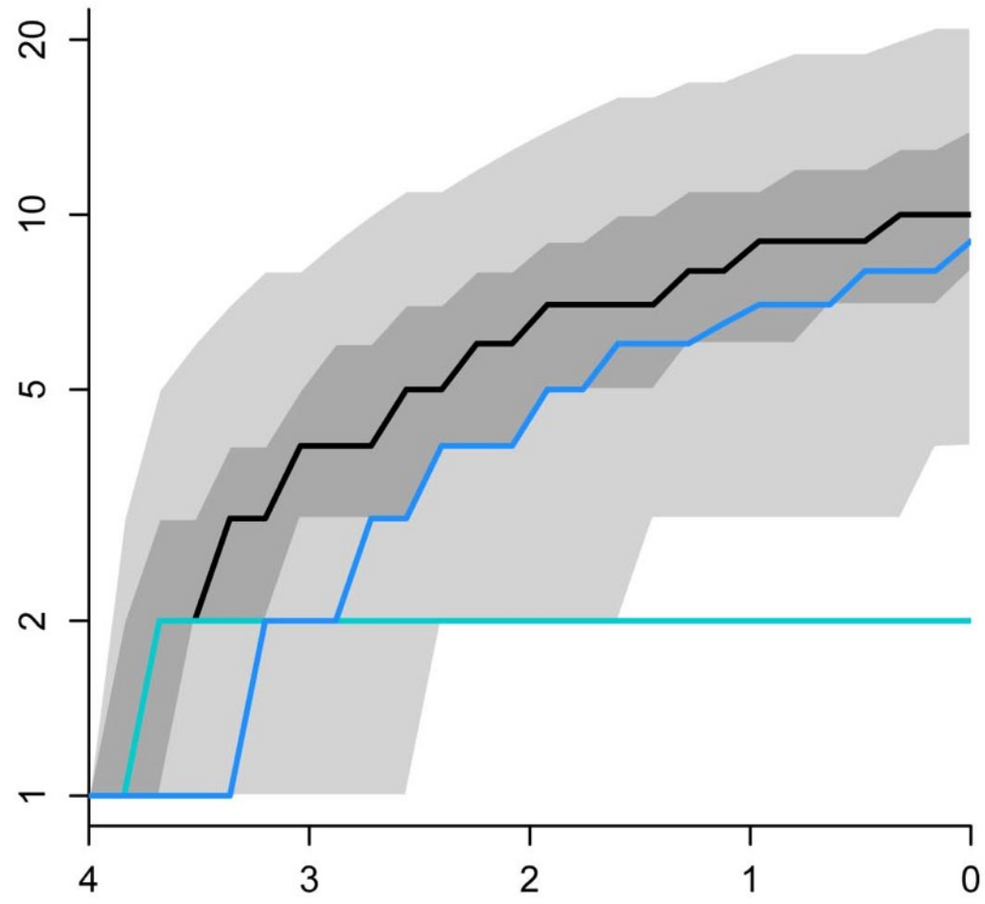


Morlon *et al*. 2011. *PNAS*

RPANDA

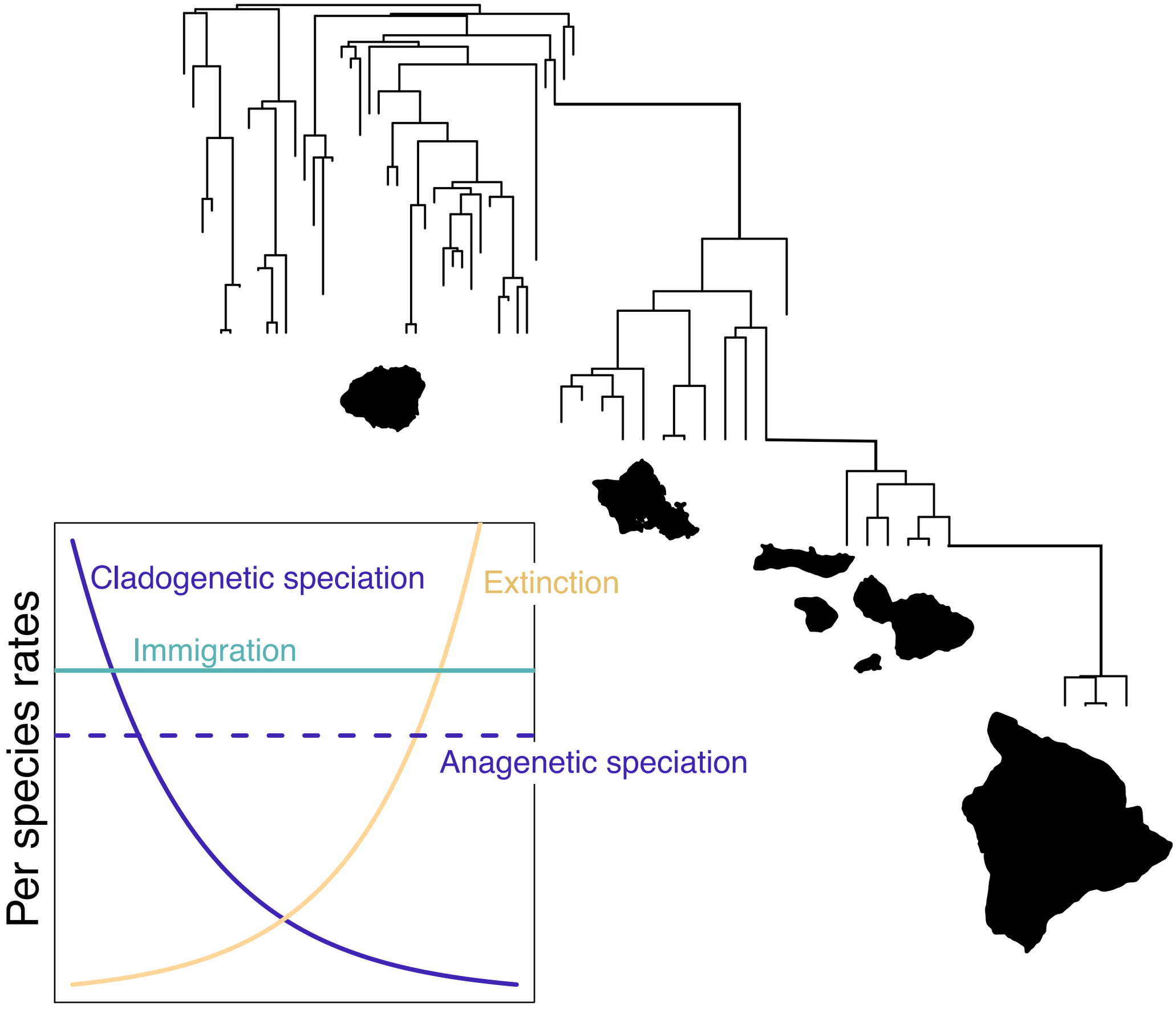
Yet there has been success

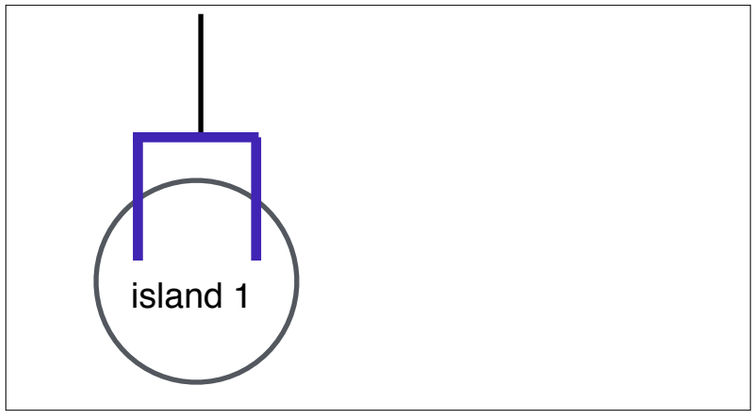




Valente *et al*. 2014. *Proc. B*

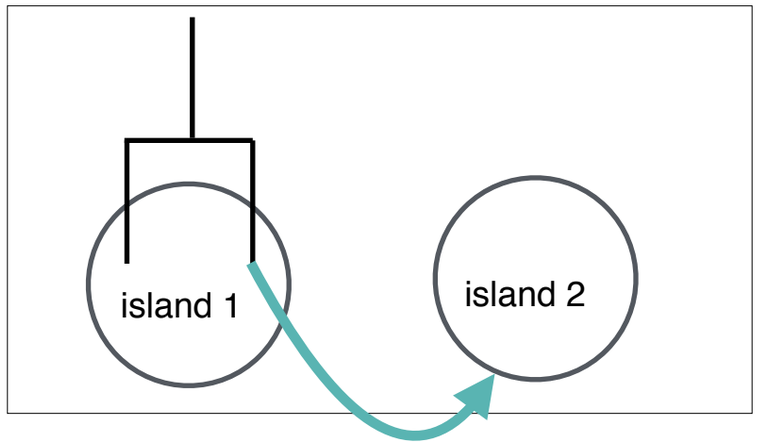
DAISIE


Cladogenetic speciation
Extinction
Immigration
Anagenetic speciation
Per species rates



Cladogenetic speciation

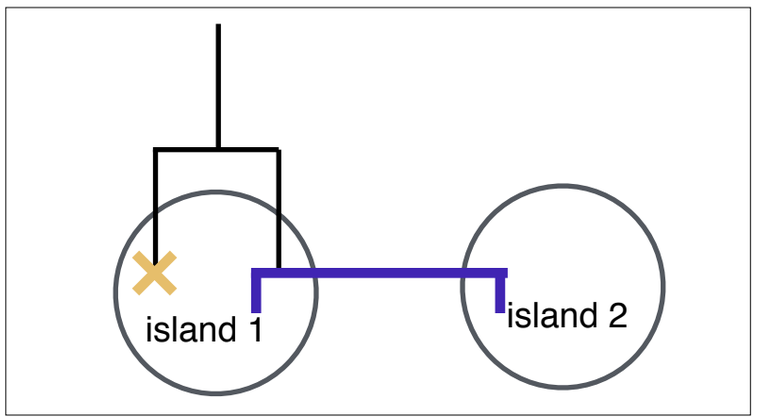
Island formation



Immigration

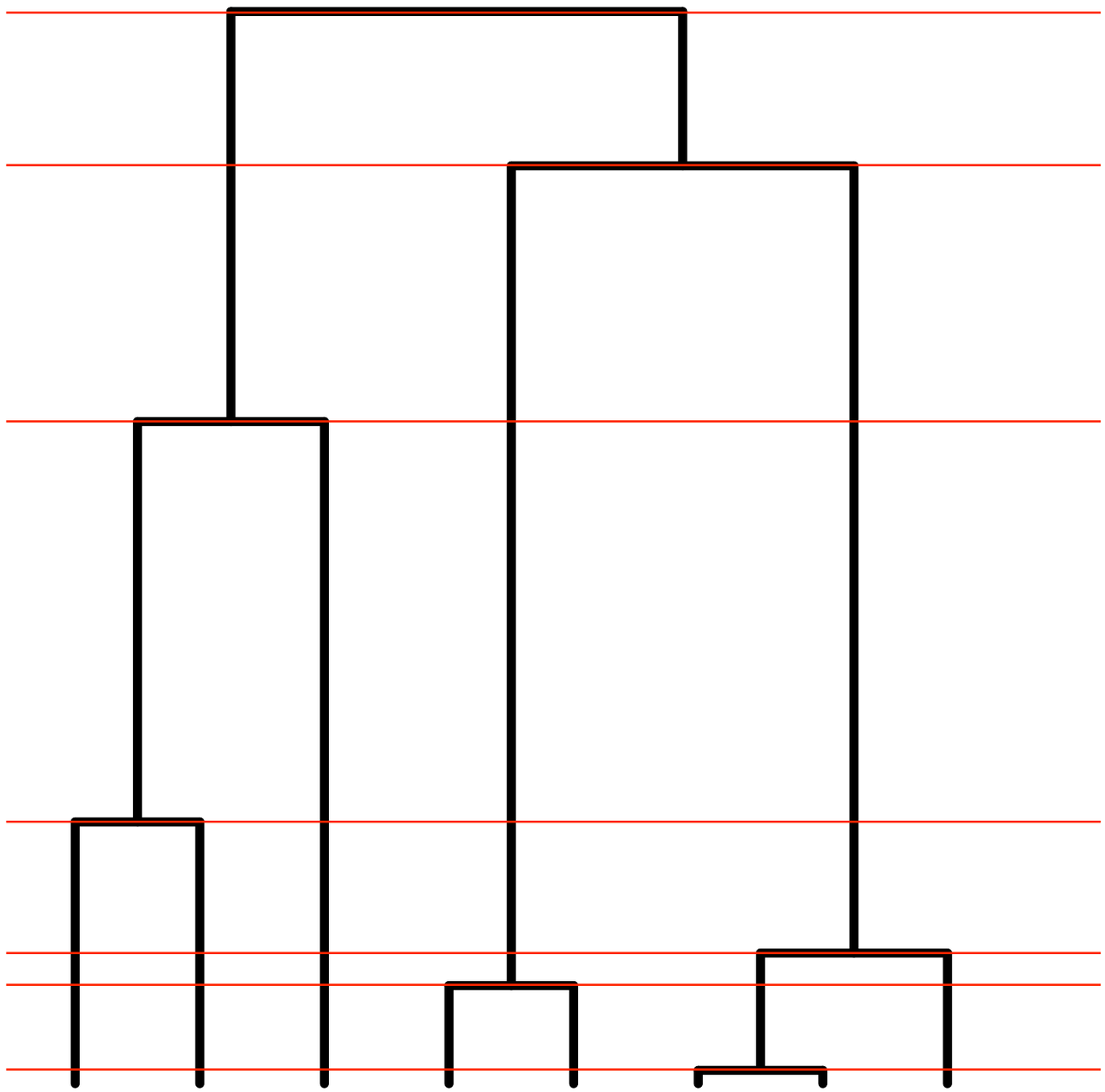
Extinction

Anagenetic speciation
(between islands)

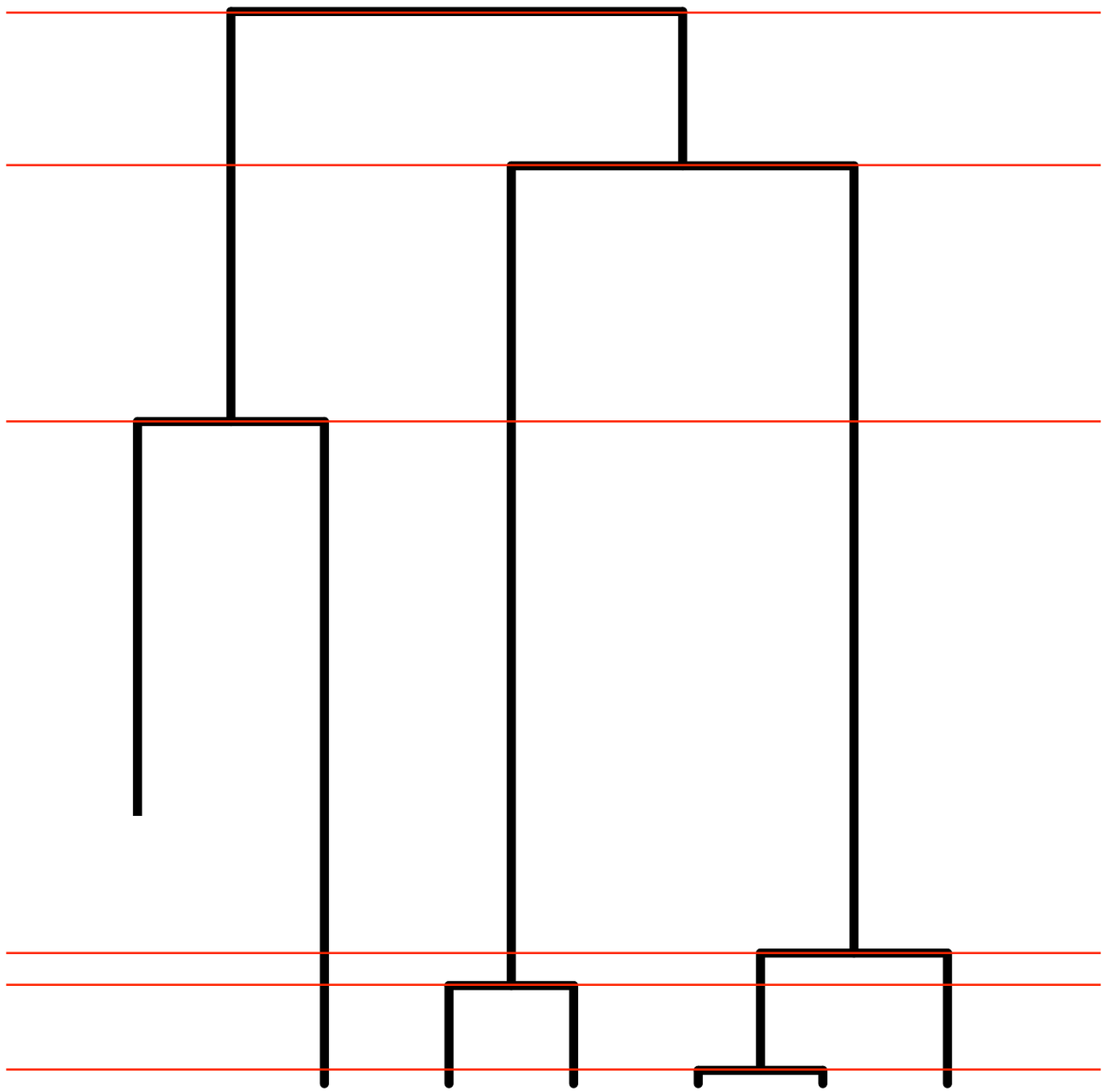


Time

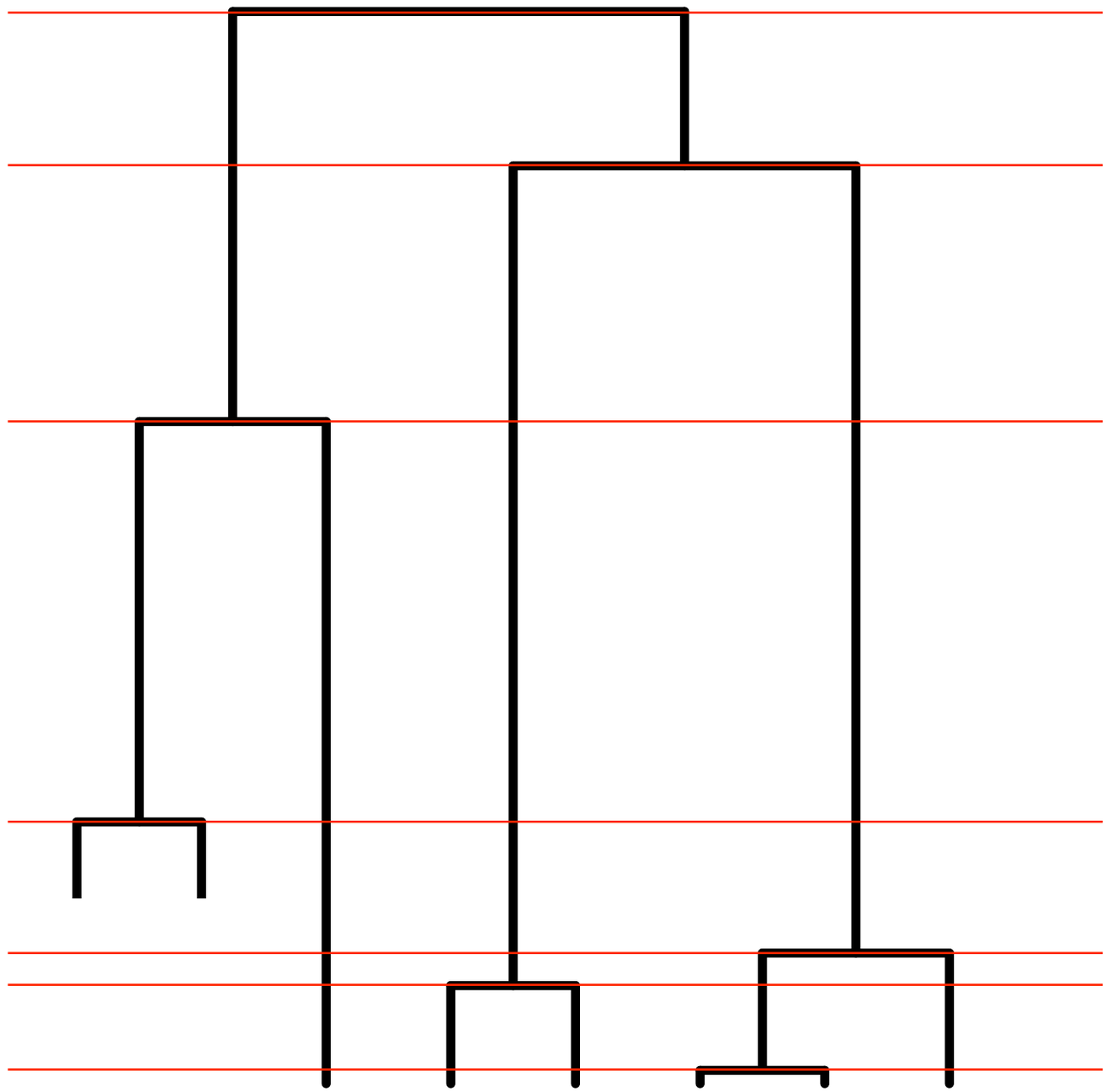
Likelihood interlude



Likelihood interlude

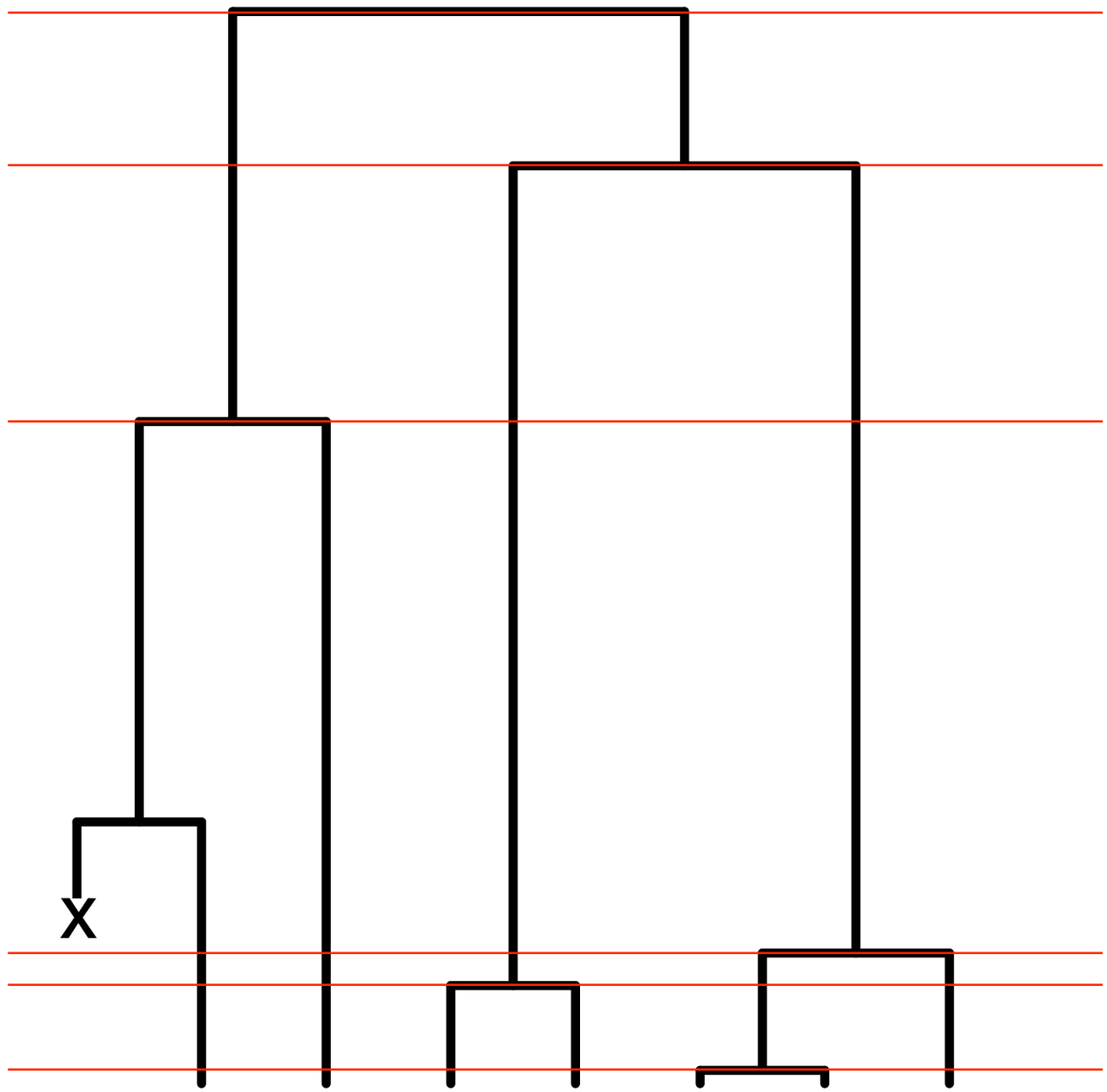


Likelihood interlude



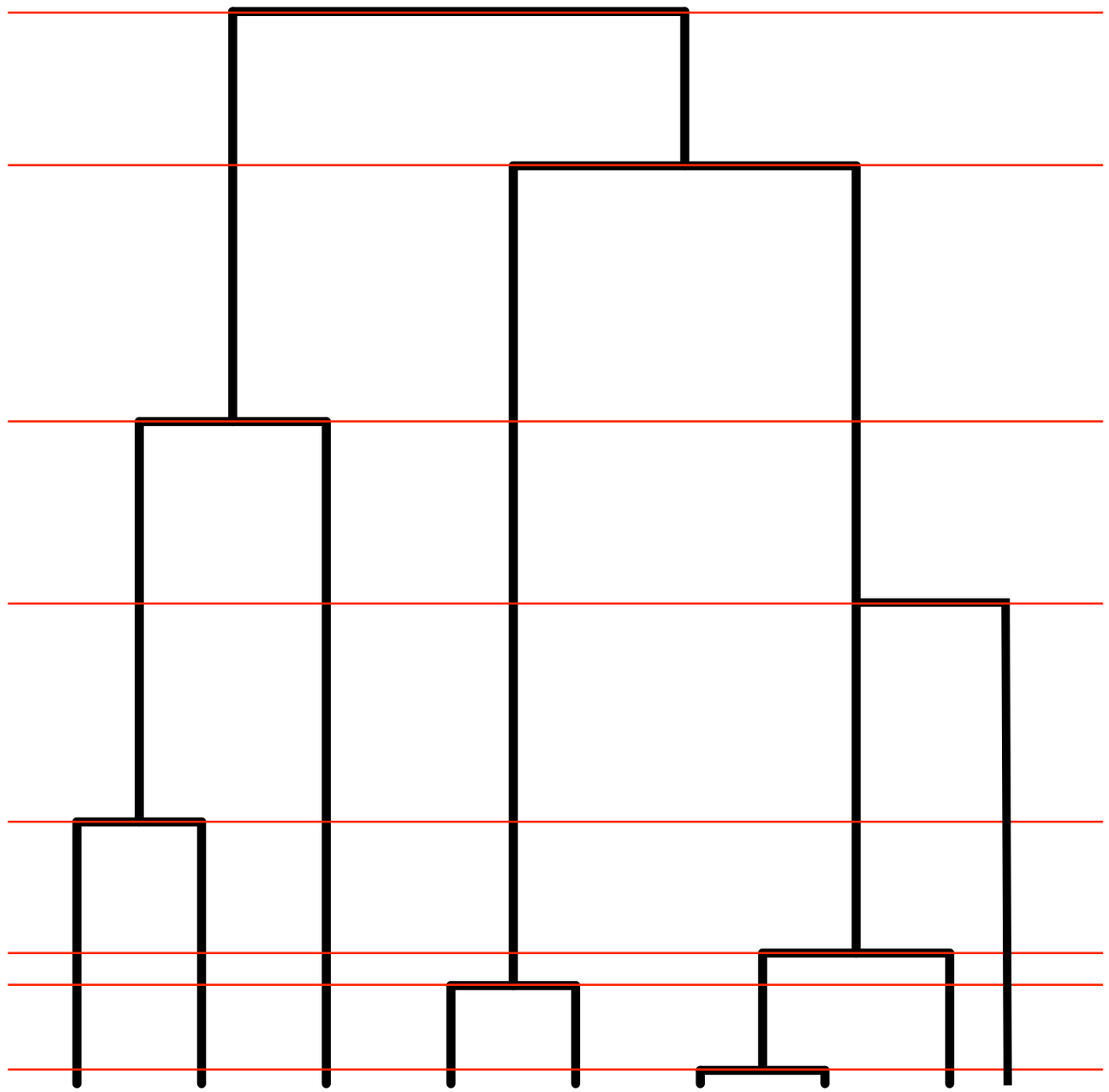
Speciation

Likelihood interlude

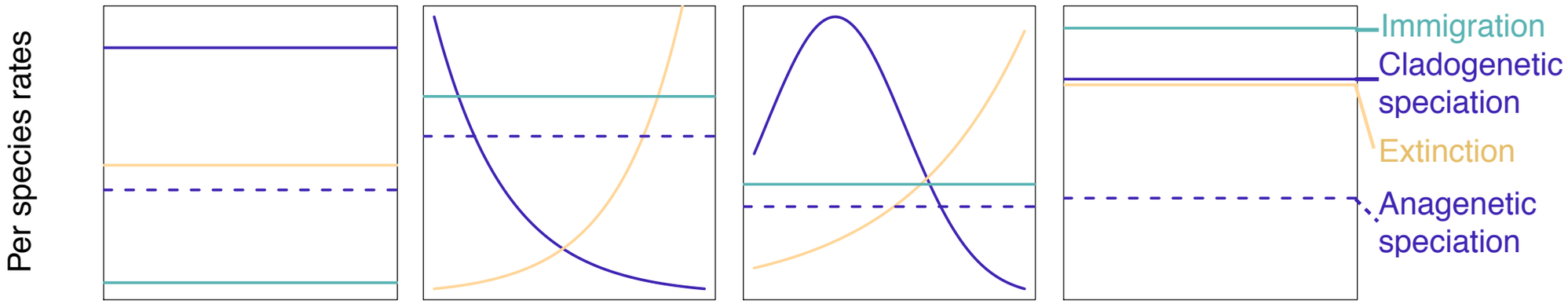


Extinction

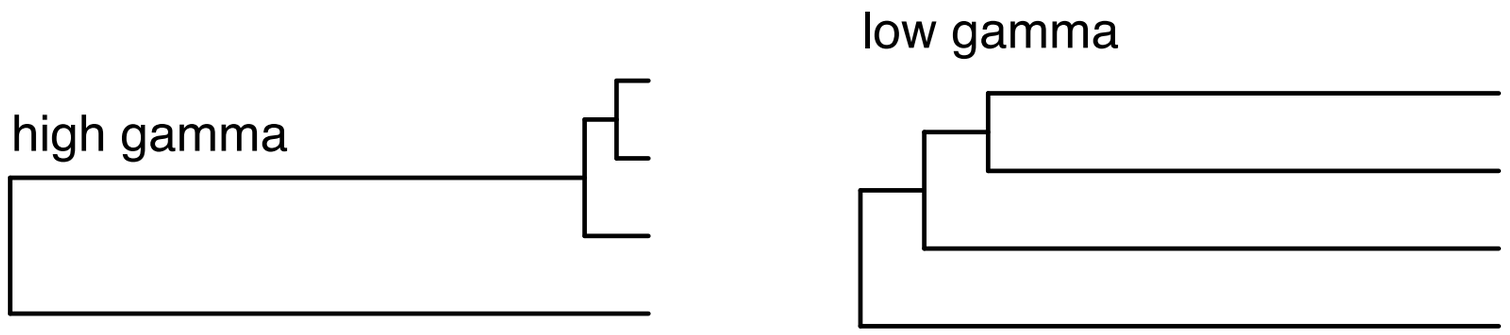
Likelihood interlude

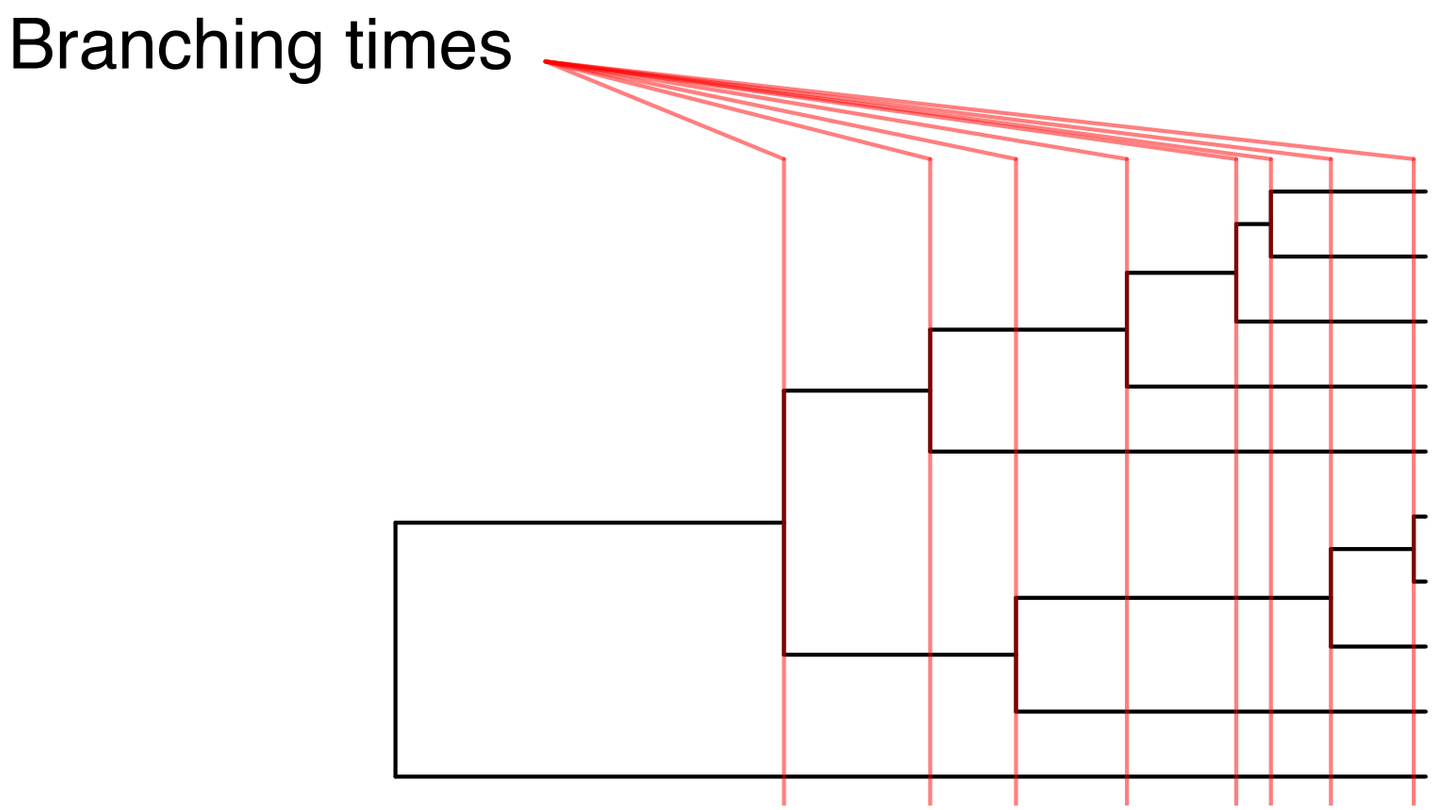


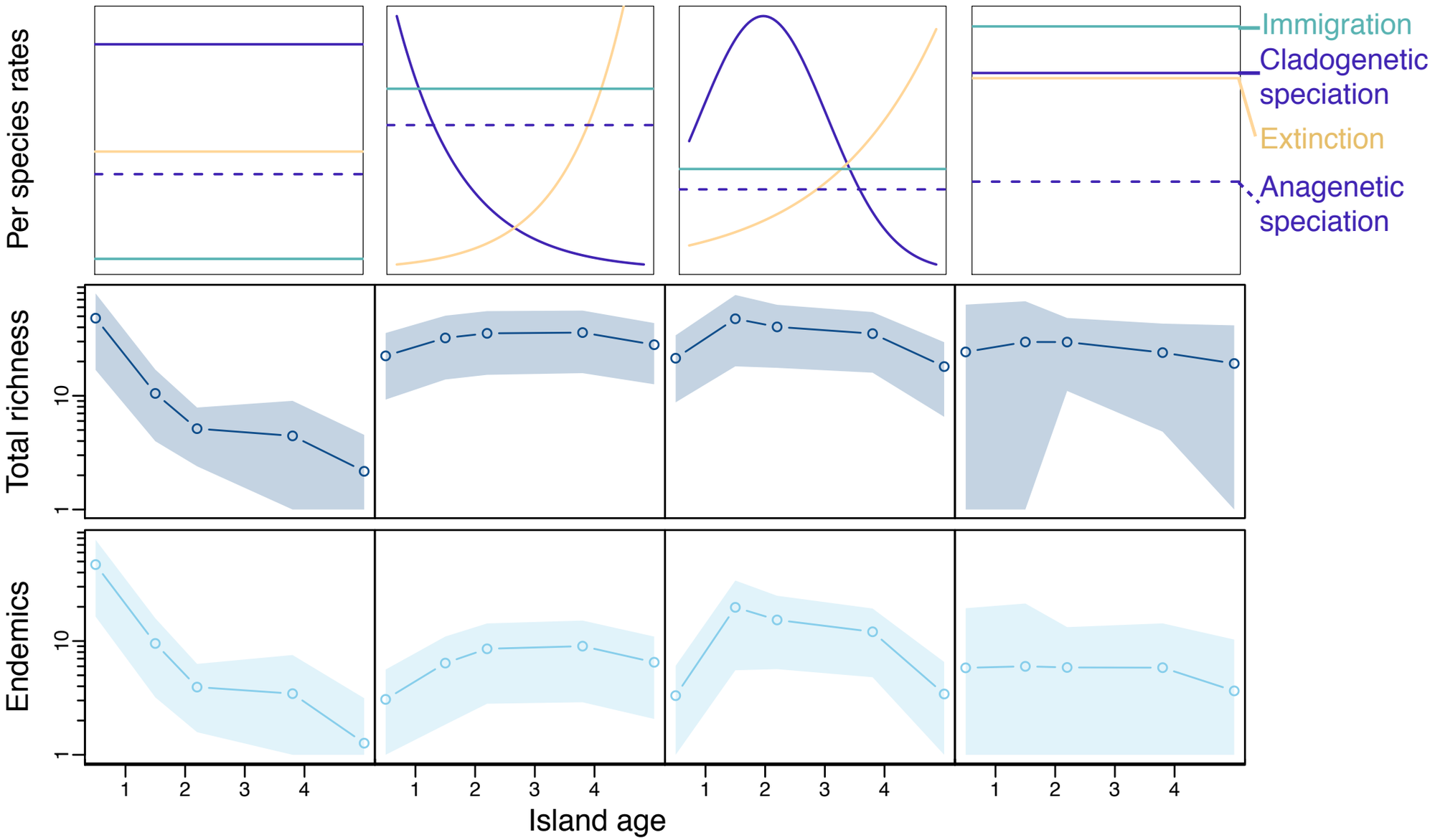
Immigration

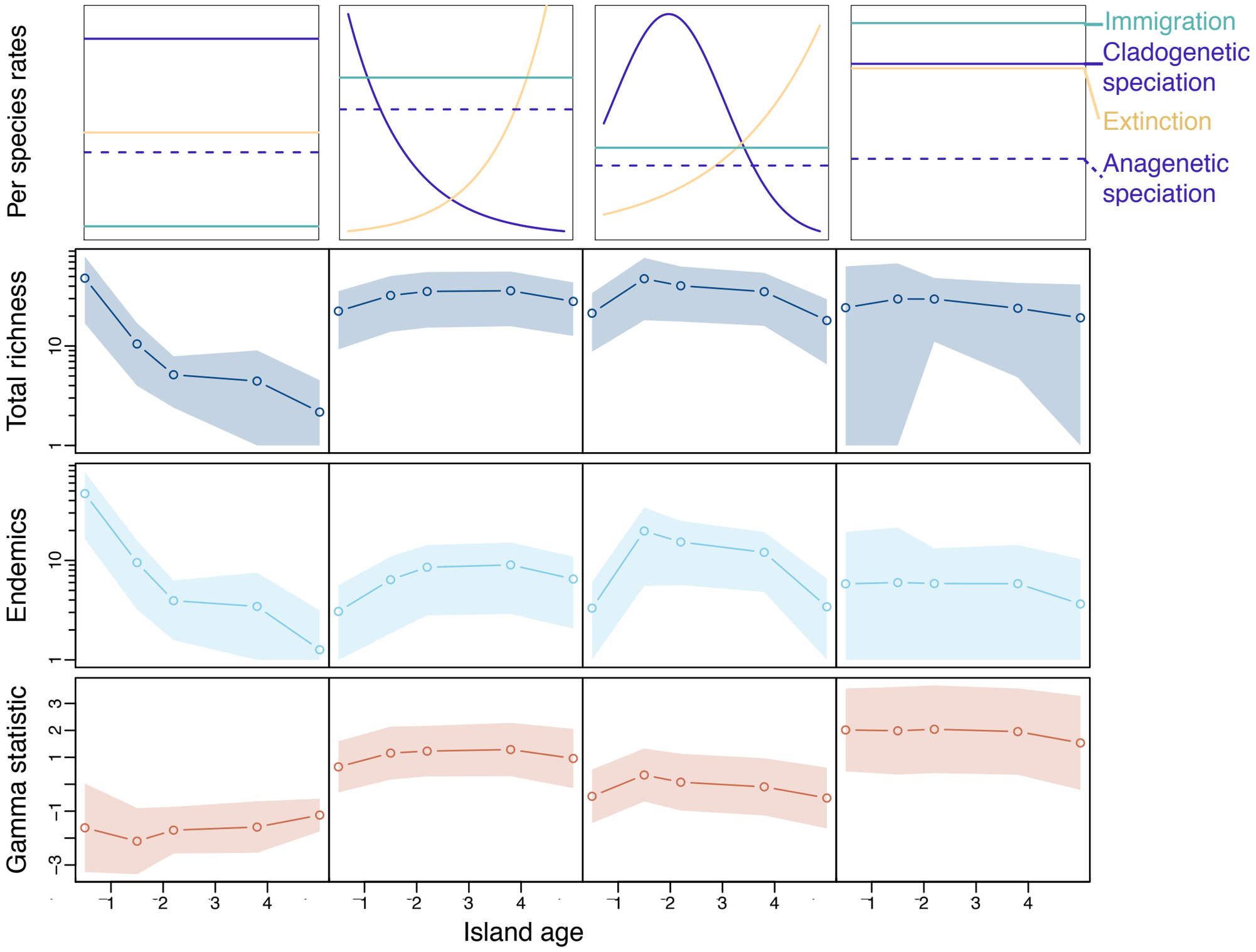

Per species rates
Immigration
Cladogenetic speciation
Extinction
Anagenetic speciation

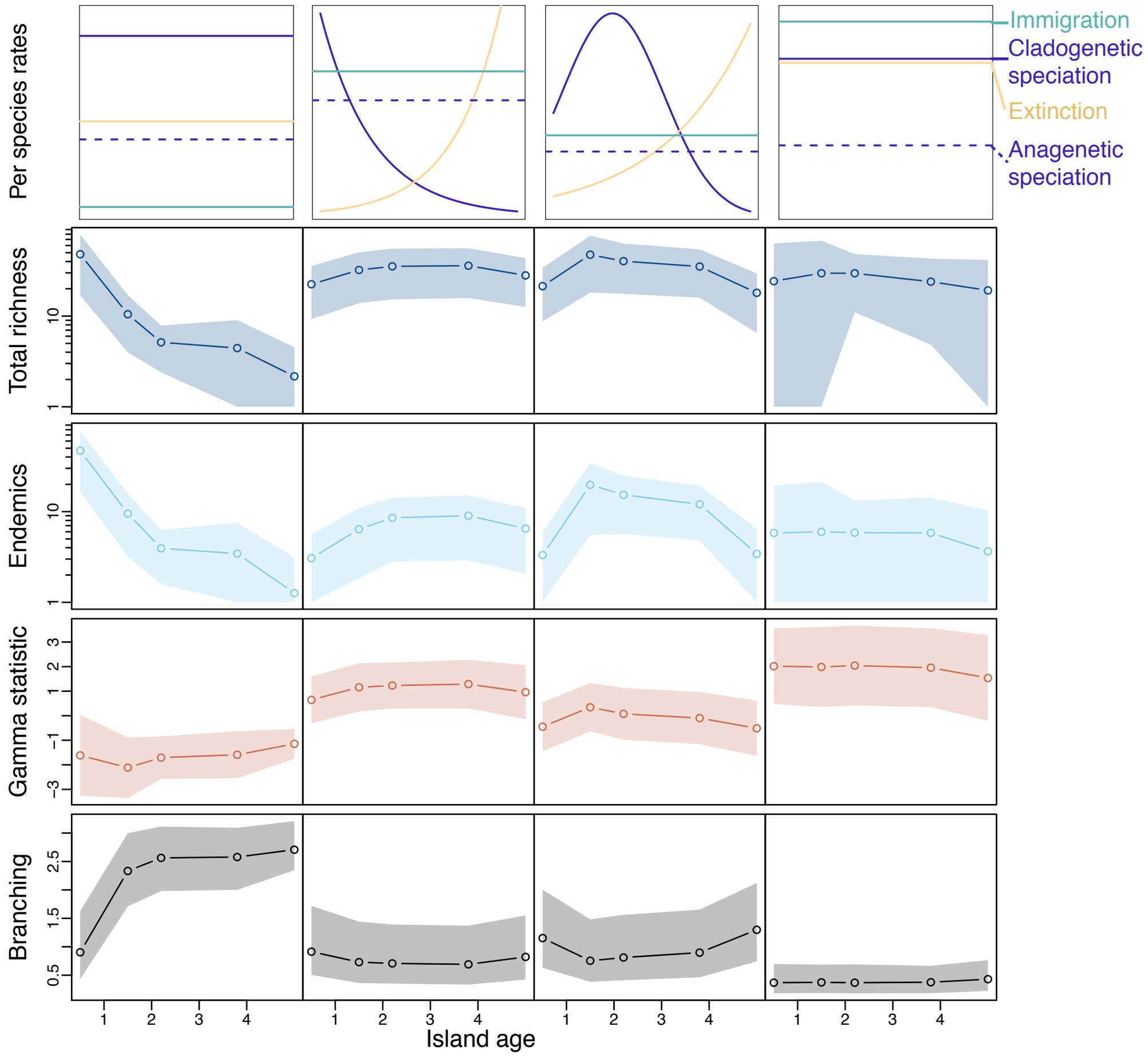
Gamma statistic






Per species rates
Immigration
Cladogenetic speciation
Extinction
Anagenetic speciation
Total richness
Endemics
10
1
1
2
3
4
Island age


Per species rates
Immigration
Cladogenetic speciation
Extinction
Anagenetic speciation
Total richness
Endemics
Gamma statistic
1
10
−3
−1
1
2
3
−1
−2
3
4
Island age


Per species rates
Immigration
Cladogenetic speciation
Extinction
Anagenetic speciation
Total richness
Endemics
Gamma statistic
Branching
Island age

Per species rates

Immigration
Cladogenetic speciation
Extinction
Anagenetic speciation

Total richness

10
1

Endemics

10
1

Gamma statistic

3
2
1
−1
−3

Branching

2.5
1.5
0.5

1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4

Island age

Per species rates

Immigration

Cladogenetic speciation

Extinction

Anagenetic speciation

Total richness

10

1

Endemics

10

1

Gamma statistic

3

2

1

−1

−3

Branching

2.5

1.5

0.5

1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4

Island age

Per species rates

Immigration
Cladogenetic speciation
Extinction
Anagenetic speciation

Total richness

10
1

Endemics

10
1

Gamma statistic

3
2
1
−1
−3

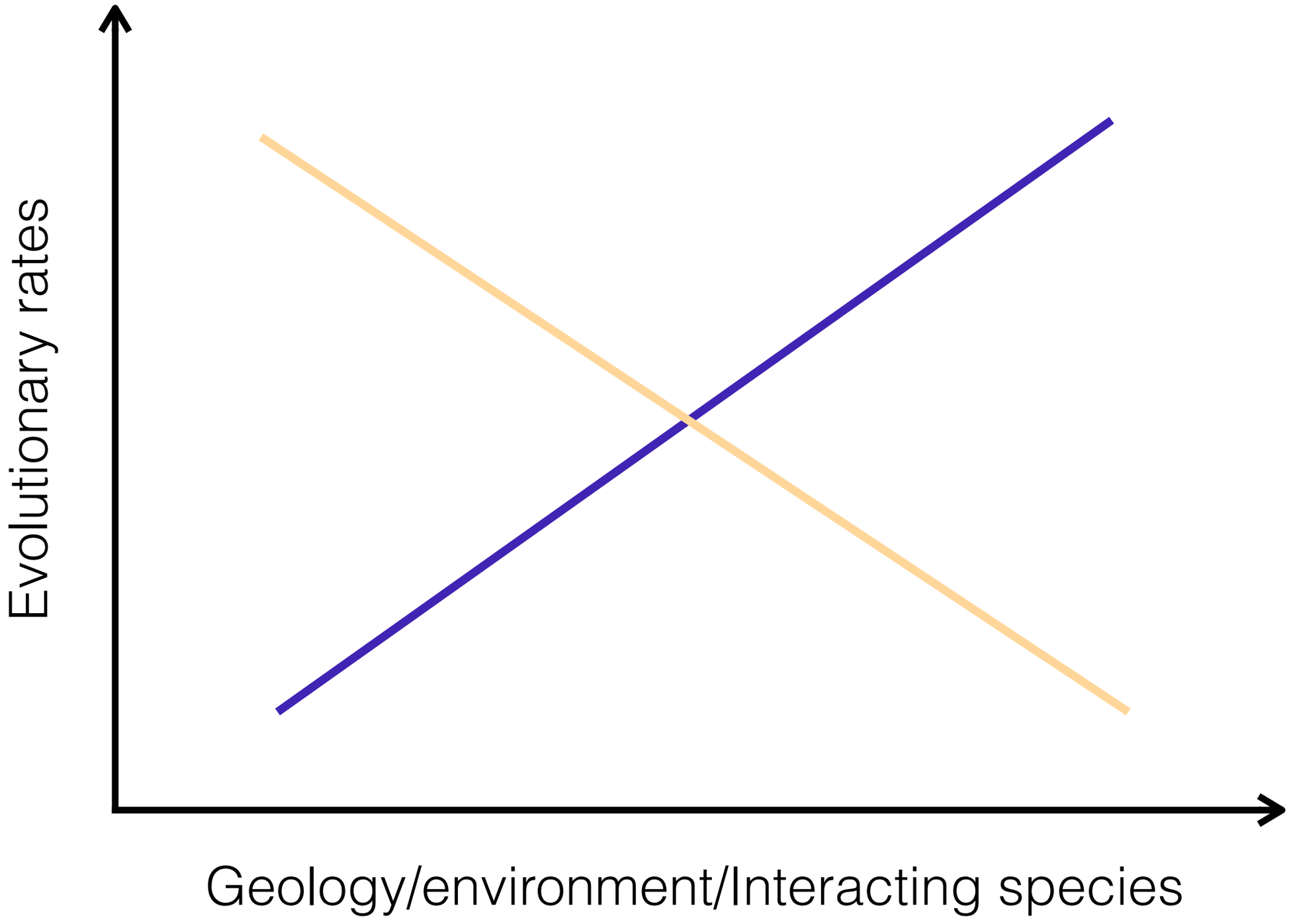
Branching

2.5
1.5
0.5

1 2 3 4 1 2 3 4 1 2 3 4 1 2 3 4

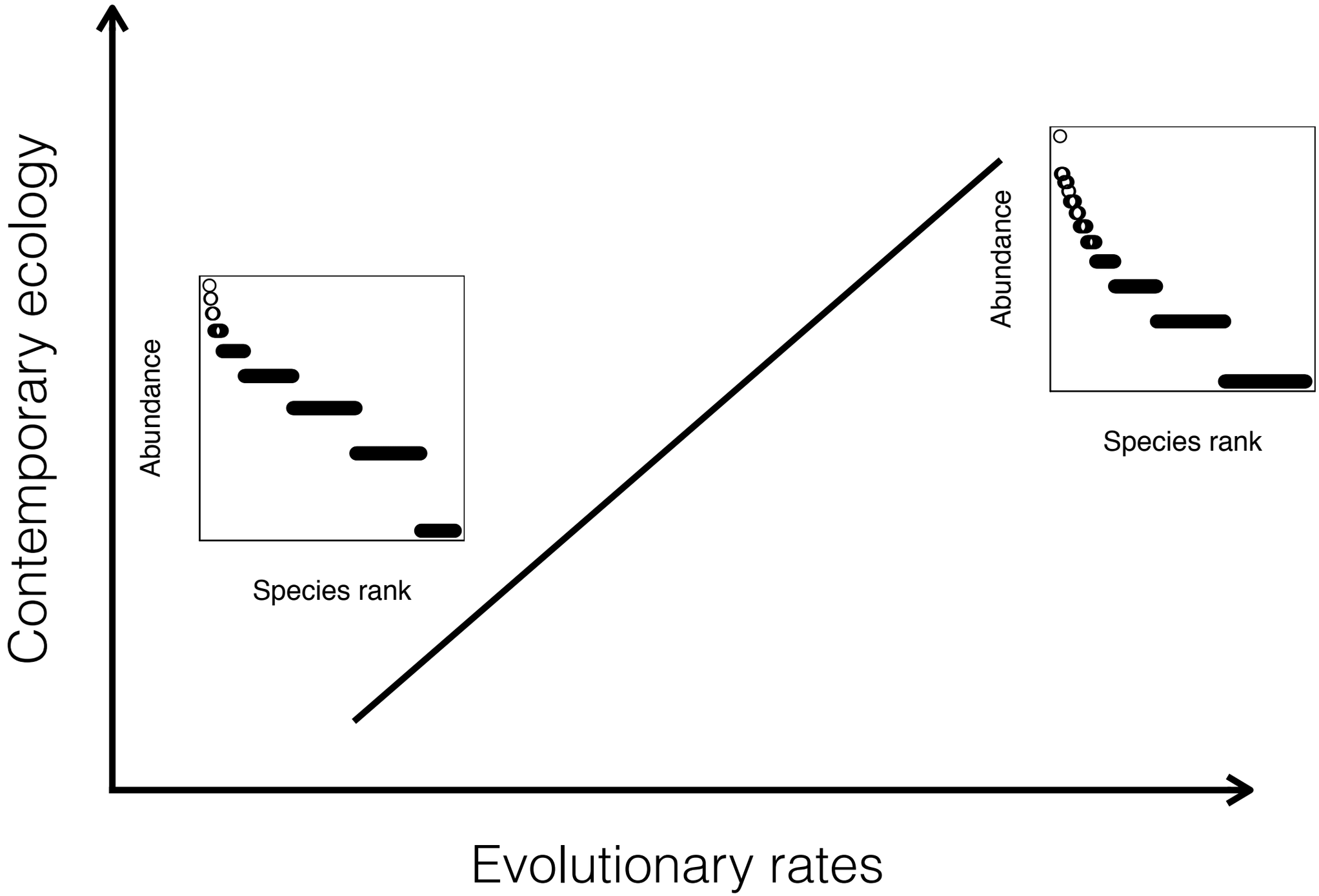
Island age

Do cool things



Do cool things

Do cool things



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Hélène Morlon, Dan Rabosky

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NSF Dimensions in Biodiversity