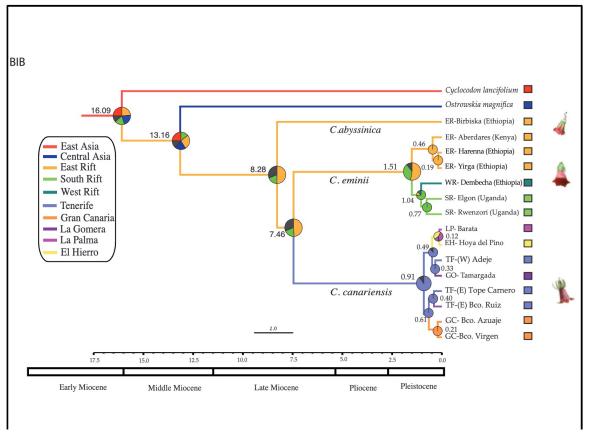
Aplicaciones del modelo BIB

Introducción a la Biogeografía Paramétrica Semana 2

Dra. Karen López y Dra. Marysol Trujano



Nucleotide substitution models

rate matrix

base frequencies

site rates

$$\pi_A + \pi_C + \pi_G + \pi_T = 1$$

state,range 0,0000

1,1000

2,0100

3,0010

4,0001

5,1100

6,1010

7,0110

8,1001

9,0101

10,0011

11,1110

12,1101

13,1011

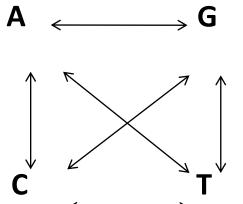
14,0111

15,1111

state,range 0,0000 1,1000 2,0100 3,0010 4,0001 5,1100 6,1010 7,0110 8,1001 9,0101 10,0011 11,1110 12,1101 13,1011 14,0111

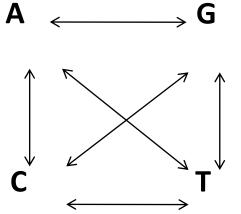
15,1111

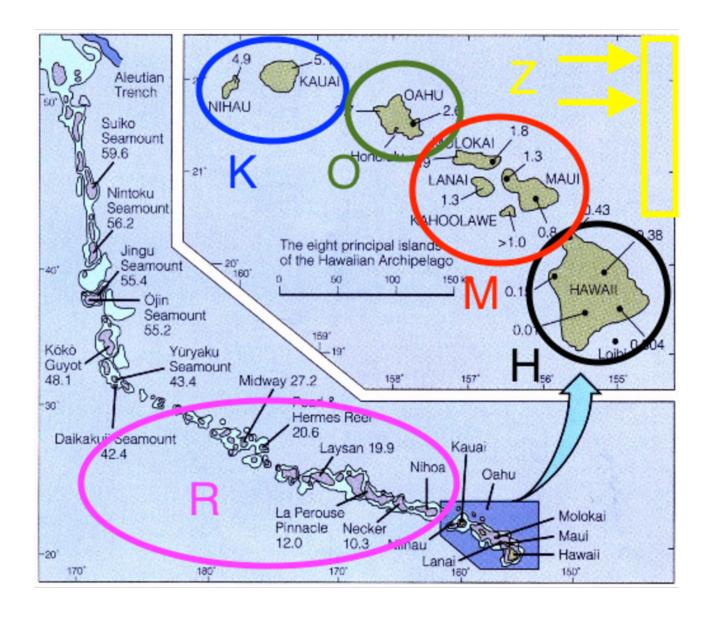
rate matrix



state,range 0,0000 1,1000 2,0100 3,0010 4,0001 5,1100 6,1010 7,0110 8,1001 9,0101 10,0011 11,1110 12,1101 13,1011 14,0111 15,1111

rate matrix





state,range 0,0000 1,1000 2,0100 3,0010 4,0001 5,1100 6,1010 7,0110 8,1001 9,0101 10,0011 11,1110 12,1101 13,1011

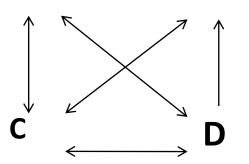
14,0111

15,1111

rate matrix

 $A \longleftrightarrow B$

Tasa relativa de dispersion por linaje: Linaje 1 se dispersa del área A a B con una tasa del 0.5 eventos por MA

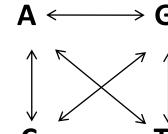


Capacidad de carga: El número de linajes en condiciones de equlibrio

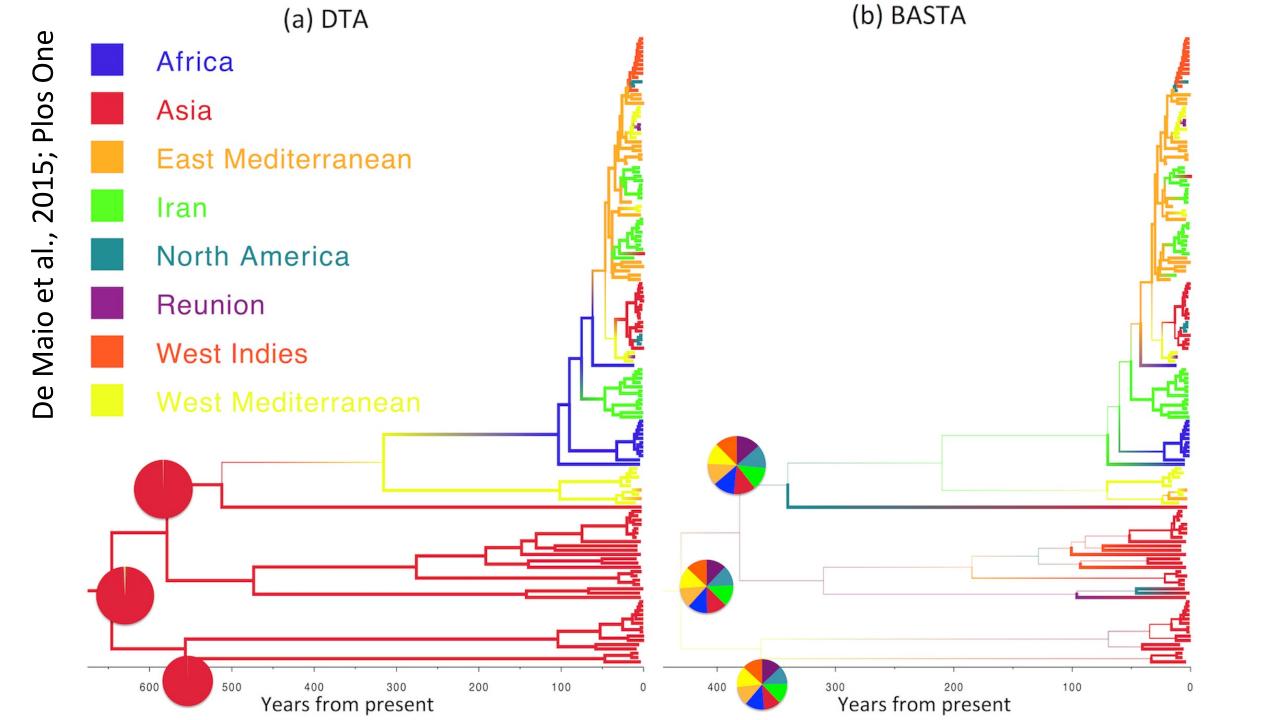
Nucleotide substitution models

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$$\pi_A + \pi_C + \pi_G + \pi_T = 1$$



(a) Bayes factor support Faria et al., 2013; Phyl Tran Roy Soc B <u>10-25</u> 25-50 50-100 100-250 >250 My () Ef (*b*) Markov jumps - <1.0 - 1.0-3.0 - 3.0-5.0 - 5.0-10.0 >10.0 Ef Ap Ma Ef+Mc Mc Ml My Nh Ph Ps Tb 50 years

predictor	Bayes factor $-2.5 -1$	log conditional effe .5 –0.5 0.5		.5 3.5					
host distan	predictor	Bayes factor			log condit	ional et	ffect size)	
		==	-1.5	5 –1.0	-0.5	0	0,5	1.0	1.5
range over	great circle distance	6516							
roost struc	no. cases in origin state	2.16				 	—		
wing aspectatio	no. cases in destination state	0.08			F		4		
wing loadi	area (km²) of origin state	0.27					—		
body size	area (km ²) of destination state	e 0.11				I- O-	-		

Bielejec et al., 2014 Syst Bio

