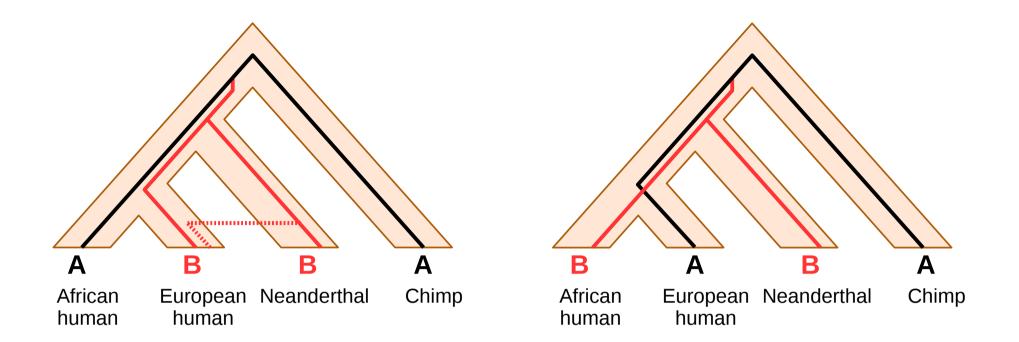
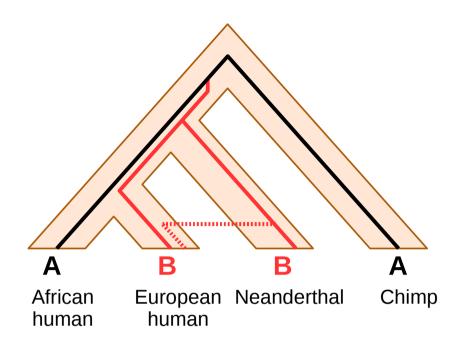


EXPECTED: OBSERVED: 50% ABBA 103612 ABBA 50% BABA 94029 BABA



EXPECTED: OBSERVED: 50% ABBA 103612 ABBA 50% BABA 94029 BABA

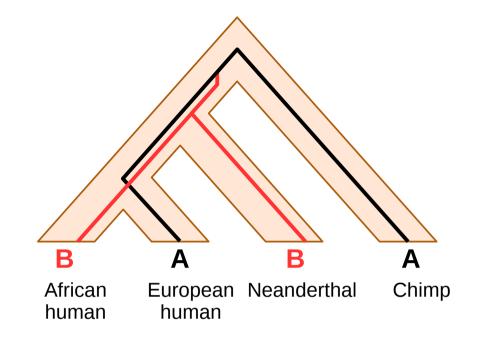
$$D(P_1, P_2, P_3, O) = \frac{\sum_{i} C_{ABBA}(i) - C_{BABA}(i)}{\sum_{i} C_{ABBA}(i) + C_{BABA}(i)}$$

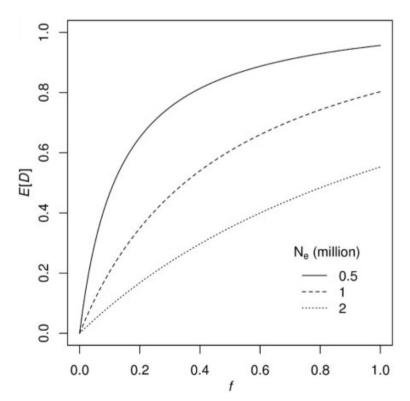


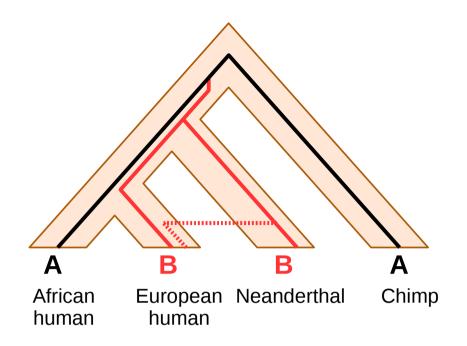
$$D(P_1, P_2, P_3, O) = \frac{\sum C_{ABBA}(i) - C_{BABA}(i)}{\sum C_{ABBA}(i) + C_{BABA}(i)}$$

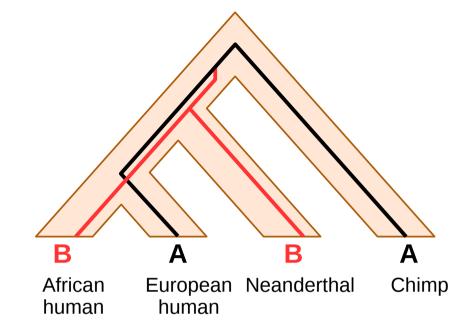
$$C_{ABBA}(i) = (1 - \hat{p}_{i1})\hat{p}_{i2}\hat{p}_{i3}(1 - \hat{p}_{i4})$$

$$C_{\text{BABA}}(i) = \hat{p}_{i1}(1 - \hat{p}_{i2})\hat{p}_{i3}(1 - \hat{p}_{i4})$$







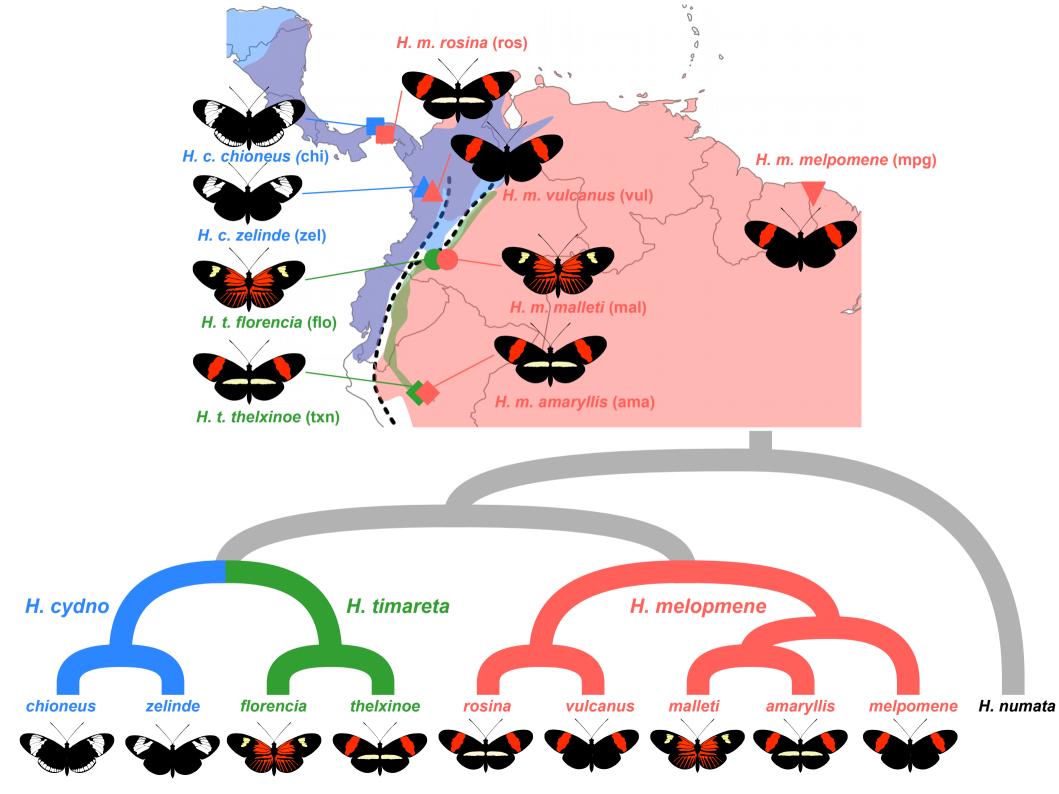


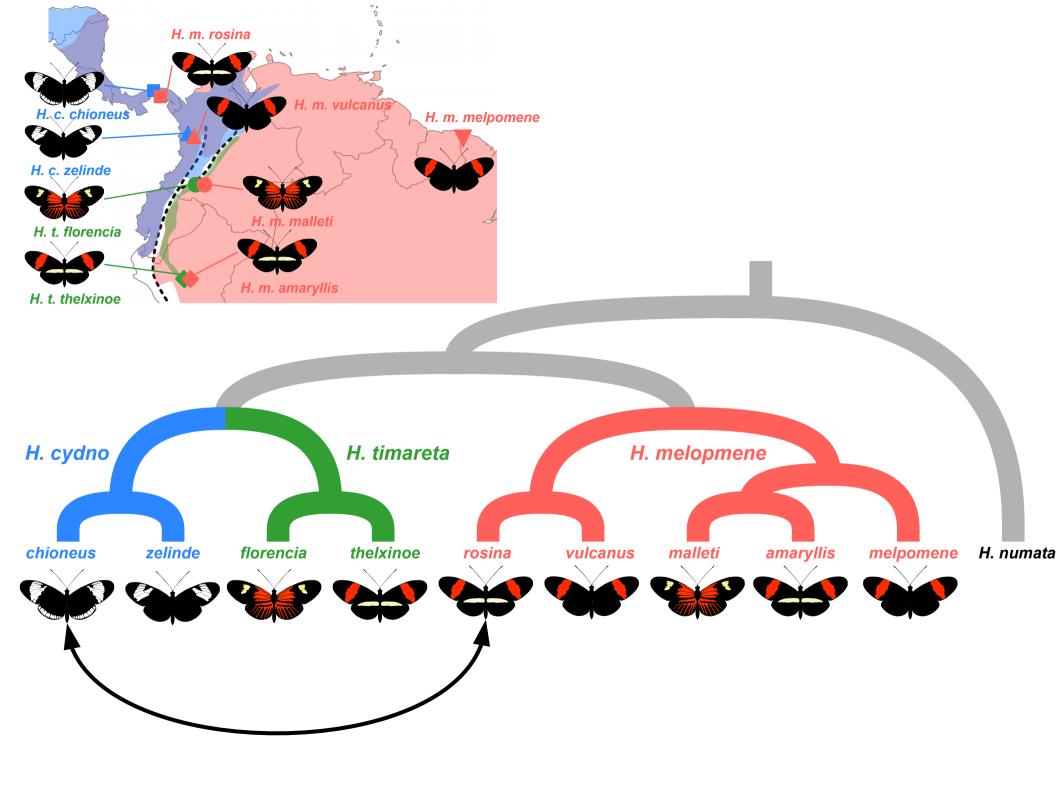
$$D(P_1, P_2, P_3, O) = \frac{\sum_{i} C_{ABBA}(i) - C_{BABA}(i)}{\sum_{i} C_{ABBA}(i) + C_{BABA}(i)}$$

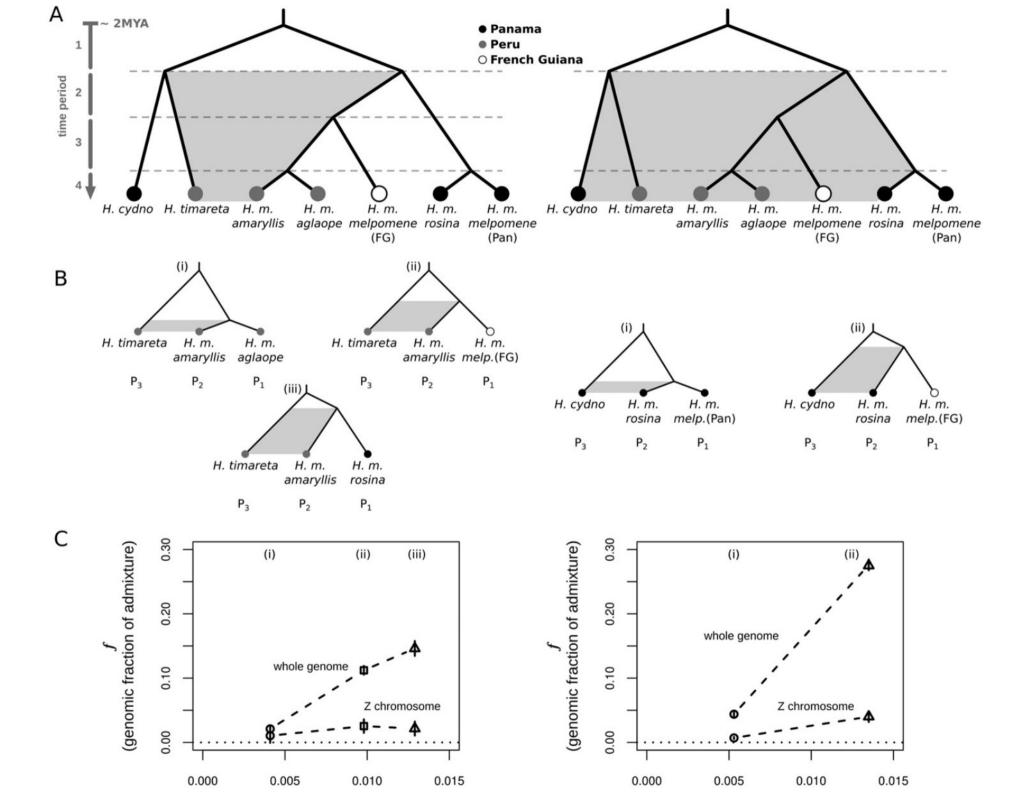
$$\hat{f}_G = \frac{S(P_1, P_2, P_3, O)}{S(P_1, P_{3a}, P_{3b}, O)}$$

$$C_{ABBA}(i) = (1 - \hat{p}_{i1})\hat{p}_{i2}\hat{p}_{i3}(1 - \hat{p}_{i4})$$

$$C_{\text{BABA}}(i) = \hat{p}_{i1}(1 - \hat{p}_{i2})\hat{p}_{i3}(1 - \hat{p}_{i4})$$

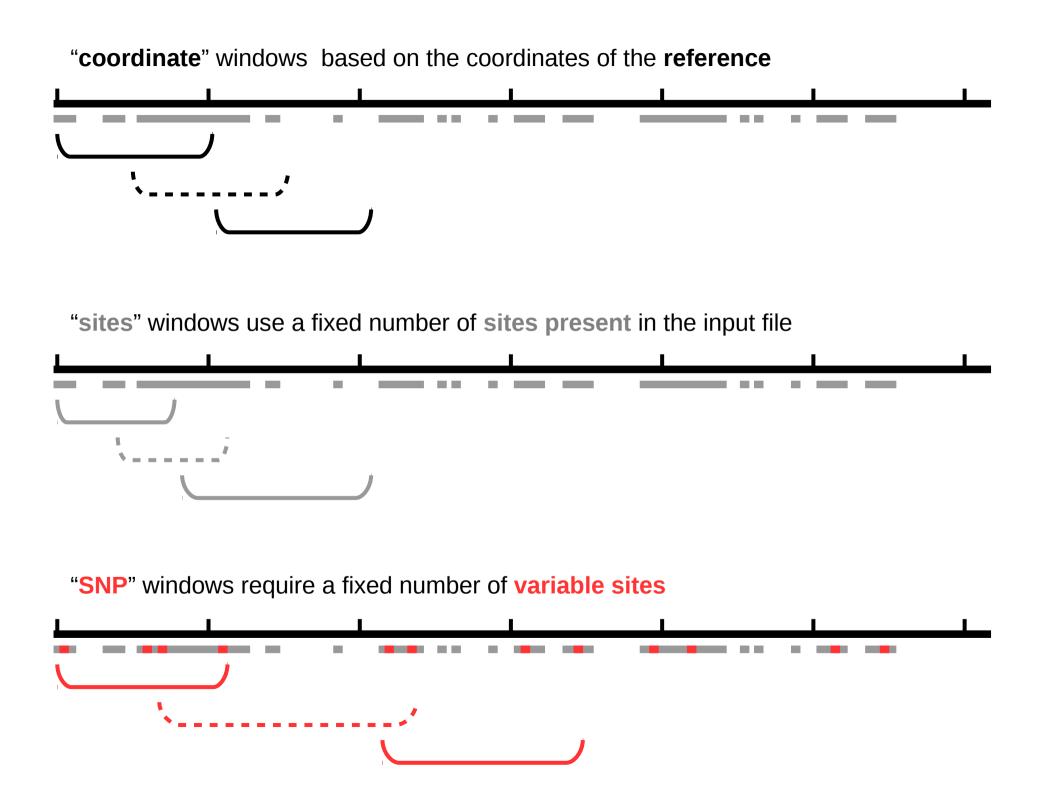


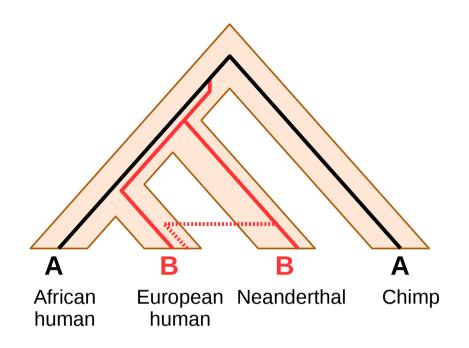




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chr1	1532	C/C	C/C	C/C	C/C	C/C	C/C	C/C	N/N
chr1	2544	G/G	G/G	G/G	G/G	G/G	G/G	G/G	G/G
chr1	3546	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C
chr1	4560	A/A	A/A	A/A	A/A	A/A	A/A	A/A	N/N
chr1	5576	G/G	G/G	G/G	G/G	G/G	G/G	G/G	G/G
chr1	6596	A/A	A/T	A/A	A/A	A/A	A/T	A/A	A/A
chr1	7604	A/A	A/A	A/A	A/A	A/A	A/A	A/A	A/A
chr1	9632	A/A	A/A	A/A	A/A	A/A	A/A	A/A	A/A
chr1	11367	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C
chr1	12376	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C
chr1	13387	T/T	T/T	T/T	T/T	T/T	T/T	T/T	T/T
chr1	14398	T/T	T/T	T/T	T/T	T/T	T/T	T/T	T/T
chr1	16291	G/G	G/G	G/G	G/G	G/G	G/G	G/G	G/G
chr1	17296	G/G	G/G	G/G	G/G	G/G	G/G	N/N	N/N
chr1	18296	T/T	T/T	T/T	T/T	T/T	T/T	T/T	T/T
chr1	19828	G/G	G/G	G/G	G/G	G/G	G/G	G/G	G/G
chr1	20830	G/G	G/G	G/G	G/G	G/G	G/G	G/G	G/G
chr1	21846	G/G	G/G	G/G	G/G	G/G	G/G	G/G	G/G
chr1	22847	T/T	T/T	T/T	T/T	T/T	T/T	T/T	T/T
chr1	24365	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C
chr1	25366	T/T	T/T	T/T	T/T	T/T	T/T	T/T	T/T
chr1	26394	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C
chr1	27400	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C
chr1	28702	T/T	T/T	T/T	T/T	T/T	T/T	T/T	T/T
chr1	29711	T/T	T/T	T/T	T/T	T/T	T/T	T/T	T/T
chr1	30717	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C
chr1	31720	A/A	A/A	A/A	A/A	A/A	A/A	A/A	A/A
chr1	32728	A/A	A/A	A/A	A/A	A/A	A/A	A/A	N/N
chr1	33735	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C
chr1	34735	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C
chr1	35765	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C
chr1	36766	G/G	G/G	G/G	G/G	G/G	G/G	G/G	G/G
chr1	37768	G/G	G/G	G/G	G/G	G/G	G/G	G/G	G/G
chr1	38776	G/G	G/G	G/G	G/G	G/G	G/G	G/G	G/G
chr1	39783	C/C	C/C	C/C	C/C	C/C	C/C	C/C	C/C
chr1	40789	T/T	T/T	T/T	T/T	T/T	T/T	T/T	T/T
chr1	41789	A/A	A/A	A/G	A/A	A/A	A/G	A/A	A/A

ros.CAM1880 ros ros.CAM2045 ros ros.CAM2059 ros ros.CAM2519 ros ros.CAM2552 ros ros.CJ2071 ros ros.CJ531 ros ros.CJ546 ros vul.CS10 vul vul.CS3605 vul vul.CS3605 vul vul.CS3612 vul vul.CS3614 vul vul.CS3615 vul vul.CS3617 vul vul.CS3618 vul vul.CS3618 vul mal.CS1002 mal mal.CS1001 mal mal.CS1011 mal mal.CS21 mal mal.CS22 mal mal.CS24 mal mal.CS22 mal mal.CS586 mal mal.CS594 mal mal.CS604 mal mal.CS605 mal ama.JM160 ama ama.JM216 ama	ros.C	AM1841	ros	
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vul.CS3605       vul         vul.CS3606       vul         vul.CS3612       vul         vul.CS3614       vul         vul.CS3615       vul         vul.CS3617       vul         vul.CS3621       vul         vul.CS3621       vul         mal.CS1002       mal         mal.CS1011       mal         mal.CS21       mal         mal.CS22       mal         mal.CS586       mal         mal.CS594       mal         mal.CS605       mal         mal.CS604       mal         mal.CS605       mal         ama.JM160       ama         ama.JM293       ama         ama.JM293       ama         ama.MJ11-3188       ama         ama.MJ11-3202       ama         ama.MJ12-3217       ama         ama.MJ12-3301       ama         amelG.CAM1349       mpg         melG.CAM2035       mpg         melG.CAM8216       mpg			vul	
vul.CS3606       vul         vul.CS3614       vul         vul.CS3615       vul         vul.CS3617       vul         vul.CS3618       vul         vul.CS3621       vul         mal.CS1002       mal         mal.CS1011       mal         mal.CS21       mal         mal.CS22       mal         mal.CS24       mal         mal.CS594       mal         mal.CS605       mal         mal.CS604       mal         mal.CS605       mal         mal.CS604       mal         mal.CS605       mal         mal.CS606       mal         mal.CS607       mal         mal.CS608       mal         mal.CS609       mal	vul.C	S3603	vul	
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mole CAMQ21Q mng			mpg	
meta.carozio mpg	melG.	CAM8218	mpg	





$$D(P_1, P_2, P_3, O) = \frac{\sum C_{ABBA}(i) - C_{BABA}(i)}{\sum C_{ABBA}(i) + C_{BABA}(i)}$$

$$\hat{f}_G = \frac{S(P_1, P_2, P_3, O)}{S(P_1, P_{3a}, P_{3b}, O)}$$

$$C_{ABBA}(i) = (1 - \hat{p}_{i1})\hat{p}_{i2}\hat{p}_{i3}(1 - \hat{p}_{i4})$$

$$C_{\text{BABA}}(i) = \hat{p}_{i1} (1 - \hat{p}_{i2}) \hat{p}_{i3} (1 - \hat{p}_{i4})$$

$$\hat{f}_d = \frac{S(P_1, P_2, P_3, O)}{S(P_1, P_D, P_D, O)}$$