

Table S4. Molecular dating (MY) of major equid lineages

Nodes (fig.1)	Description	A. LogNormal								B. Exponential							
		Yule model of speciation				Birth-Death model of speciation				Yule model of speciation				Birth-Death model of speciation			
		Average	Median	5%	95%	Average	Median	5%	95%	Average	Median	5%	95%	Average	Median	5%	95%
A	Caballines (CAB), NWSL, Hippidions (HIP, ONO)	3,704	3,645	2,889	4,614	3,821	3,746	2,929	4,919	3,525	3,439	2,746	4,492	3,753	3,631	2,756	4,955
B	NWSL, Hippidions (HIP, ONO)	3,372	3,313	2,733	4,147	3,459	3,391	2,725	4,338	3,200	3,125	2,610	3,925	3,350	3,255	2,676	4,287
D	<i>Hippidion saldiasi</i> / <i>principale</i> (HIP)	0.759	0.718	0.357	1,269	0.701	0.662	0.298	0.116	1,096	1,044	0.412	1,923	1.019	0.943	0.344	1,858
E	<i>Hippidion devillei</i> (ONO)	0.545	0.505	0.211	0,975	0.513	0.476	0.175	0.920	0.778	0.712	0.215	1,518	0.695	0.618	0.186	1,425
F	NWSL	1,034	0,994	0,481	1,640	1,002	0,953	0,468	1,654	1,161	1,087	0,356	2,093	1,127	1,042	0,333	2,117
G	Caballines (CAB)	1,414	1,361	0,806	2,191	1,369	1,315	0,688	2,154	1,689	1,618	0,791	2,676	1,712	1,616	0,685	2,842
H	Non caballine horses (Old World)	3,308	3,273	2,280	4,421	3,390	3,347	2,245	4,656	3,078	3,017	1,931	4,326	3,345	3,250	1,958	4,910
I	Sussemiones (SUS)	1,275	1,224	0,571	2,064	1,260	1,204	0,559	2,082	1,235	1,156	0,476	2,241	1,242	1,140	0,415	2,340
J	<i>E. quagga</i> / <i>E. burchelli</i>	0.534	0,535	0,372	0,690	0,516	0,517	0,353	0,680	0,551	0,558	0,383	0,711	0,535	0,538	0,361	0,696
J1	<i>E. quagga</i> / <i>E. burchelli</i> subclade 1	0.422	0,421	0,266	0,576	0,400	0,397	0,247	0,555	0,436	0,437	0,267	0,603	0,415	0,413	0,252	0,587
K	<i>E. q. boehmi</i>	0.417	0,414	0,197	0,648	0,404	0,401	0,178	0,637	0,409	0,407	0,163	0,664	0,400	0,398	0,148	0,658
L	<i>E. hartmannae</i> (ZEB)	0.739	0,710	0,334	1,196	0,714	0,678	0,312	1,187	0,710	0,664	0,261	1,276	0,690	0,641	0,231	1,251
M	<i>E. grevyi</i> (GRE)	1,126	1,079	0,442	1,875	1,118	1,069	0,412	1,864	1,001	0,950	0,321	1,747	0,978	0,903	0,275	1,835
	<i>E. hemionus</i> (HEM), <i>E. hydruntinus</i> (HYD), <i>E. kiang</i> (KIA)	2,071	2,033	1,204	2,975	2,080	2,038	1,197	3,104	1,900	1,840	1,008	2,941	1,975	1,902	0,886	3,236
	<i>E. asinus</i>	1,703	1,667	0,848	2,575	1,692	1,642	0,803	2,633	1,417	1,364	0,571	2,307	1,451	1,375	0,535	2,502
	All zebras	2,583	2,557	1,684	3,478	2,612	2,574	1,628	3,587	2,186	2,119	1,364	3,166	2,311	2,233	1,280	3,493
Tree Height	All equids	4,079	4,017	3,091	5,173	4,228	4,141	3,120	5,477	3,966	3,858	2,941	5,236	4,319	4,161	2,985	5,992
A	Caballines (CAB), NWSL, Hippidions (HIP, ONO)	3,509	3,448	2,768	4,360	3,593	3,515	2,774	4,607	3,301	3,221	2,659	4,111	3,406	3,290	2,655	4,453
B1	NWSL, Caballines (CAB)	2,927	2,912	1,905	3,943	2,983	2,954	1,850	4,104	2,608	2,615	1,496	3,617	2,665	2,659	1,451	3,837
D	<i>Hippidion saldiasi</i> / <i>principale</i> (HIP)	0.728	0,687	0,338	1,233	0,667	0,628	0,270	1,121	1,065	0,993	0,390	1,924	0,973	0,897	0,302	1,858
E	<i>Hippidion devillei</i> (ONO)	0.523	0,485	0,196	0,935	0,474	0,437	0,167	0,855	0,750	0,681	0,205	1,482	0,654	0,575	0,148	1,346
F	NWSL	0.966	0,927	0,465	1,542	0,925	0,881	0,443	1,510	1,017	0,952	0,373	1,823	0,977	0,901	0,300	1,783
G	Caballines (CAB)	1,314	1,270	0,734	1,984	1,262	1,215	0,664	1,924	1,441	1,392	0,752	2,252	1,434	1,361	0,625	2,363
H	Non caballine horses (Old World)	3,152	3,103	2,151	4,242	3,235	3,184	2,181	4,441	2,904	2,860	1,813	4,093	3,029	2,953	1,805	4,372
I	Sussemiones (SUS)	1,214	1,160	0,555	1,969	1,187	1,131	0,534	1,944	1,147	1,082	0,369	2,028	1,145	1,046	0,354	2,118
J	<i>E. quagga</i> / <i>E. capensis</i> subclade	0.525	0,526	0,353	0,683	0,503	0,503	0,338	0,670	0,541	0,547	0,371	0,704	0,523	0,527	3,400	0,694
J1	<i>E. quagga</i> / <i>E. burchelli</i> subclade 1	0.412	0,409	0,255	0,566	0,385	0,381	0,234	0,541	0,424	0,421	0,259	0,596	0,400	0,399	0,226	0,580
K	<i>E. q. boehmi</i>	0.412	0,405	0,189	0,644	0,398	0,393	0,173	0,628	0,402	0,397	0,150	0,657	0,389	0,382	0,142	0,657
L	<i>E. hartmannae</i> (ZEB)	0.707	0,682	0,315	1,138	0,677	0,647	0,288	1,125	0,655	0,611	0,230	1,159	0,645	0,595	0,197	1,182
M	<i>E. grevyi</i> (GRE)	1,076	1,030	0,445	1,800	1,062	1,014	0,413	1,796	0,943	0,885	0,322	1,712	0,928	0,861	0,260	1,711
	<i>E. hemionus</i> (HEM), <i>E. hydruntinus</i> (HYD), <i>E. kiang</i> (KIA)	1,988	1,941	1,182	2,926	1,965	1,921	1,087	2,867	1,781	1,721	0,901	2,786	1,801	1,726	0,821	2,900
	<i>E. asinus</i>	1,606	1,568	0,790	2,470	1,613	1,570	0,785	2,536	1,324	1,269	0,519	2,220	1,298	1,221	0,460	2,268
	All zebras	2,439	2,400	1,551	3,325	2,484	2,447	1,579	3,445	2,061	2,001	1,255	3,008	2,119	2,043	1,227	3,230

Nodes (fig.1)	Description	A. LogNormal								B. Exponential							
		Yule model of speciation				Birth-Death model of speciation				Yule model of speciation				Birth-Death model of speciation			
		Average	Median	5%	95%	Average	Median	5%	95%	Average	Median	5%	95%	Average	Median	5%	95%
Tree Height	All equids	3,856	3,789	2,940	4,897	3,966	3,878	2,932	5,137	3,700	3,602	2,819	4,819	3,900	3,754	2,778	5,330
A	Caballines (CAB), NWSL, Hippidions (HIP, ONO)	3,635	4,565	2,856	4,612	3,718	3,635	2,853	4,779	3,491	3,415	2,757	4,419	3,584	3,477	2,743	4,697
B2	Caballines (CAB), Hippidions (HIP, ONO)	3,465	3,398	2,760	4,371	3,534	3,459	2,737	4,455	3,272	3,200	2,676	4,048	3,328	3,238	2,671	4,244
D	<i>Hippidion saldiasi</i> / <i>principale</i> (HIP)	0,765	0,722	0,340	1,258	0,693	0,653	0,303	1,147	1,111	1,049	0,427	1,933	0,973	0,886	0,325	1,835
E	<i>Hippidion devillei</i> (ONO)	0,551	0,513	0,207	0,989	0,495	0,459	0,172	0,894	0,768	0,703	0,209	1,497	0,686	0,612	0,162	1,407
F	NWSL	1,052	1,006	0,476	1,687	1,009	0,958	0,443	1,663	1,188	1,096	0,387	2,170	1,125	1,030	0,355	2,160
G	Caballines (CAB)	1,415	1,366	0,765	2,131	1,338	1,286	0,725	2,077	1,669	1,614	0,854	2,579	1,606	1,542	0,701	2,58
H	Non caballine horses (Old World)	3,253	3,199	2,177	4,386	3,314	3,253	2,144	4,508	3,119	3,075	1,948	4,342	3,225	3,151	1,960	4,704
I	Sussemionus (SUS)	1,244	1,189	0,546	2,036	1,231	1,178	0,527	2,017	1,229	1,154	0,432	2,173	1,213	1,123	0,418	2,224
J	<i>E. quagga</i> / <i>E. capensis</i> subclade	0,530	0,531	0,366	0,693	0,511	0,510	0,346	0,672	0,556	0,559	0,395	0,717	0,533	0,537	0,359	0,701
J1	<i>E. quagga</i> / <i>E. burchelli</i> subclade 1	0,416	0,413	0,261	0,577	0,394	0,391	0,250	0,554	0,439	0,438	0,269	0,598	0,411	0,410	0,241	0,589
K	<i>E. q. boehmi</i>	0,418	0,414	0,193	0,645	0,404	0,400	0,183	0,638	0,409	0,404	0,159	0,669	0,393	0,390	0,141	0,649
L	<i>E. hartmannae</i> (ZEB)	0,729	0,701	0,307	1,173	0,708	0,681	0,316	1,170	0,725	0,682	0,259	1,254	0,671	0,622	0,232	1,210
M	<i>E. grevyi</i> (GRE)	1,121	1,074	0,424	1,881	1,094	1,041	0,417	1,863	1,023	0,962	0,327	1,818	0,996	0,922	0,283	1,838
	<i>E. hemionus</i> (HEM), <i>E. hydruntinus</i> (HYD), <i>E. kiang</i> (KIA)	2,054	2,005	1,193	2,984	2,039	1,986	1,143	3,024	1,938	1,877	0,995	3,004	1,911	1,845	0,856	3,046
	<i>E. asinus</i>	1,666	1,632	0,799	2,568	1,677	1,627	0,833	2,680	1,464	1,414	0,610	2,443	1,396	1,329	0,512	2,414
	All zebras	2,533	2,489	1,630	3,524	2,565	2,515	1,609	3,546	2,246	2,193	1,344	3,217	2,235	2,163	1,241	3,295
Tree Height	All equids	4,034	3,958	3,017	5,168	4,147	4,051	3,063	5,398	3,964	3,860	2,946	5,260	4,148	3,996	2,908	5,684

Average, median and 95% lower and upper values of the posterior distribution of each date are reported. Three different topological constraints within Caballine horses (ie. considering node B, see Fig 1; or relaxing node B for nodes B1: (CAB,NSWL) or node B2: (CAB,(HIP,ONO))) were examined for each series of dating estimates. Tips were calibrated according to the dates reported in Suppl Table T1A (column Age, BEAST). Two calibration points were assumed at 2.5 ± 0.1 MYA and 0.7 ± 0.1 MYA as for the emergence of the hippidiform lineage (fig 1, node C1) and plains zebras, respectively. A, Relaxed molecular clock with rates among branches distributed according to a log-normal distribution. B, Relaxed molecular clock with rates among branches distributed according to an exponential distribution.