

Summary of g10s2 data set. We have used 2 chains with the smallest negative log-likelihood in the following analysis (log-likelihood within 1σ of the best chain).

$$E\{c\} = 0.0093 \pm 0.0005.$$

$$E\{d\} = 0.6855 \pm 0.0063.$$

$$E\{-\log P(X | \theta)\} = 9079.9 \pm 49.6.$$

$$E\{\text{corr}(\pi, MN)\} = 0.704.$$

$$E\{\text{corr}(\pi, DBAGE)\} = -0.654.$$

Out of randomly picked 1s, 15.9 % are false (1F).

Out of randomly picked 0s, 9.8 % are false (0F).

Out of dead (sites,genera) pairs, 0.9 % are false (\hat{c}).

Out of alive (sites,genera) pairs, 68.6 % are false (\hat{d}).

2 chains, average Hellinger dispersion is 0.010012.

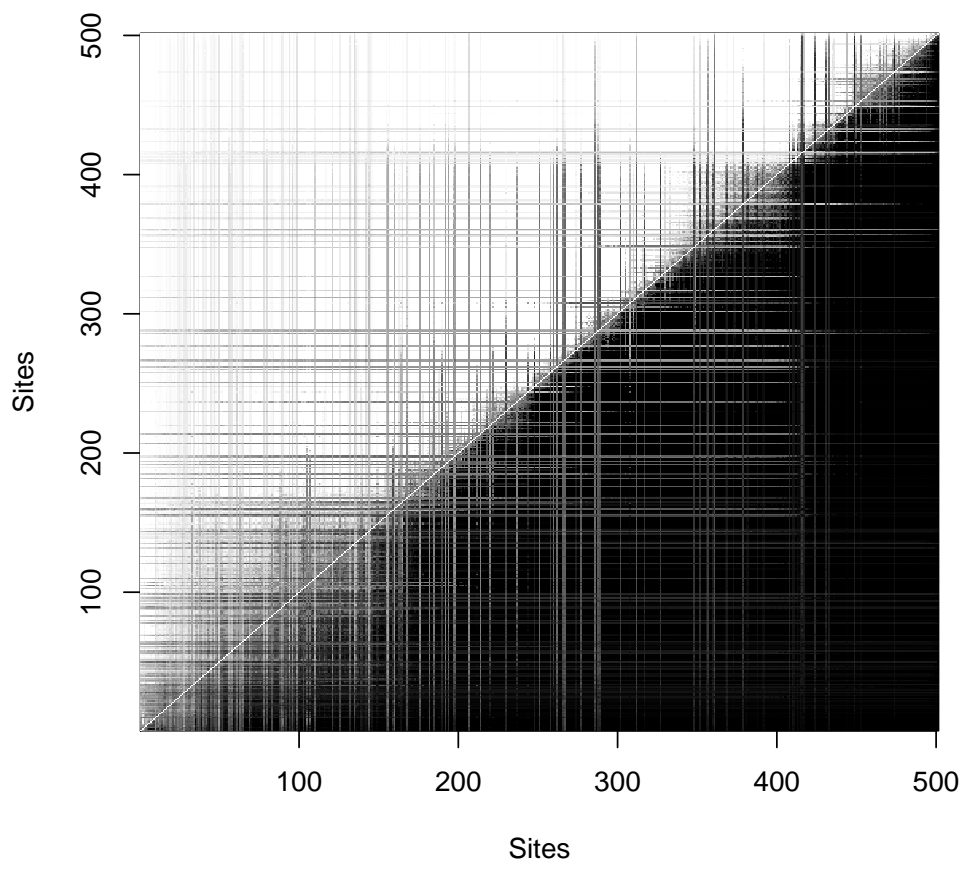


Figure 1: Paired order matrix.

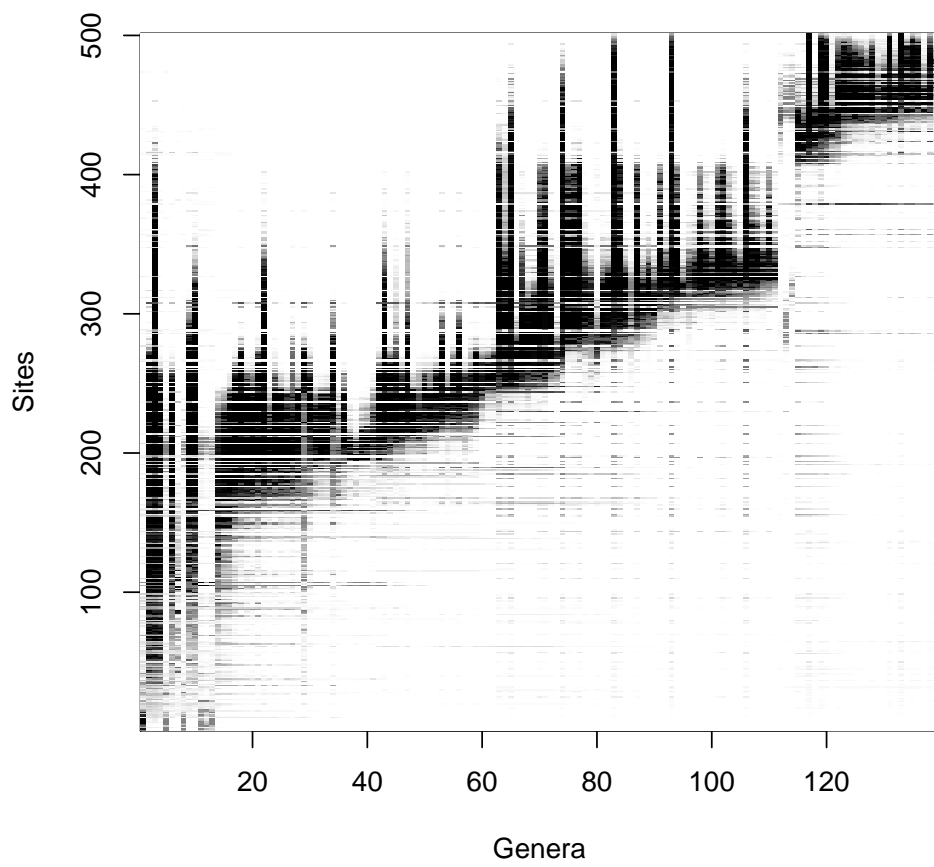


Figure 2: Probability that genus m is alive on site n . White colour denotes probability of one, and black probability of zero.

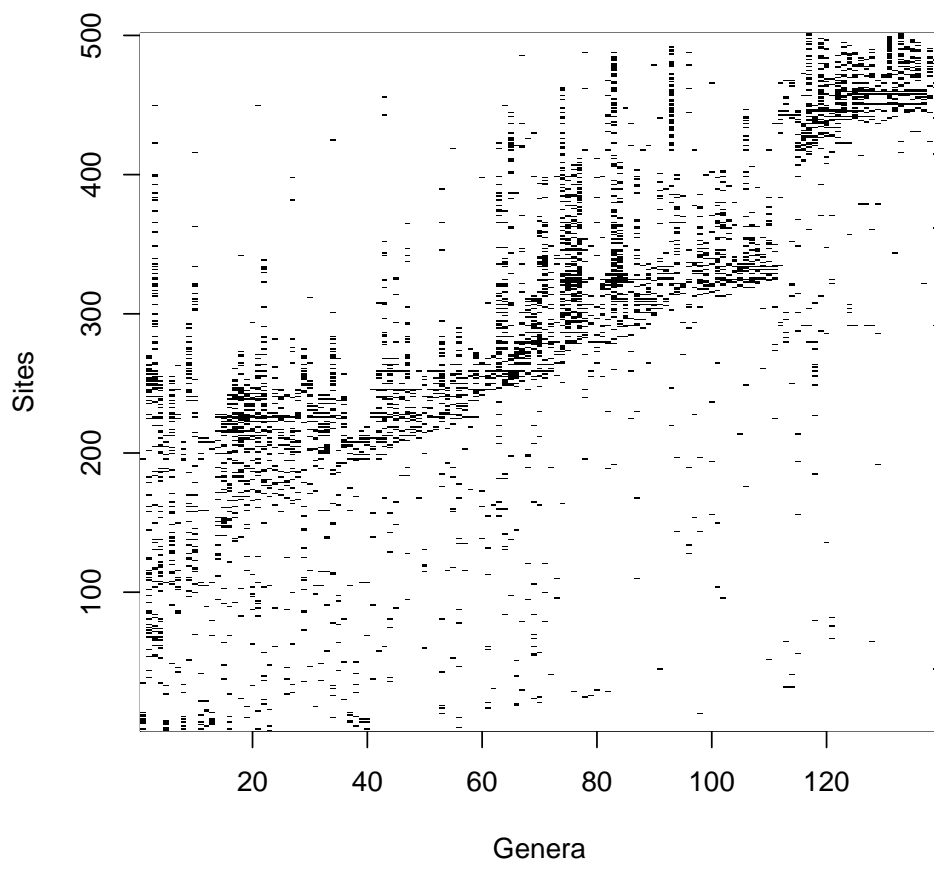


Figure 3: Data matrix.

n	Site [MN,DBAGE]	$E\{\pi\}$	1s	AL	1F	0F	\hat{c}	\hat{d}	$O_{n-1,n}$
481	Livakos (LIV) [16,2.66]	467.435 ± 3.560	8	19.425	0.000375	0.087233	0.000025	0.588303	0.541500
482	Sarikol Tepe (AS 82) [17,2.26]	468.118 ± 5.406	6	19.262	0.028833	0.101015	0.001445	0.697487	0.386500
483	Yukarı [16,2.66]	469.666 ± 8.723	6	18.428	0.066917	0.096462	0.003330	0.696196	0.389000
484	Gerakarou 1 (GER) [16,3.02]	471.006 ± 5.884	10	17.985	0.005250	0.062302	0.000434	0.446885	0.227000
485	Kos [15,3.97]	471.571 ± 8.832	8	17.521	0.003125	0.072874	0.000206	0.544845	0.350500
486	Rostov (na Donu) Taganrog [17,2.24]	472.041 ± 13.875	7	16.681	0.154000	0.081504	0.008813	0.644975	0.510500
487	Pietris [16,2.66]	473.325 ± 7.344	6	17.178	0.009750	0.084481	0.000480	0.654111	0.503000
488	La Gloria [14,4.75]	473.954 ± 9.574	6	16.975	0.342500	0.097970	0.016841	0.767599	0.412000
489	Krimni (KRI) [16,2.66]	475.039 ± 12.378	5	16.029	0.024600	0.083224	0.001000	0.695739	0.408500
490	Coupet [17,2.26]	475.383 ± 6.675	9	15.990	0.002167	0.053919	0.000159	0.438368	0.439000
491	Oosterschelde [17,2.31]	476.002 ± 7.489	8	15.724	0.007000	0.059389	0.000454	0.494785	0.544000
492	Tourkovounia 3 5 [16,3]	477.779 ± 5.500	5	14.884	0.008800	0.074086	0.000355	0.667014	0.336500
493	Alikes (ALK) [16,2.66]	478.271 ± 23.392	3	14.287	0.033333	0.083732	0.000802	0.797025	0.427000
494	Zhdanov [17,2.24]	479.924 ± 20.168	4	10.738	0.010375	0.050215	0.000324	0.631339	0.184000
495	Pyrgos [16,3.02]	482.336 ± 6.680	5	12.899	0.009700	0.059313	0.000385	0.616148	0.642000
496	Polylakkos [16,2.66]	482.507 ± 8.900	4	12.066	0.005875	0.059926	0.000185	0.670451	0.350500
497	Damatia [16,3]	486.698 ± 8.333	3	9.891	0.056667	0.051919	0.001317	0.713881	0.371500
498	Zhevakhova Gora [17,2.24]	489.409 ± 3.577	4	8.335	0.003875	0.032226	0.000119	0.521956	0.366000
499	Vinodelnoe (Kutsaj) [17,2.24]	491.563 ± 3.740	2	6.683	0.011000	0.034343	0.000166	0.704025	0.206500
500	Noordzee I [17,2.31]	494.267 ± 5.068	2	4.654	0.013000	0.019566	0.000194	0.575894	0.288500
501	Ljapino [17,2.24]	496.382 ± 2.776	2	4.131	0.012750	0.015741	0.000189	0.522029	0.413000

m	Genus	1s	AL	1F	0F	\hat{c}	\hat{d}	$E\{a\}$	$E\{b\}$	$E\{L\}$
121	Mammut	20	33.824	0.449975	0.047450	0.019264	0.674772	413.336	447.159	15.238
122	Ursus	30	65.928	0.026833	0.077989	0.001850	0.557168	415.729	481.657	13.784
123	Lynx	28	61.631	0.024732	0.072567	0.001576	0.556923	425.227	486.858	12.866
124	Canis	21	56.828	0.256833	0.085877	0.012143	0.725371	428.271	485.098	15.489
125	Nyctereutes	26	51.482	0.044808	0.056100	0.002592	0.517603	428.723	480.205	11.386
126	Pliocrocota	21	47.526	0.051333	0.057509	0.002377	0.580823	429.245	476.771	11.733
127	Vulpes	19	40.350	0.089632	0.047828	0.003697	0.571326	430.922	471.272	10.454
128	Croizetocerus	21	52.381	0.137905	0.071411	0.006455	0.654382	430.997	483.378	13.980
129	Macaca	10	28.326	0.249400	0.042403	0.005276	0.735014	432.074	460.400	7.218
130	Megantereon	10	33.386	0.038700	0.048419	0.000828	0.712069	432.388	465.774	6.550
131	Equus	33	63.192	0.009394	0.065175	0.000708	0.482688	432.735	495.927	14.374
132	Chasmaporthetes	16	32.710	0.080344	0.037104	0.002745	0.550153	433.189	465.899	8.536
133	Mammuthus	29	65.760	0.042552	0.080495	0.002835	0.577764	434.738	500.498	16.035
134	Homotherium	18	47.668	0.004861	0.061605	0.000193	0.624220	435.426	483.094	10.444
135	Leptobos	22	55.113	0.015500	0.069840	0.000765	0.607004	436.625	491.738	13.050
136	Gazellospira	23	51.221	0.010543	0.059548	0.000539	0.555704	436.858	488.079	11.697
137	Acinonyx	10	23.350	0.109200	0.029412	0.002286	0.618493	436.914	460.264	5.690
138	Eucladoceros	16	52.990	0.039187	0.077561	0.001400	0.709889	437.434	490.424	11.001
139	Paracamelus	10	23.601	0.507850	0.038045	0.010638	0.791475	448.122	471.724	8.157

The strongest of false 1s.

	(<i>n, m</i>)	Site	Genus	P(1 is wrong)
1	(11, 38)	Cetina de Aragon [2,21.38]	Andegameryx	1.000000
2	(262, 24)	Priay II [9,10.35]	Pliopithecus	1.000000
3	(16, 23)	Brüttelen [3,19]	Aureliachoerus	1.000000
4	(4, 38)	Chitenay [3,19]	Andegameryx	1.000000
5	(225, 111)	Pasalar [6,14.75]	Pliohyrax	1.000000
6	(264, 118)	Can Ponsic I [9,10.35]	Tapirus	1.000000
7	(150, 101)	Chios [5,16.1]	Choerolophodon	1.000000
8	(10, 56)	Four [6,13.2]	Micromeryx	1.000000
9	(479, 90)	La Calera [15,3.8]	Hispanodorcas	1.000000
10	(421, 67)	Baccinello V3 [13,5.65]	Machairodus	1.000000
11	(292, 117)	Venta del Moro [13,6.2]	Anancus	1.000000
12	(418, 78)	Brisighella [13,6.2]	Plioviverrops	1.000000
13	(59, 61)	Can Mata 1 [7,11.85]	Dryopithecus	1.000000
14	(138, 65)	Saint Gaudens (Valentine) [7,11.85]	Propotamochoerus	1.000000
15	(199, 68)	Wintershof West [3,19] *	Thalassictis	1.000000
16	(418, 97)	Brisighella [13,6.2]	Orycteropus	1.000000
17	(228, 7)	Çandır [6,13.85]	Tethytragus	1.000000
18	(227, 118)	Göriach [5,16.1]	Tapirus	1.000000
19	(246, 7)	La Grive St. Alban [7,11.85]	Tethytragus	1.000000
20	(443, 82)	Weze 1 [15,3.8]	Felis	1.000000
21	(60, 50)	Laymont [6,13.85]	Prodeinotherium	1.000000
22	(312, 30)	Arkneti [11,8.78]	Dicrocerus	1.000000
23	(462, 78)	La Gloria 4 [14,4.75]	Plioviverrops	1.000000
24	(2, 21)	Paulhiac [1,23.29] *	Amphicyon	1.000000
25	(119, 50)	Lussan [6,13.85]	Prodeinotherium	1.000000
26	(304, 117)	Concud [12,7.65]	Anancus	1.000000
27	(399, 69)	Polgardi [13,6.75]	Dihoplus	1.000000
28	(31, 34)	Atzgersdorf (WIEN) [7,11.85]	Euprox	1.000000
29	(14, 37)	Haut du Calvaire [2,21.38]	Diaceratherium	1.000000
30	(442, 82)	Perpignan [15,3.8] *	Felis	1.000000
31	(249, 106)	Wissberg [9,10.35]	Mesopithecus	1.000000
32	(304, 124)	Concud [12,7.65]	Canis	1.000000
33	(135, 56)	Laimering 3 [6,14.75]	Micromeryx	1.000000
34	(421, 66)	Baccinello V3 [13,5.65]	Miotragocerus	1.000000
35	(488, 78)	La Gloria [14,4.75]	Plioviverrops	1.000000
36	(132, 61)	Seu d'Urgel [9,10.35]	Dryopithecus	1.000000
37	(448, 85)	Çalta [15,3.8]	Amphimachairodus	1.000000
38	(120, 50)	Crastes [5,16.1]	Prodeinotherium	1.000000
39	(322, 121)	Chimishlija (Cimislija) [12,7.65]	Mammut	1.000000
40	(307, 124)	Cerro de la Garita [12,7.65]	Canis	1.000000
41	(113, 61)	St. Stephan im Lavanttal [7,11.85]	Dryopithecus	1.000000
42	(486, 67)	Rostov (na Donu) Taganrog [17,2.24]	Machairodus	1.000000
43	(437, 82)	Montpellier [14,4.75]	Felis	1.000000
44	(450, 21)	Stavropol Kavkazskij [15,3.53]	Amphicyon	1.000000
45	(43, 53)	Nikolsburg [9,10.35]	Chalicotherium	1.000000
46	(280, 117)	Dorn Dürkheim [11,8.6]	Anancus	1.000000
47	(280, 118)	Dorn Dürkheim [11,8.6]	Tapirus	1.000000
48	(220, 69)	Tulchin [14,4.49]	Dihoplus	1.000000
49	(75, 44)	Coca [7,11.85]	Lartetotherium	1.000000
50	(2, 40)	Paulhiac [1,23.29] *	Cynelos	1.000000
51	(56, 69)	Domnitsa [14,4.49]	Dihoplus	1.000000
52	(430, 69)	Alcoy [14,4.75]	Dihoplus	1.000000
53	(3, 56)	Wiesholz [6,13.85]	Micromeryx	1.000000
54	(437, 111)	Montpellier [14,4.75]	Pliohyrax	1.000000
55	(420, 67)	Gödöllö [14,4.75]	Machairodus	1.000000
56	(17, 61)	St. Gaudens [7,11.85]	Dryopithecus	1.000000
57	(292, 124)	Venta del Moro [13,6.2]	Canis	1.000000
58	(247, 93)	Belometchetskaja [5,16.1]	Stephanorhinus	1.000000
59	(135, 57)	Laimering 3 [6,14.75]	Stehlinoceros	1.000000
60	(2, 16)	Paulhiac [1,23.29] *	Hyotherium	1.000000

	(<i>n, m</i>)	Site	Genus	P(1 is wrong)
61	(107, 5)	Ulm Westtangente [2,21.38]	Cainotherium	1.000000
62	(8, 37)	Le Tunnel [2,21.38]	Diaceratherium	1.000000
63	(118, 55)	Miélan [6,13.85]	Hoploaceratherium	1.000000
64	(255, 118)	Eppelsheim [9,10.35]	Tapirus	1.000000
65	(419, 55)	Pont de Gail [16,2.66]	Hoploaceratherium	1.000000
66	(445, 96)	Kvabebi [16,3]	Protoryx	1.000000
67	(214, 105)	Novo Elizavetovka 2 [11,8.6]	Protragelaphus	1.000000
68	(53, 55)	Hinterauerbach [9,10.35]	Hoploaceratherium	1.000000
69	(128, 47)	Sofça [7,11.85]	Protictitherium	1.000000
70	(421, 89)	Baccinello V3 [13,5.65]	Metailurus	1.000000
71	(362, 139)	Çobanpinar (AS 42) [12,7.65]	Paracamelus	1.000000
72	(261, 109)	Nombrevilla [9,10.35]	Ancylotherium	1.000000
73	(42, 38)	Loranca [2,21.38]	Andegameryx	1.000000
74	(17, 53)	St. Gaudens [7,11.85]	Chalicotherium	1.000000
75	(265, 101)	Kalfa [9,10.35]	Choerolophodon	1.000000
76	(156, 100)	Wien 10 [9,10.1]	Cervavitus	1.000000
77	(67, 69)	Ananjev [13,6.2]	Dihoplus	1.000000
78	(468, 82)	Csarnota 2 [15,3.8]	Felis	1.000000
79	(25, 78)	Los Aguanaces [11,8.6]	Plioviverrops	1.000000
80	(399, 73)	Polgardi [13,6.75]	Eomellivora	1.000000
81	(263, 7)	Paracuellos 3 [6,13.85]	Tethytragus	1.000000
82	(425, 34)	Casino [13,5.65]	Euprox	1.000000
83	(13, 53)	Thessaloniki [12,7.65]	Chalicotherium	1.000000
84	(76, 121)	Krivaja Balka [13,6.25]	Mammut	1.000000
85	(39, 44)	Cerro del Otero [7,11.85]	Lartetotherium	1.000000
86	(95, 47)	Yeni Eskihisar 2 [7,11.85]	Protictitherium	1.000000
87	(51, 66)	Oberföhring [9,10.35]	Miotragocerus	1.000000
88	(398, 60)	Varnitsa [9,10.35]	Dicerorhinus	1.000000
89	(36, 44)	Can Almirall [7,11.85]	Lartetotherium	1.000000
90	(418, 88)	Brisighella [13,6.2]	Lycyaena	1.000000
91	(322, 137)	Chimishlija (Cimislija) [12,7.65]	Acinonyx	1.000000
92	(426, 68)	Arenas del Rey [13,6.2]	Thalassictis	1.000000
93	(128, 96)	Sofça [7,11.85]	Protoryx	1.000000
94	(18, 19)	Riedern [6,13.85]	Palaeomeryx	1.000000
95	(106, 69)	Gau Weinheim [9,10.35]	Dihoplus	1.000000
96	(95, 68)	Yeni Eskihisar 2 [7,11.85]	Thalassictis	1.000000
97	(52, 110)	Toril 3 [7,11.85]	Oioceros	1.000000
98	(462, 96)	La Gloria 4 [14,4.75]	Protoryx	1.000000
99	(250, 114)	Sant Quirze [7,11.85]	Mustela	1.000000
100	(154, 97)	Córcoles [4,17.5]	Orycteropus	1.000000