

A Population Genetic Report

using PopGenReport Ver. 2.0

Adamack & Gruber (2014)

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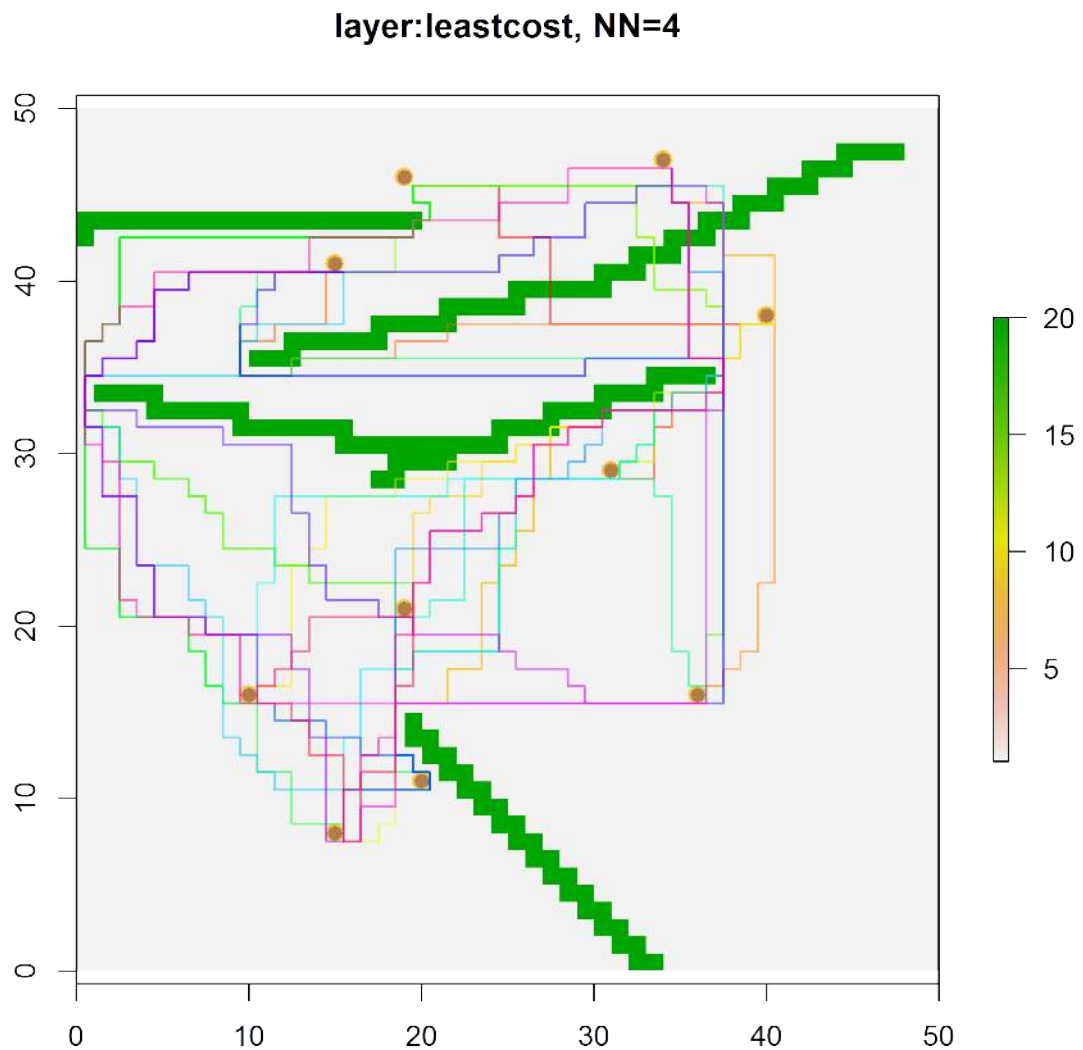
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1 Landscape Genetic Analysis

Here some initial words on the method....

1.1 Maps of resistance matrices

The following pages show simple maps of the resistance matrices. In case of the pathtype is "leastcost" also the least-cost paths are shown.



1.2 Pairwise Euclidean distances

	1	2	3	4	5	6	7	8	9	10
1	0	22	13	34	25	22	11	27	37	39
2	22	0	21	35	6	34	15	25	31	38
3	13	21	0	21	20	14	18	14	25	26
4	34	35	21	0	30	17	39	10	11	6
5	25	6	20	30	0	33	20	20	25	33
6	22	34	14	17	33	0	31	18	26	22
7	11	15	18	39	20	31	0	30	39	43
8	27	25	14	10	20	18	30	0	10	14
9	37	31	25	11	25	26	39	10	0	9
10	39	38	26	6	33	22	43	14	9	0

Table 1: Pairwise euclidean distances

1.3 Pairwise cost distances

	1	2	3	4	5	6	7	8	9	10
1	0	48	18	51	46	26	34	38	52	55
2	48	0	60	76	11	68	16	65	61	74
3	18	60	0	33	54	18	46	20	34	37
4	51	76	33	0	65	25	79	13	15	8
5	46	11	54	65	0	62	25	54	50	63
6	26	68	18	25	62	0	54	22	26	29
7	34	16	46	79	25	54	0	66	75	83
8	38	65	20	13	54	22	66	0	14	17
9	52	61	34	15	50	26	75	14	0	13
10	55	74	37	8	63	29	83	17	13	0

Table 2: Pairwise cost distances - layer, pathtype='leastcost', NN=4

1.4 Pairwise path lengths

Path lengths are only calculated if path type is "leastcost".

	1	2	3	4	5	6	7	8	9	10
1	0	29	18	51	46	26	15	38	52	55
2	29	0	41	76	11	49	16	65	61	74
3	18	41	0	33	54	18	27	20	34	37
4	51	76	33	0	65	25	60	13	15	8
5	46	11	54	65	0	62	25	54	50	63
6	26	49	18	25	62	0	35	22	26	29
7	15	16	27	60	25	35	0	47	75	64
8	38	65	20	13	54	22	47	0	14	17
9	52	61	34	15	50	26	75	14	0	13
10	55	74	37	8	63	29	64	17	13	0

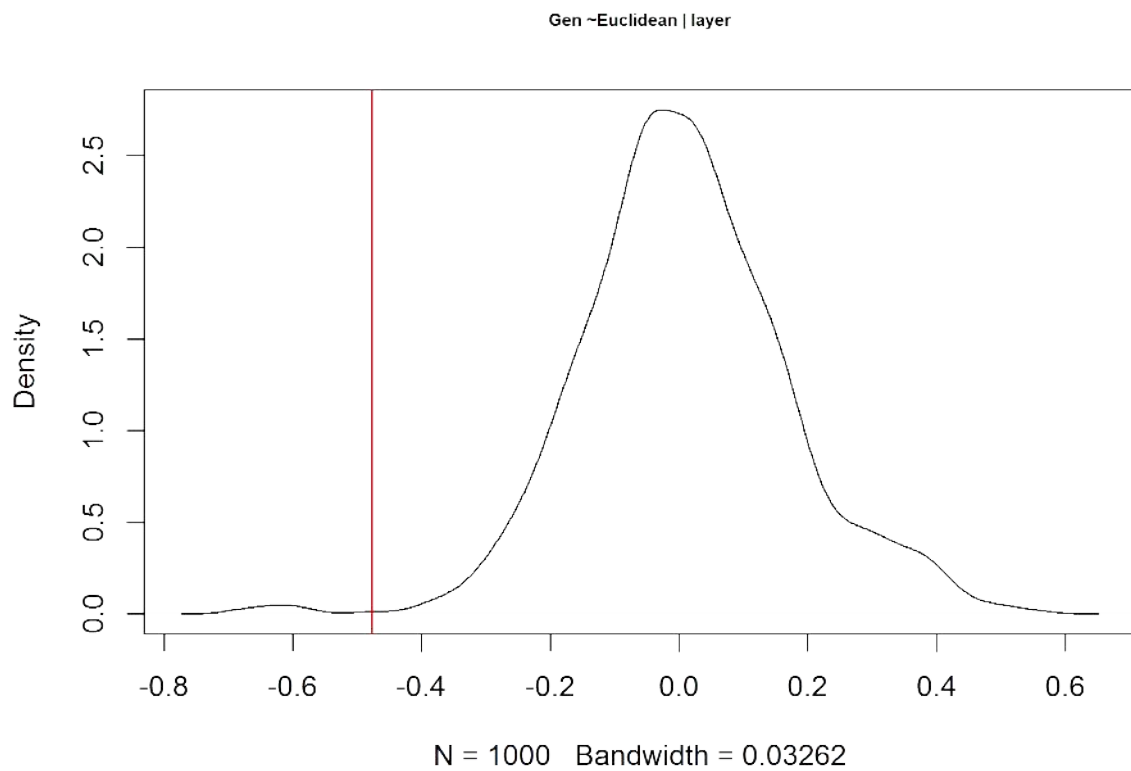
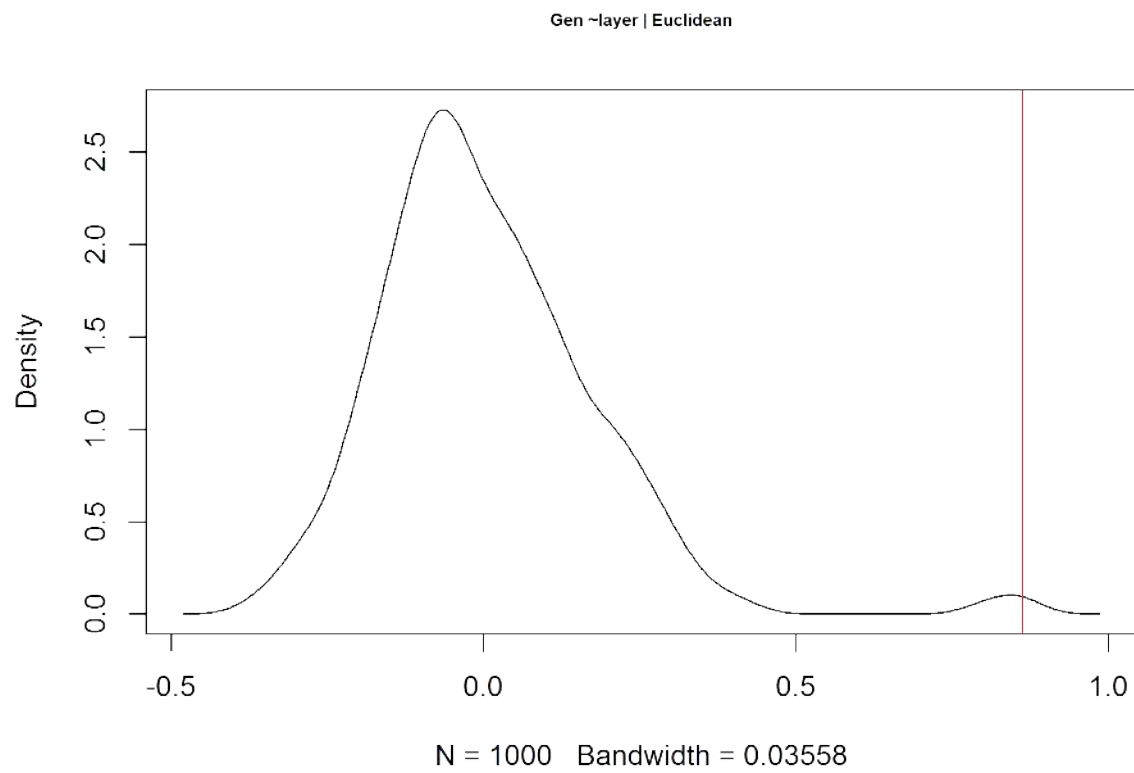
Table 3: Pairwise path lengths (based on least cost paths) - layer, pathtype='leastcost', NN=4

1.5 Pairwise genetic distances (D)

	1	2	3	4	5	6	7	8	9	10
1	0.000	0.640	0.232	0.458	0.645	0.356	0.701	0.435	0.475	0.438
2	0.640	0.000	0.602	0.711	0.133	0.653	0.201	0.657	0.678	0.691
3	0.232	0.602	0.000	0.307	0.612	0.248	0.654	0.273	0.331	0.295
4	0.458	0.711	0.307	0.000	0.719	0.330	0.705	0.170	0.180	0.124
5	0.645	0.133	0.612	0.719	0.000	0.690	0.214	0.667	0.671	0.708
6	0.356	0.653	0.248	0.330	0.690	0.000	0.713	0.296	0.308	0.333
7	0.701	0.201	0.654	0.705	0.214	0.713	0.000	0.696	0.677	0.708
8	0.435	0.657	0.273	0.170	0.667	0.296	0.696	0.000	0.142	0.180
9	0.475	0.678	0.331	0.180	0.671	0.308	0.677	0.142	0.000	0.142
10	0.438	0.691	0.295	0.124	0.708	0.333	0.708	0.180	0.142	0.000

Table 4: Pairwise genetic distance (D)

1.6 Partial Mantel tests following the approach of Wassermann et al. 2010



	model	r	p
1	Gen ~layer Euclidean	0.8623	0.003
2	Gen ~Euclidean layer	-0.4771	0.994

Table 5: Mantel tests following methodology of Wassermann et al. 2011

1.7 Multiple Matrix Regression with Randomization analysis

The approach follows the approach of Wang 2013 and Legendre et al. 1994.

	layer	coefficient	tstatistic	tpvalue	Fstat	Fpvalue	r2
2	layer	0.013	11.036	0.001	143.917	0.001	0.873
3	Euclidean	-0.009	-3.518	0.021			
1	Intercept	0.140	4.505	0.877			

Table 6: Multiple Matrix Regression wiht Randomization