

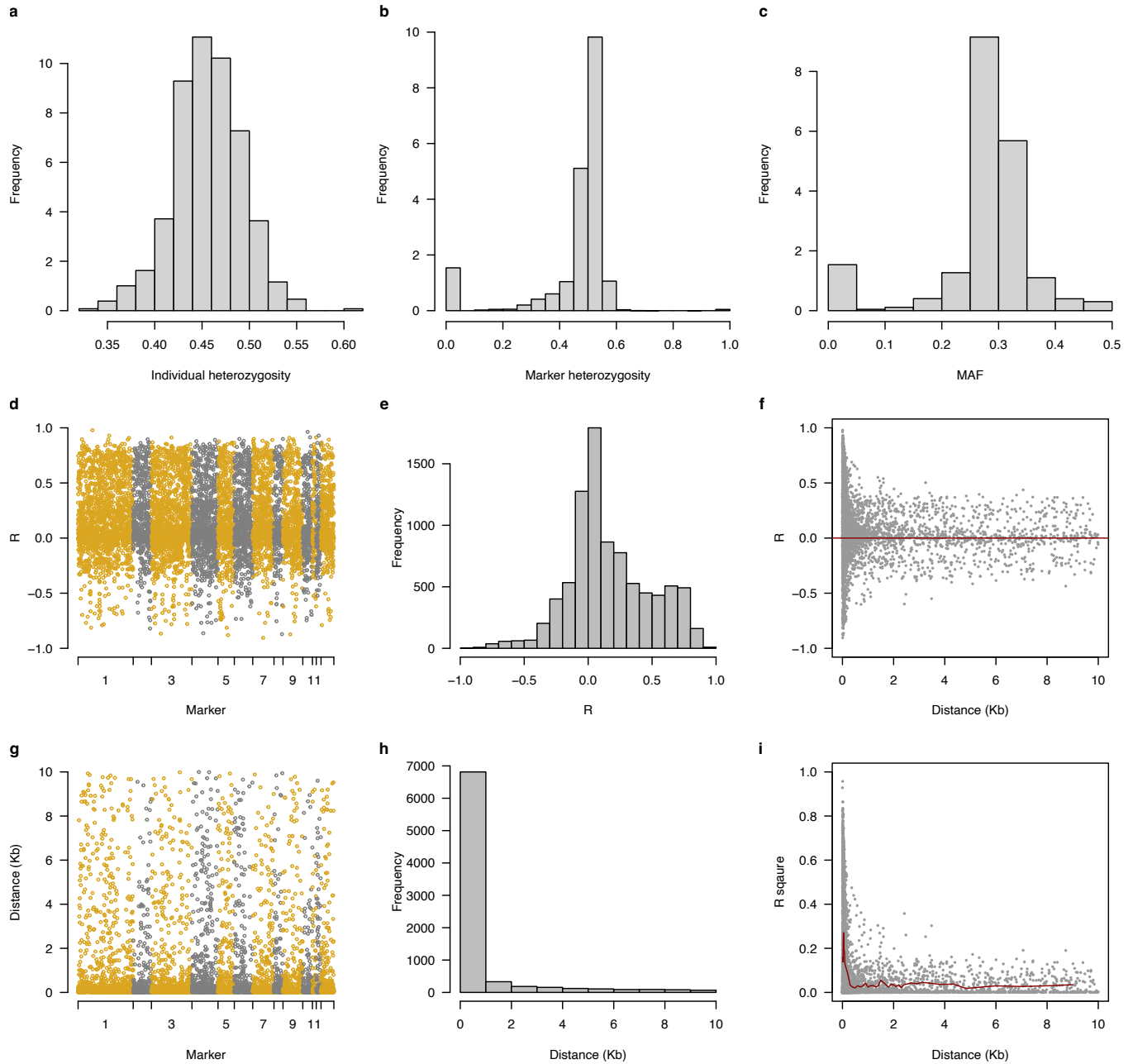
## 9. Supplementary Information

**Supplementary Table 1.** Spectral Ranges of All Segments

Segment	Spectral ranges	Segment	Spectral ranges
1	708-1357	24	445-520, 605-695
2	400-707, 1358-2500	25	445-520
3	708-1143	26	605-695
4	1144-1357	27	445-499
5	708-735	28	500-520
6	736-1143	29	648-690
7	708-722	30	605-647, 691-695
8	723-735	33	1400-1484
9	745-945, 1016-1128	34	1485-1524
10	736-744, 946-1015, 1129-1143	39	1399, 1863-1880, 2094-2310
11	1312-1357	41	2414-2500
12	1144-1311	42	2311-2413
16	1358-1383	43	1894-2001
18	1384-1385, 1592-1752	44	1881-1893, 2002-2093
19	1525-1564	45	423-444
20	1386-1398, 1565-1591, 1753-1862	46	400-422
23	521-604, 696-707		

**Supplementary Table 2.** Annotation of Candidate Genes

Chromosome	Start	End	Gene ID	Description	Strand
Chr 1	156544030	156548751	Niat3g_07150	Serine hydroxymethyltransferase	+
Chr 1	156551141	156551840	Niat3g_07151	Methyltransf_11 domain-containing protein	-



**Supplementary Figure 1.** (a) - (c): Frequency of heterozygosity of individual and markers. (d) - (i) Distance and linkage disequilibrium (LD) decay between neighbor markers