

Supplementary Information

This supplementary file1 contains 1 table and 4 figures.

A novel resistance locus from an unexploited East Asian *Vitis coignetiae* confers resistance to grapevine downy mildew

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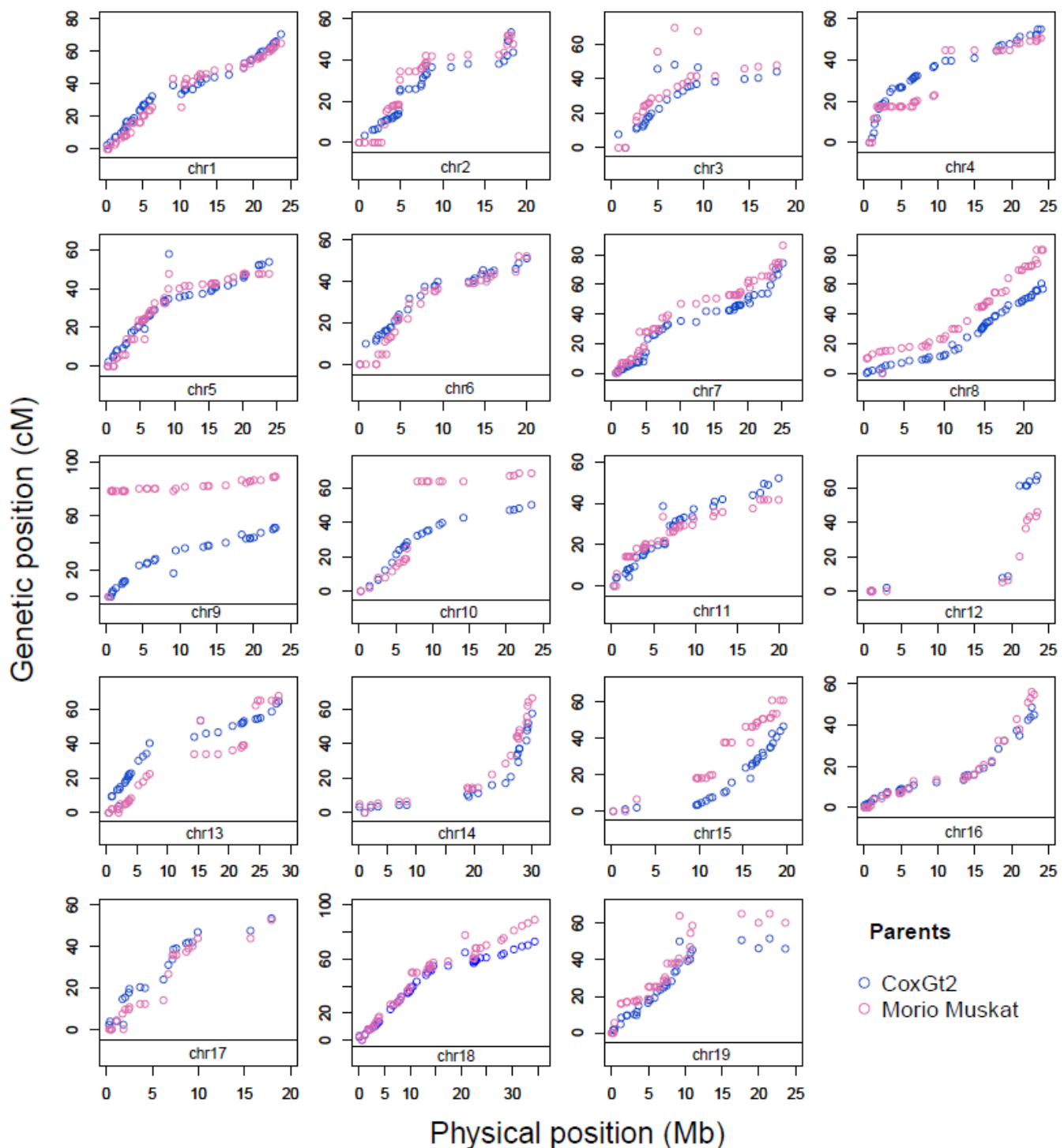
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Table S1. Allele sizes of SSR markers associated with the *Rpv32* locus. VMC1E12 is close to the LODmax marker chr14_6974992, UDV-057 and UDV-336 are flanking markers. Haplotype #2 of rhAmpSeq marker chr5_1449735 associated with hairlessness of 'Morio Muskat'.

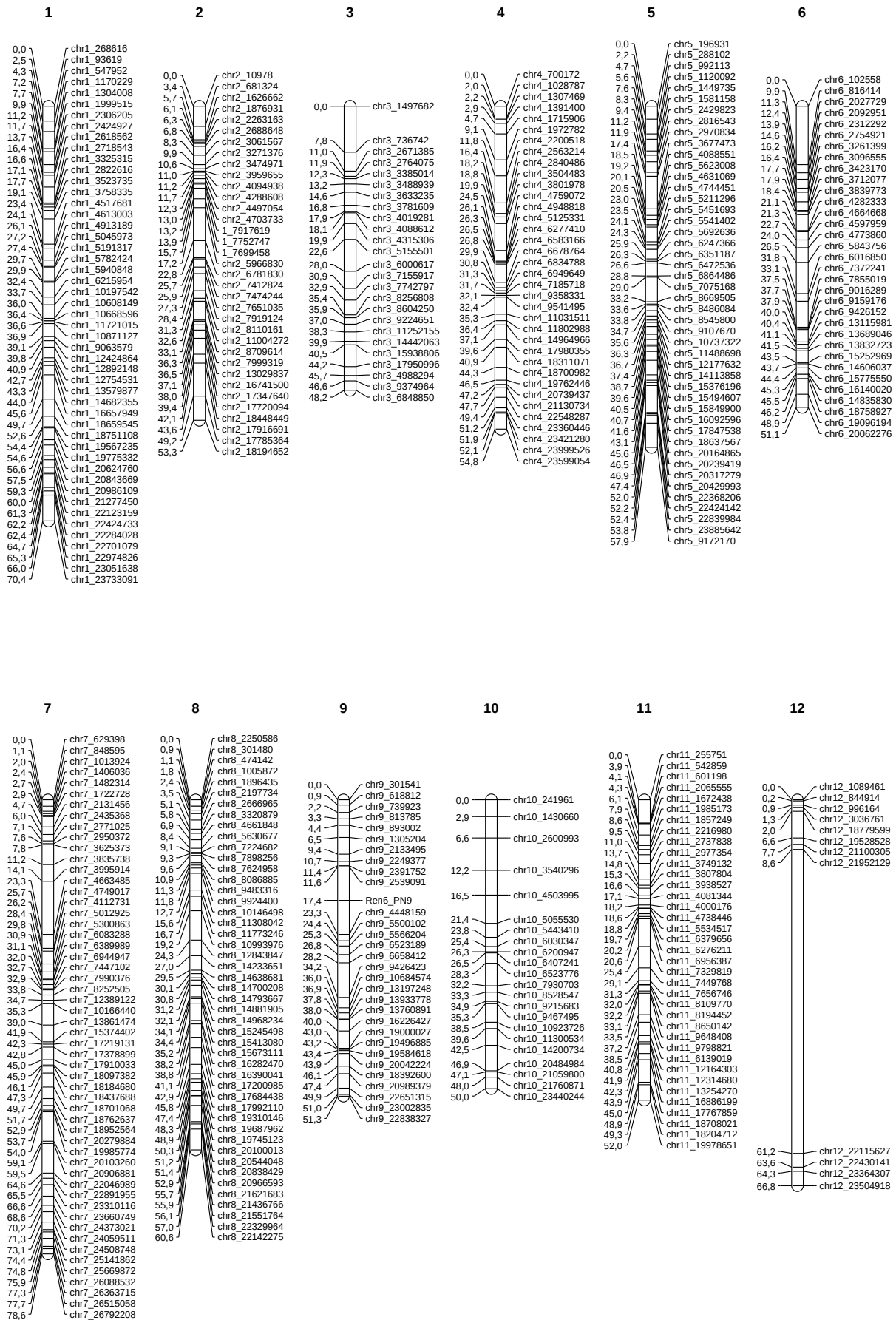
Marker	Chr	Physical position [bp]	Forward primer	Reverse primer	Fluo label	COxGT2 Allele size [bp]
UDV-057	14	4814318	CAGGCAAGGTTCAACAGA	TGTGAGCCTCTCCTCTCGT	HEX	176 /183
VMC1E12	14	7136672	GTGTGACCTTATGCAACACCAA	GCTACCACATGCAGACAGGTTAGT	HEX	238 /256
UDV-336	14	7908061	GCCCAAGGGTCTTTATGTTC	TCAATTGAGGTCTTAACCAATGAA	6-FAM	161 /210
Marker	Chr	Physical position [bp]	Allele sequence of 'Morio Muskat'			
chr5_1449735#2	5	1449735	GTGAGCACATCAGACAATTTCTATTTTCTTTACATATGATGATTAGGCCCTACTTTCCTTACACAAGAAGCTAGAATG TTAAAAATGAAAGATTCTTTGTGCTTACTATCAACATGGAATTATGGAATTATATATATATACATACATACATACATTCAA CAATAAAATTTAAATGATAATAAATGAACAAAGTCAAACACTAACC			

The physical position is based on the reference genome PN40024 12X.v2 (Canaguier et al. 2017). Alleles associated with resistance to downy mildew from COxGT2 are highlighted in bold.

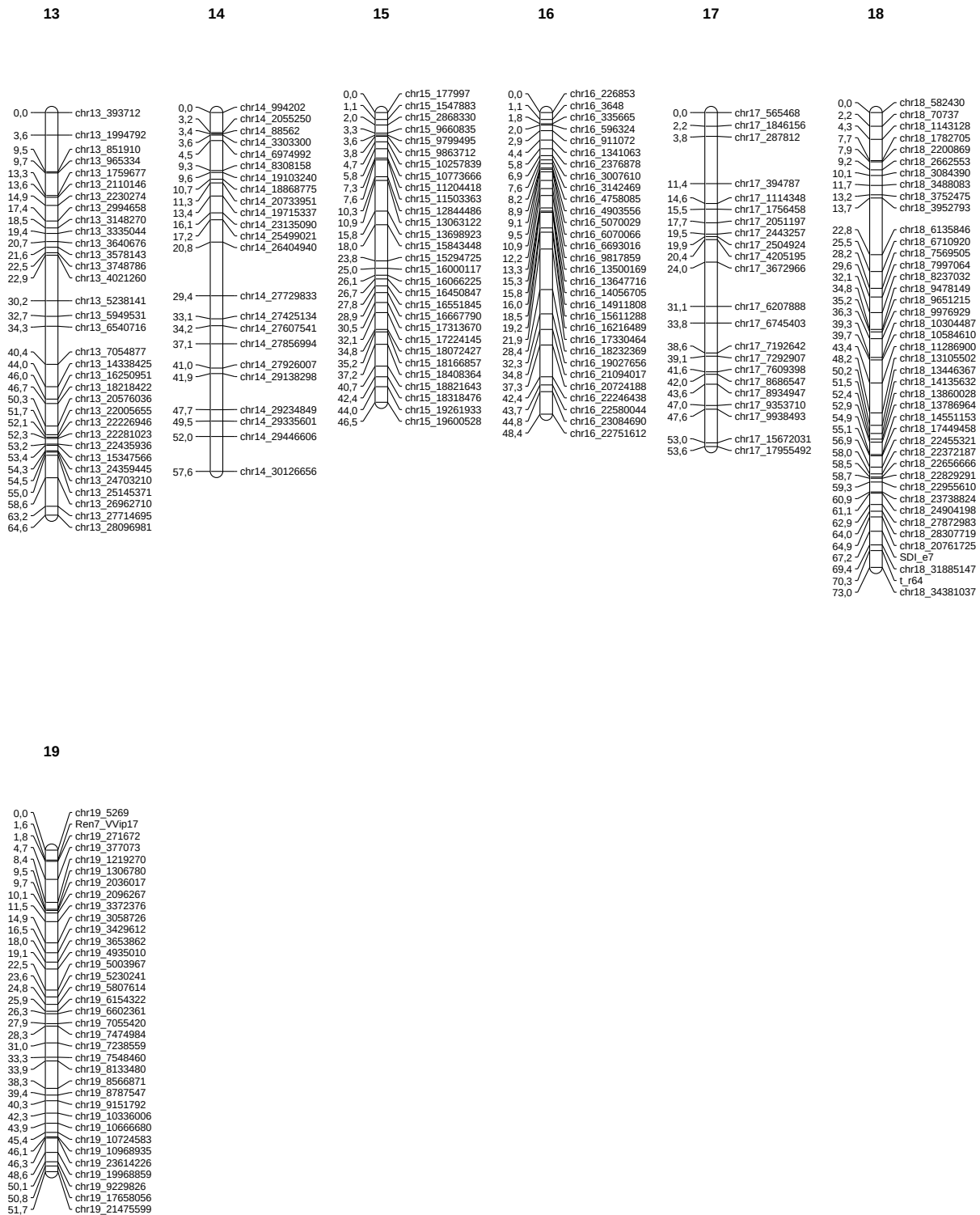


Supplementary Figure S1. Collinearity between genetic and physical marker positions across the 19 grapevine chromosomes in the 'Morio Muskat' × COxGT2 mapping population Gf.2018-063. Scatter plots show the relationship between genetic positions (y-axis: cM) and physical positions (x-axis: Mb) of rhAmpSeq markers for each chromosome. Blue circles represent the resistant parent COxGT2, and pink circles represent the susceptible parent 'Morio Muskat'.

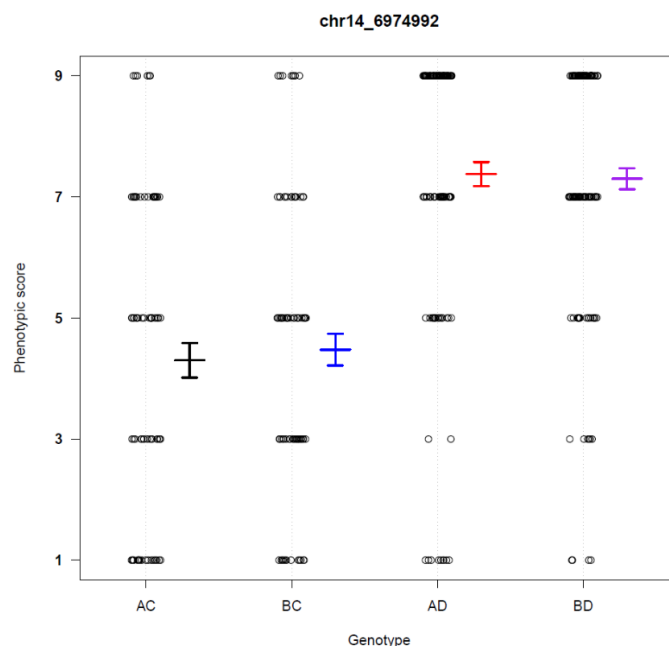
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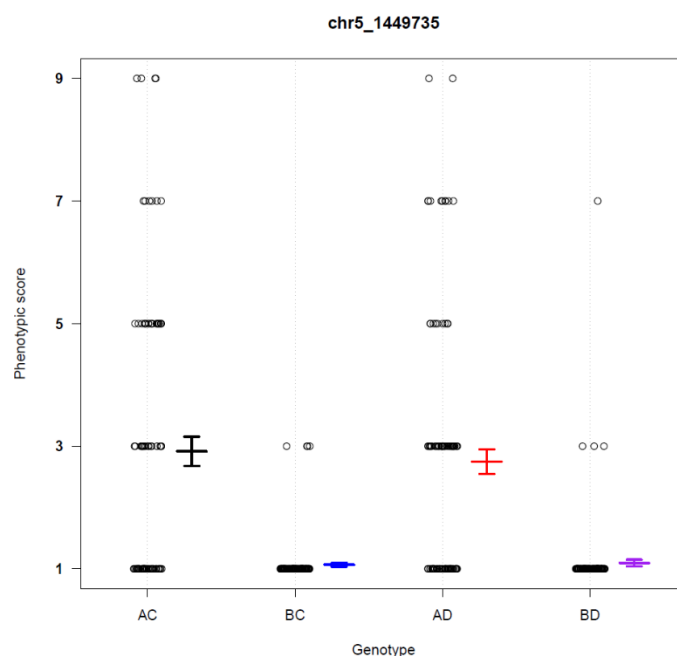
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Supplementary Figure S2. Genetic linkage maps of the 19 linkage groups (LGs) of the 'Morio Muskat' × COxGT2 population Gf.2018-063, constructed with rhAmpSeq markers. Numbers on the left indicate genetic positions in centimorgans (cM), and marker names with their physical positions (Mb) are shown on the right according to the PN40024 reference genome (12X.v2).



Supplementary Figure S3. Genotype classes (AC, BC, AD, BD) represent allele combinations of LODmax marker chr14_6974992 derived from the biparental cross ('Morio Muskat' × COxGT2; AB × CD), where A/B denote alleles from 'Morio Muskat' and C/D denote alleles from COxGT2. Phenotypic values correspond to downy mildew resistance scores based on the reversed OIV 452-1 scale, where score 1 indicates high resistance and score 9 indicates high susceptibility.



Supplementary Figure S4. Genotype classes (AC, BC, AD, BD) represent allele combinations of LODmax marker chr5_1449735 derived from the biparental cross ('Morio Muskat' × COxGT2; AB × CD), where A/B denote alleles from 'Morio Muskat' and C/D denote alleles from COxGT2. Phenotypic values correspond to leaf hair density based on the OIV 084 descriptor, where score 1 indicates absence or very low hair density and score 9 indicates very high (extremely dense) leaf hair.