

Supplementary Figures

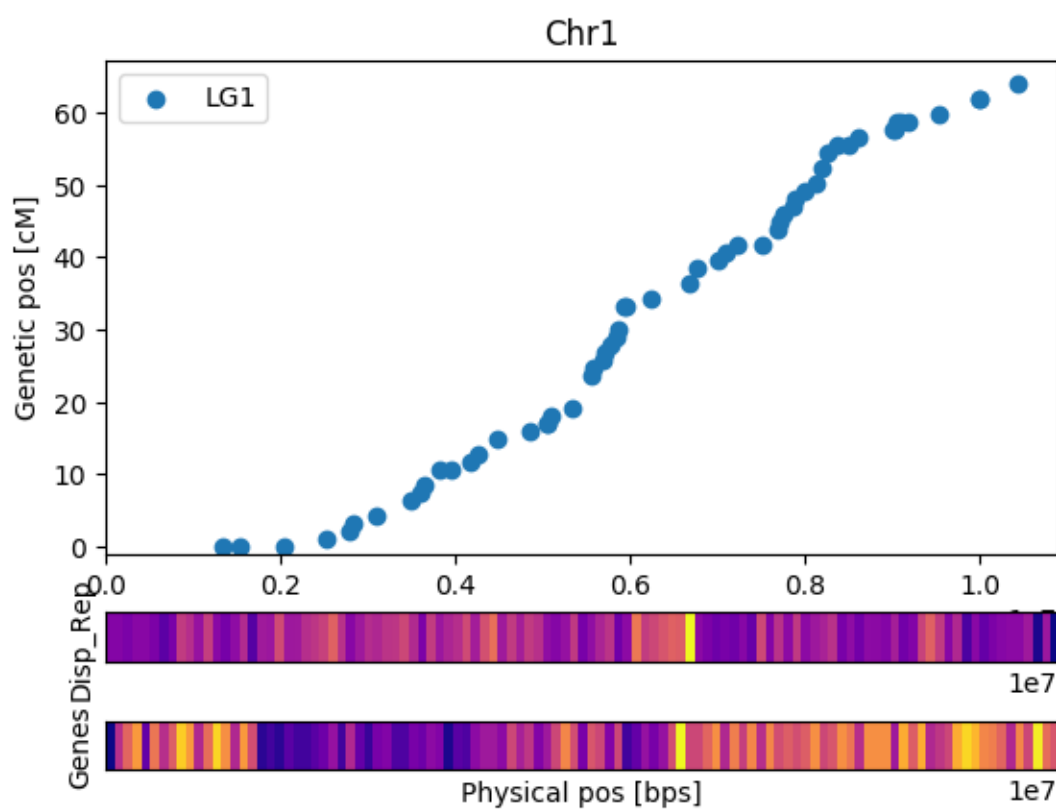


Figure S1: Marey plot of Chr1 with heatmap of Dispersed Repeats and Genes in bins of 200kb. The lighter the color the more elements are present.

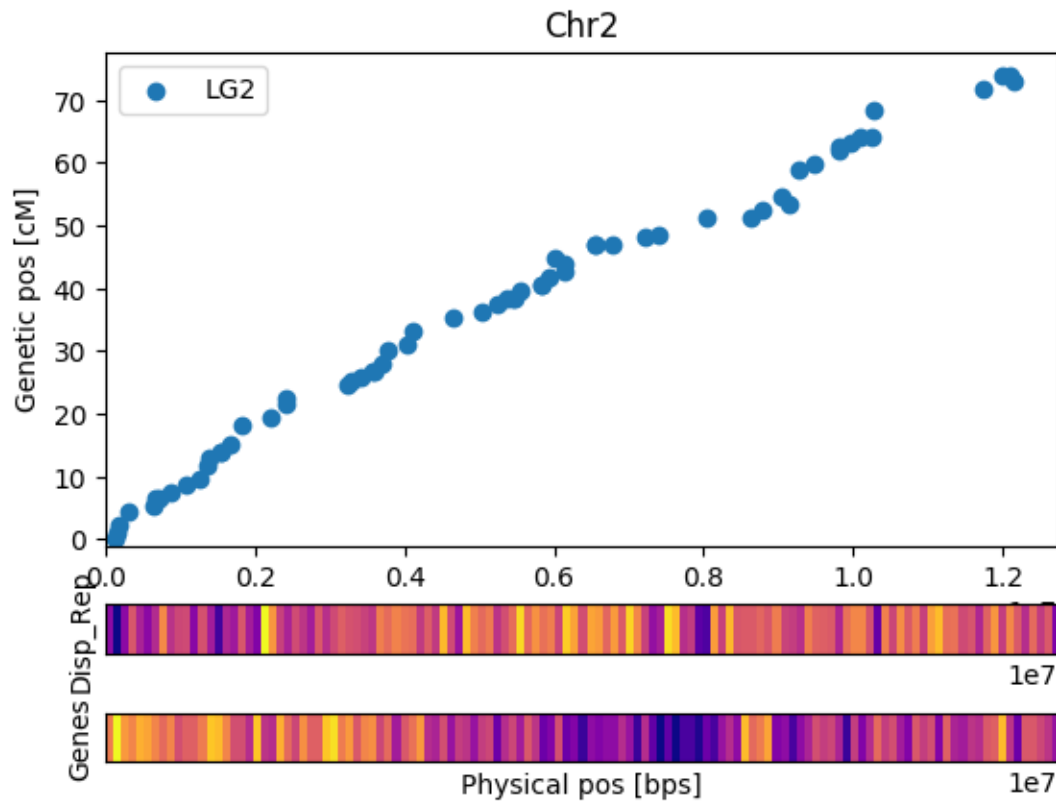


Figure S2: Marey plot of Chr2 with heatmap of Dispersed Repeats and Genes in bins of 200kb. The lighter the color the more elements are present.

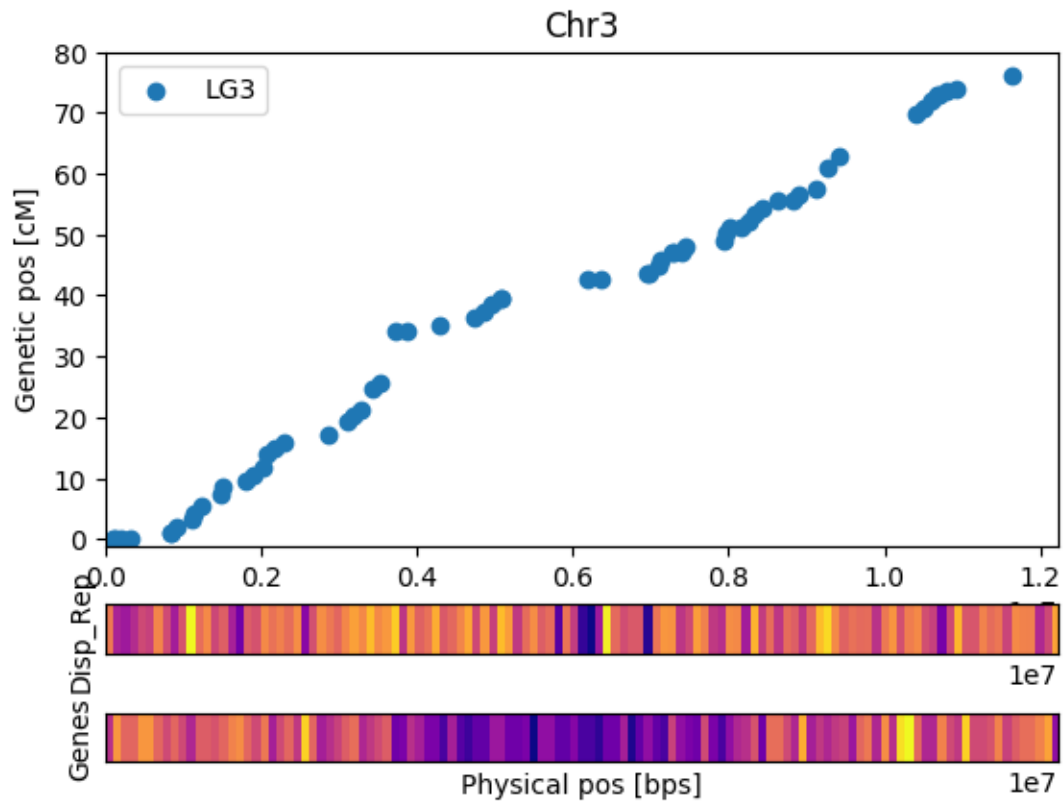


Figure S3: Marey plot of Chr3 with heatmap of Dispersed Repeats and Genes in bins of 200kb. The lighter the color the more elements are present.

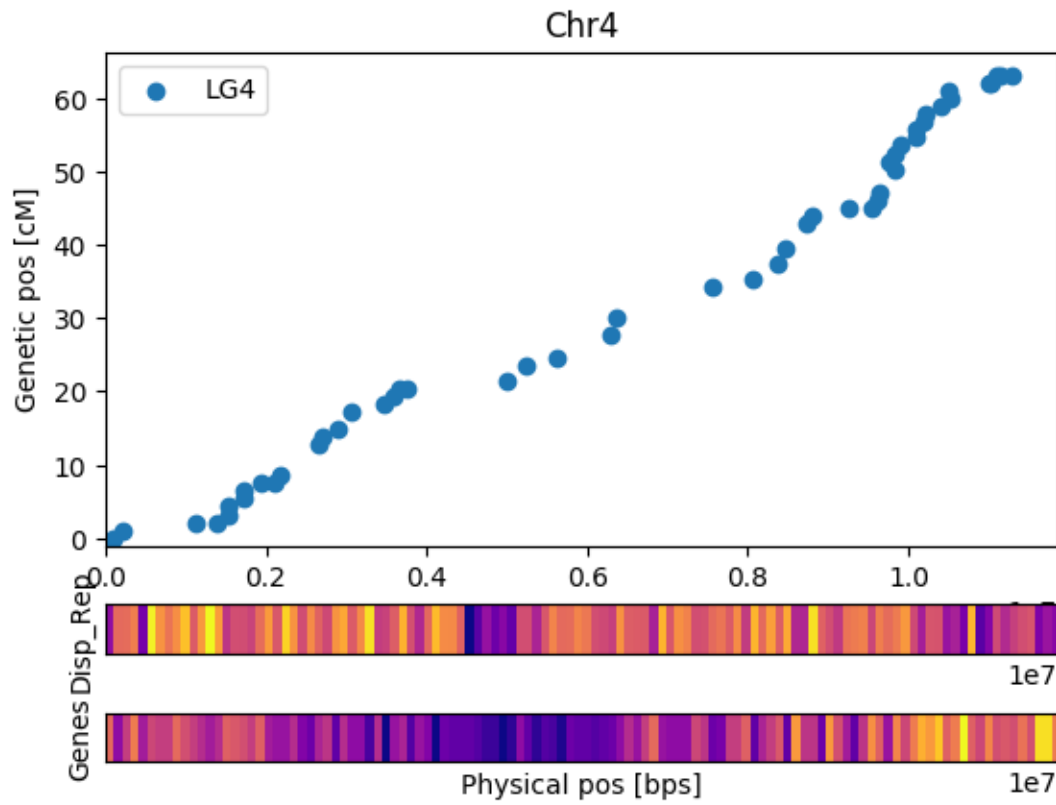


Figure S4: Marey plot of Chr4 with heatmap of Dispersed Repeats and Genes in bins of 200kb. The lighter the color the more elements are present.

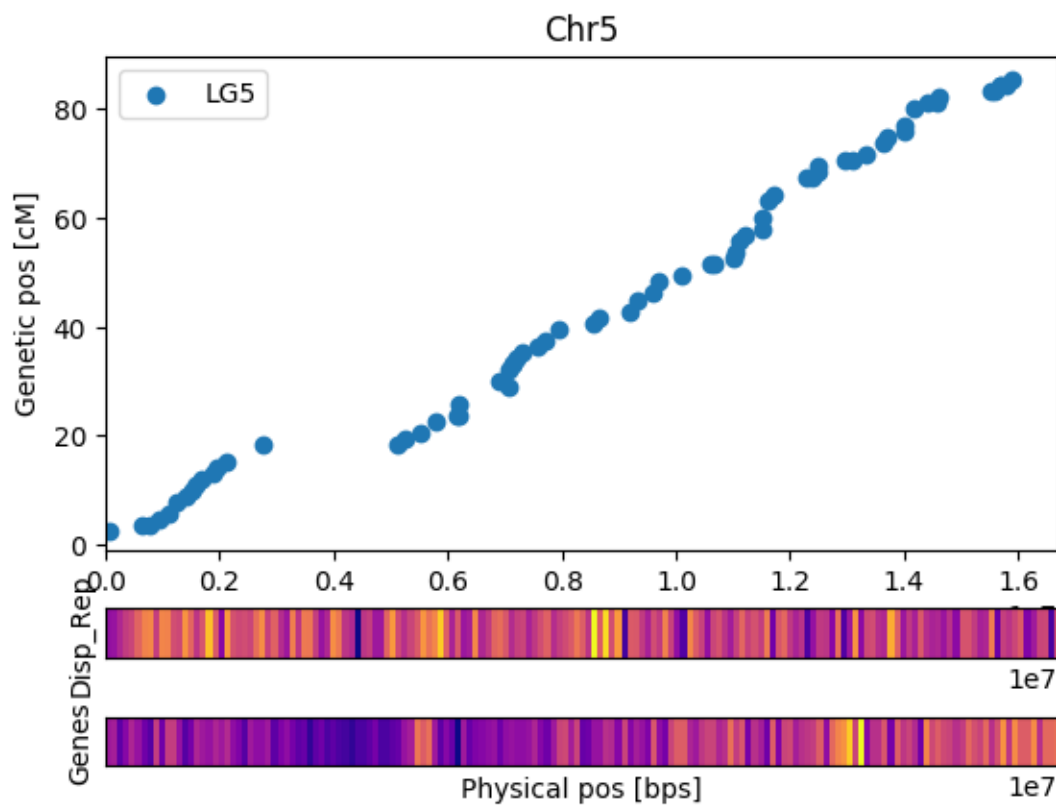


Figure S5: Marey plot of Chr5 with heatmap of Dispersed Repeats and Genes in bins of 200kb. The lighter the color the more elements are present.

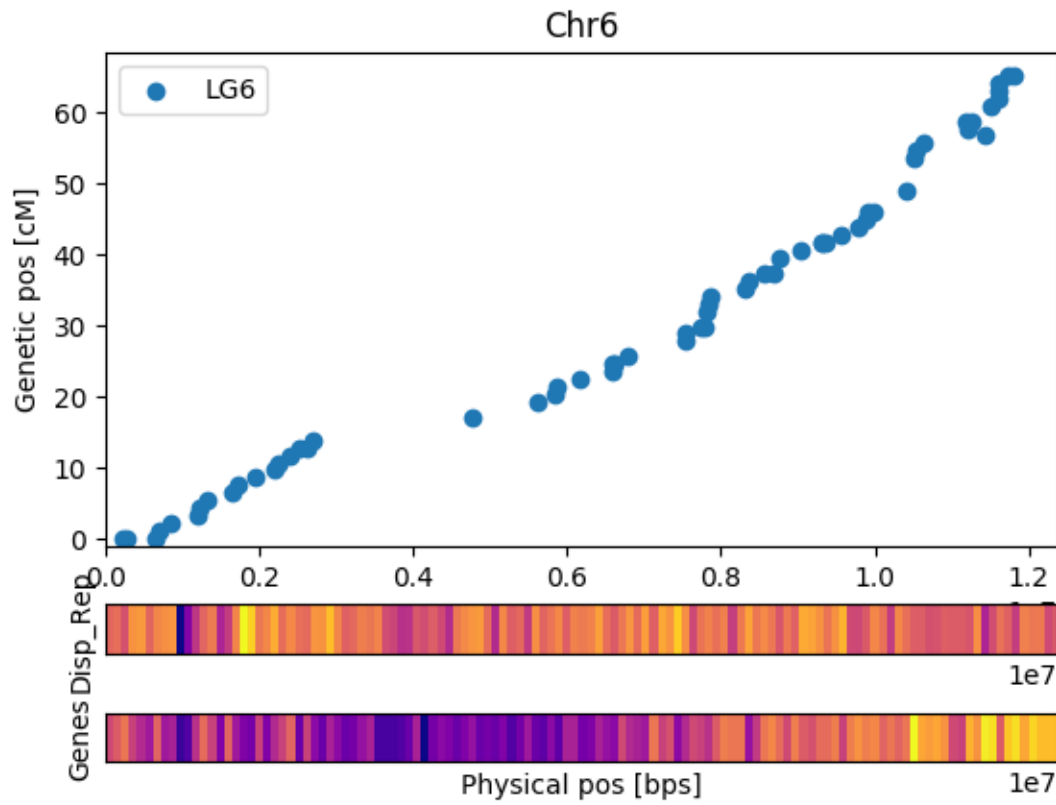


Figure S6: Marey plot of Chr6 with heatmap of Dispersed Repeats and Genes in bins of 200kb. The lighter the color the more elements are present.

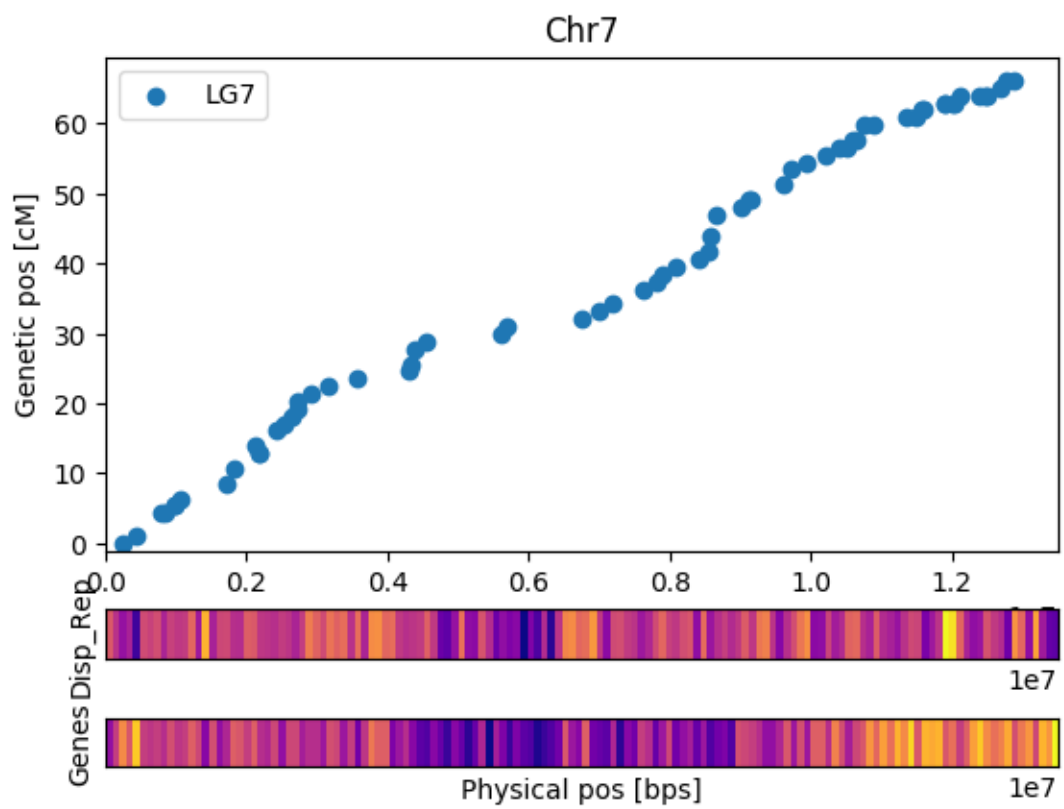


Figure S7: Marey plot of Chr7 with heatmap of Dispersed Repeats and Genes in bins of 200kb. The lighter the color the more elements are present.

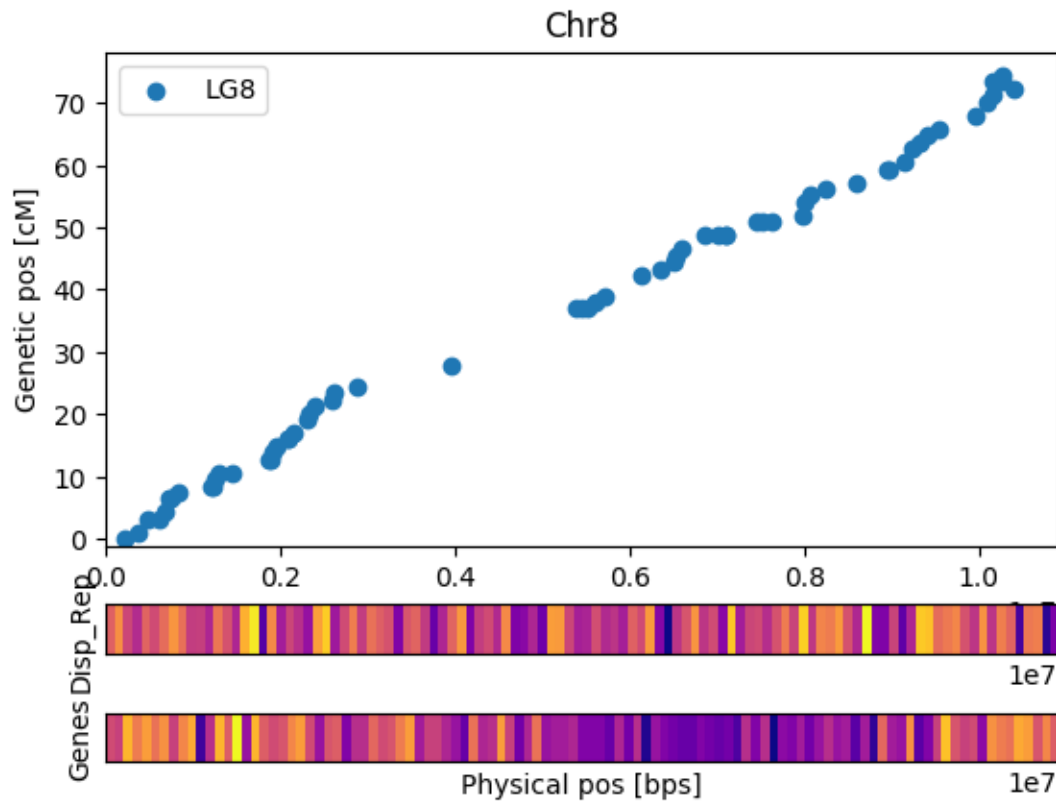


Figure S8: Marey plot of Chr8 with heatmap of Dispersed Repeats and Genes in bins of 200kb. The lighter the color the more elements are present.

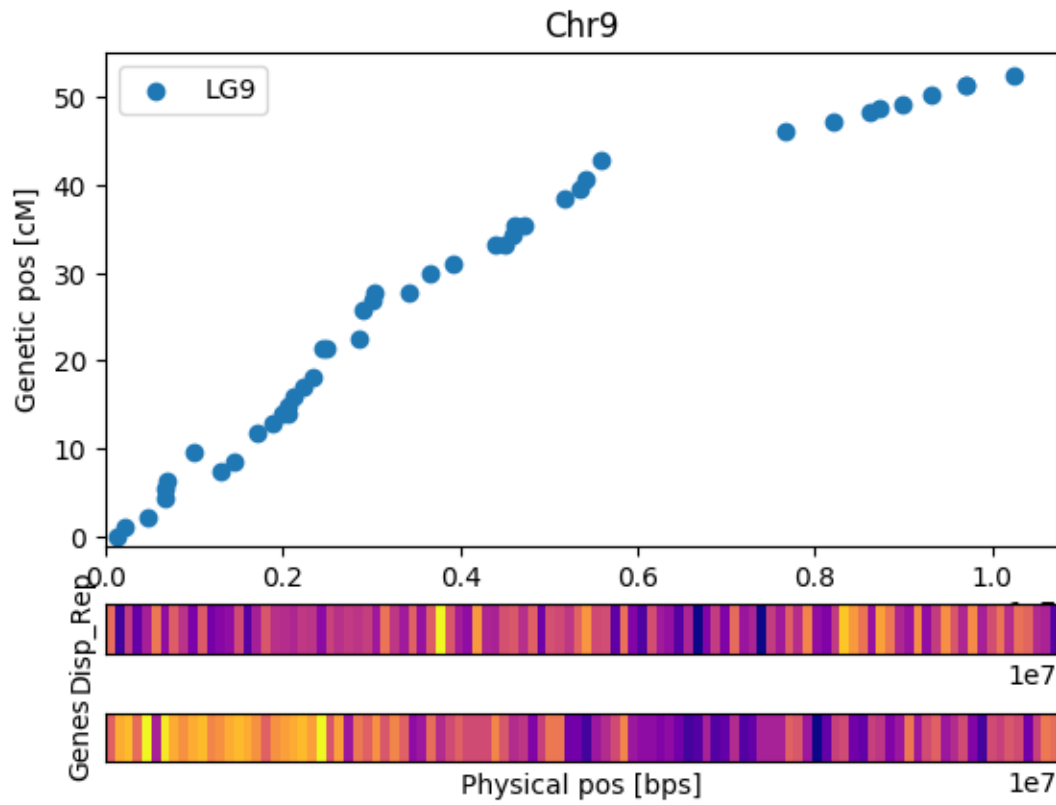


Figure S9: Marey plot of Chr9 with heatmap of Dispersed Repeats and Genes in bins of 200kb. The lighter the color the more elements are present.

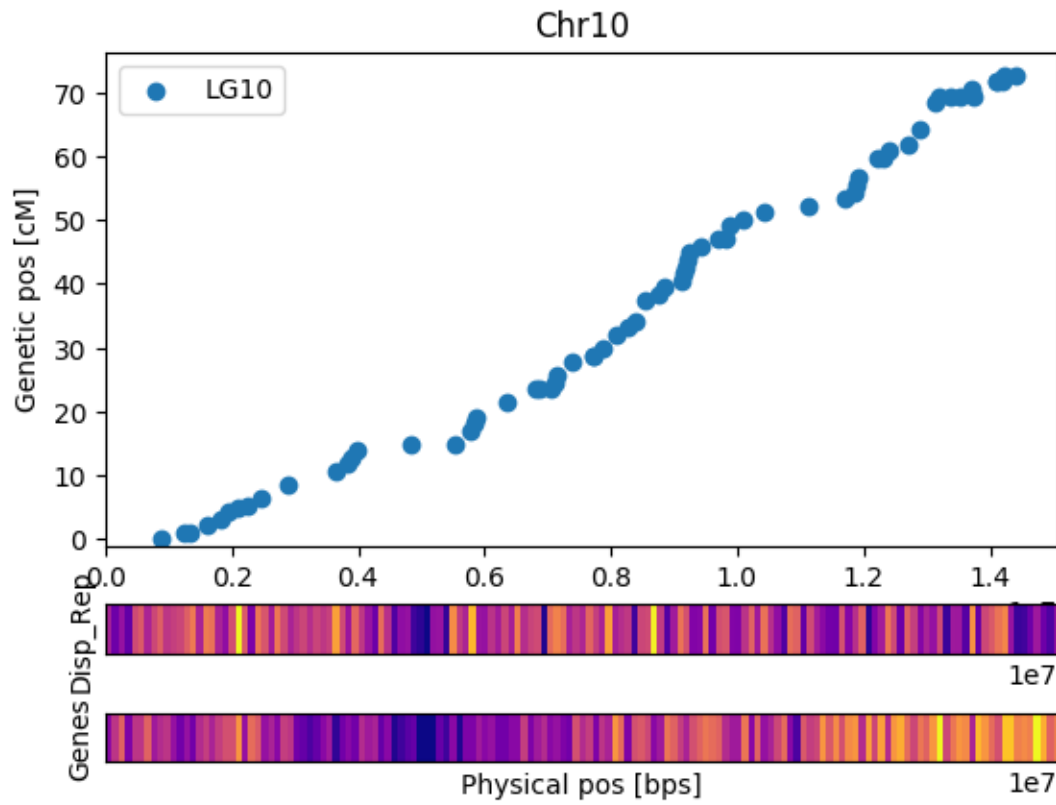


Figure S10: Marey plot of Chr10 with heatmap of Dispersed Repeats and Genes in bins of 200kb. The lighter the color the more elements are present.

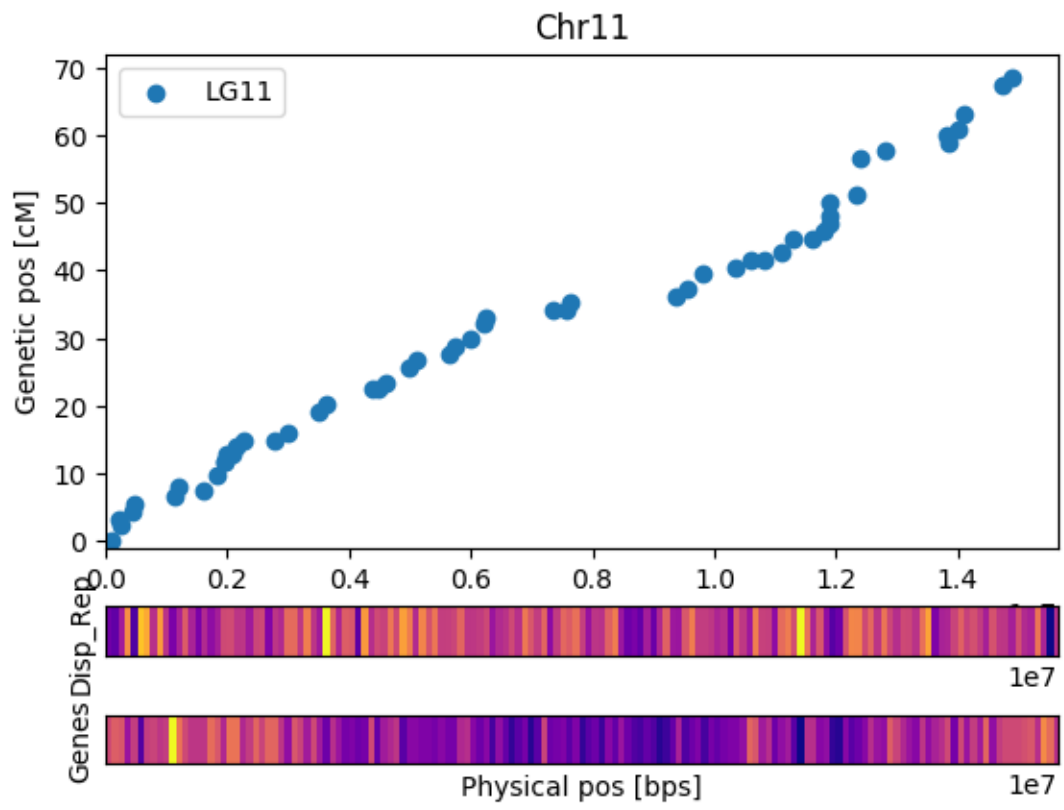


Figure S11: Marey plot of Chr11 with heatmap of Dispersed Repeats and Genes in bins of 200kb. The lighter the color the more elements are present.

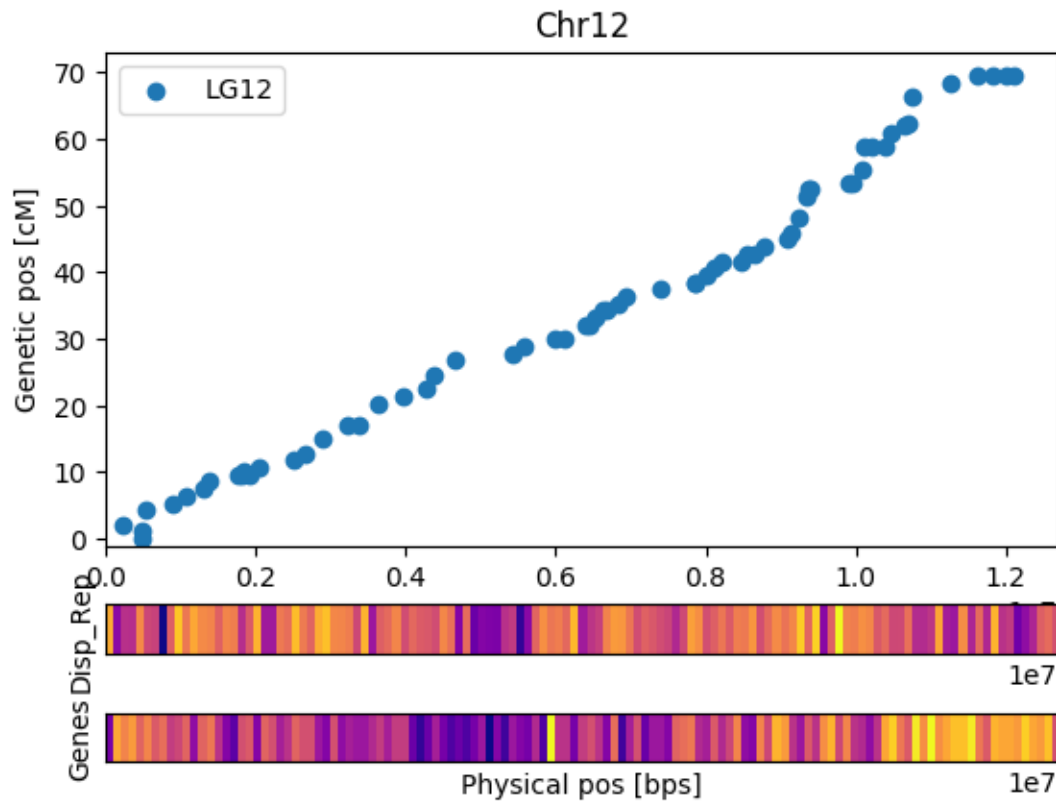


Figure S12: Marey plot of Chr12 with heatmap of Dispersed Repeats and Genes in bins of 200kb. The lighter the color the more elements are present.

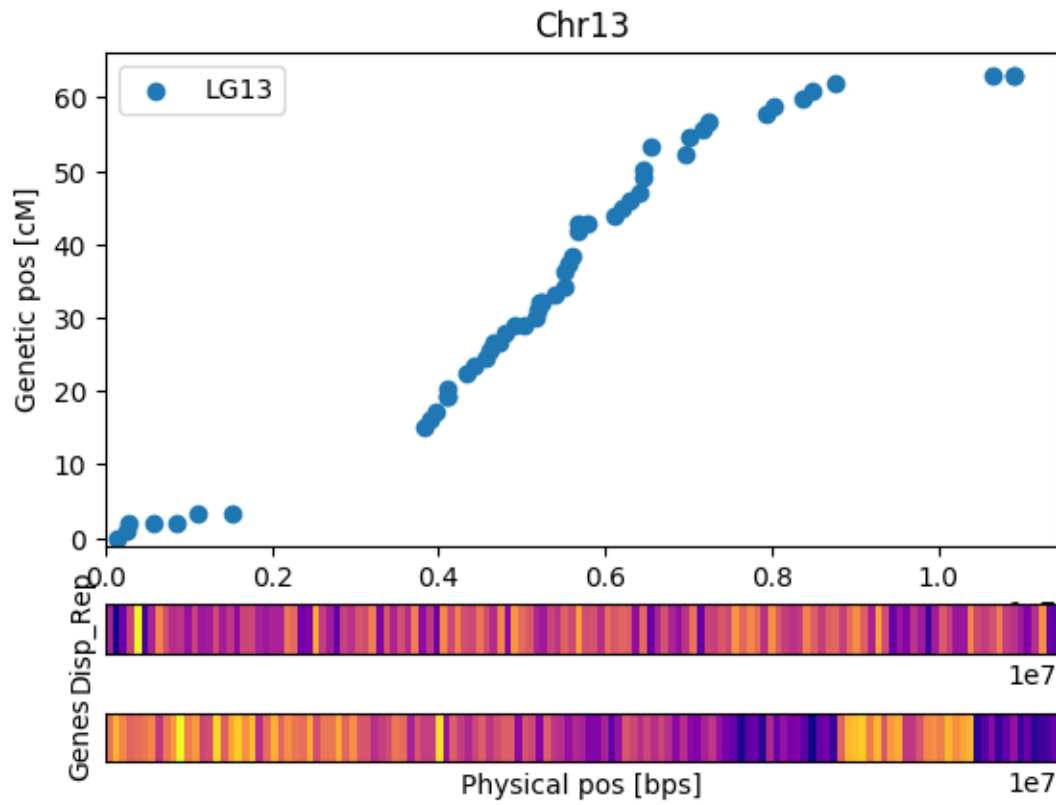


Figure S13: Marey plot of Chr13 with heatmap of Dispersed Repeats and Genes in bins of 200kb. The lighter the color the more elements are present.

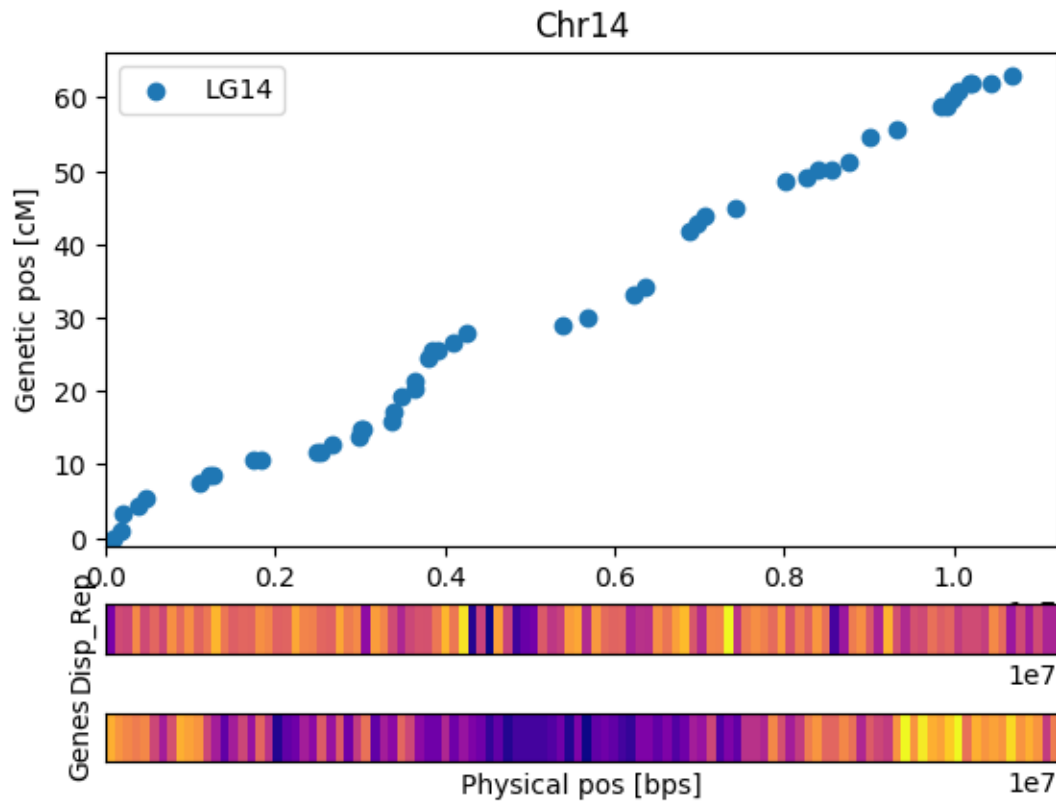


Figure S14: Marey plot of Chr14 with heatmap of Dispersed Repeats and Genes in bins of 200kb. The lighter the color the more elements are present.

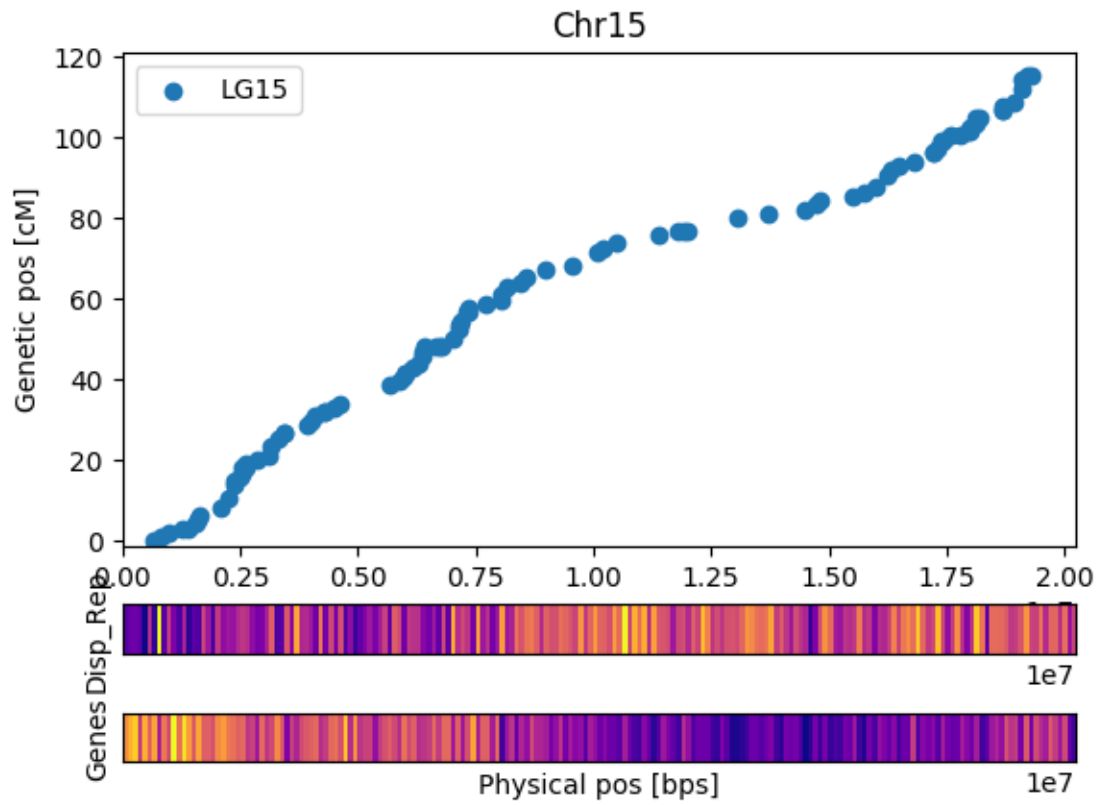


Figure S15: Marey plot of Chr15 with heatmap of Dispersed Repeats and Genes in bins of 200kb. The lighter the color the more elements are present.

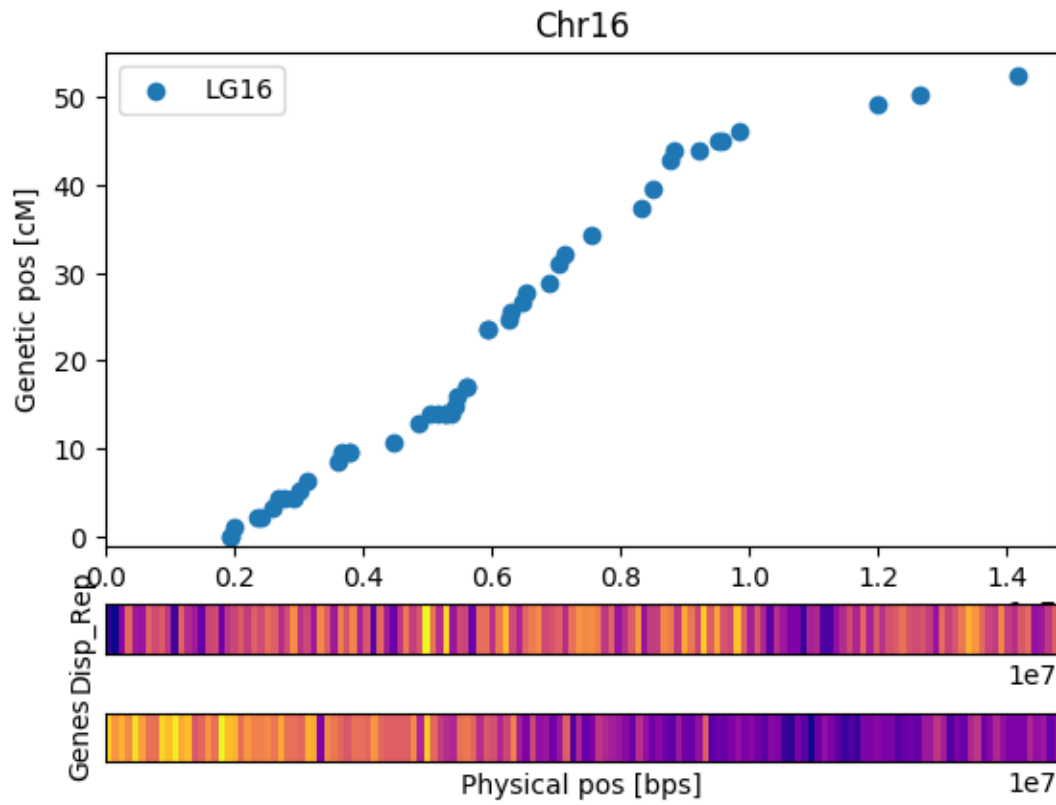


Figure S16: Marey plot of Chr16 with heatmap of Dispersed Repeats and Genes in bins of 200kb. The lighter the color the more elements are present.

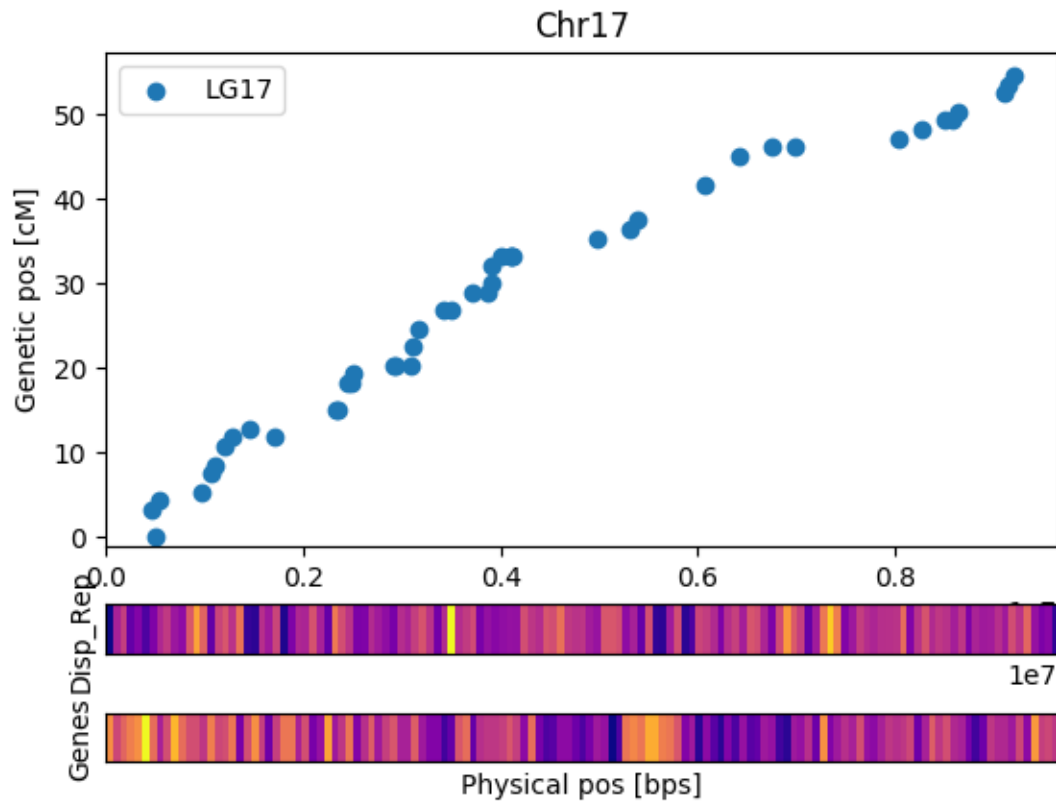


Figure S17: Marey plot of Chr17 with heatmap of Dispersed Repeats and Genes in bins of 200kb. The lighter the color the more elements are present.

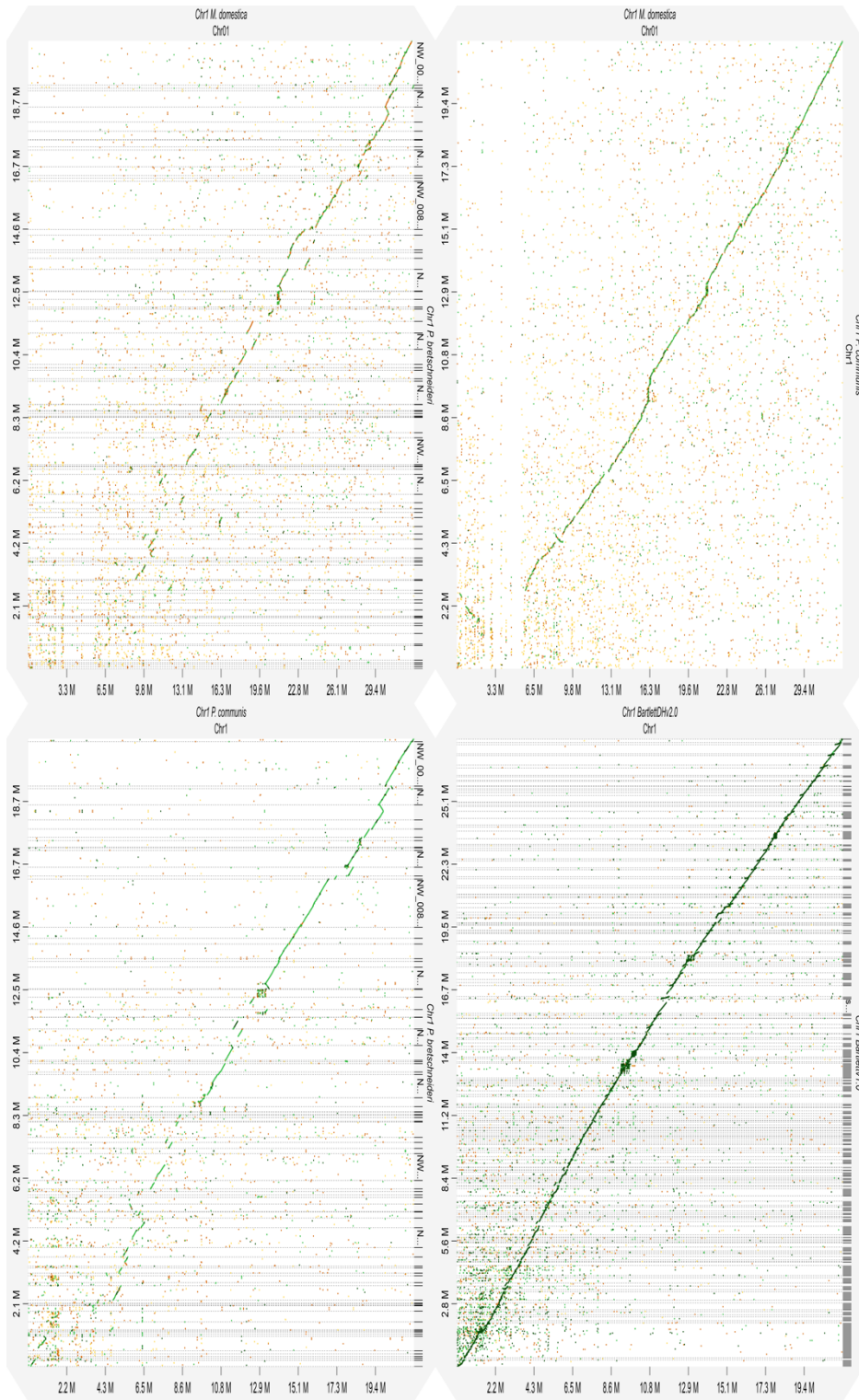


Figure S18. Chromosome 1 alignments

(Fig S18a) Alignment of Chromosome 1 *P. breitschneideri* to *P. communis* (top left)

(Fig S18b) Alignment of Chromosome 1 *P. communis* to *M. domestica* (top right)

(Fig S18c) Alignment of Chromosome 1 *P. breitschneideri* to *M. domestica* (bottom left)

(Fig S18d) Alignment of Chromosome 1 *P. communis* BartlettV1.0 to BartlettDHv2.0

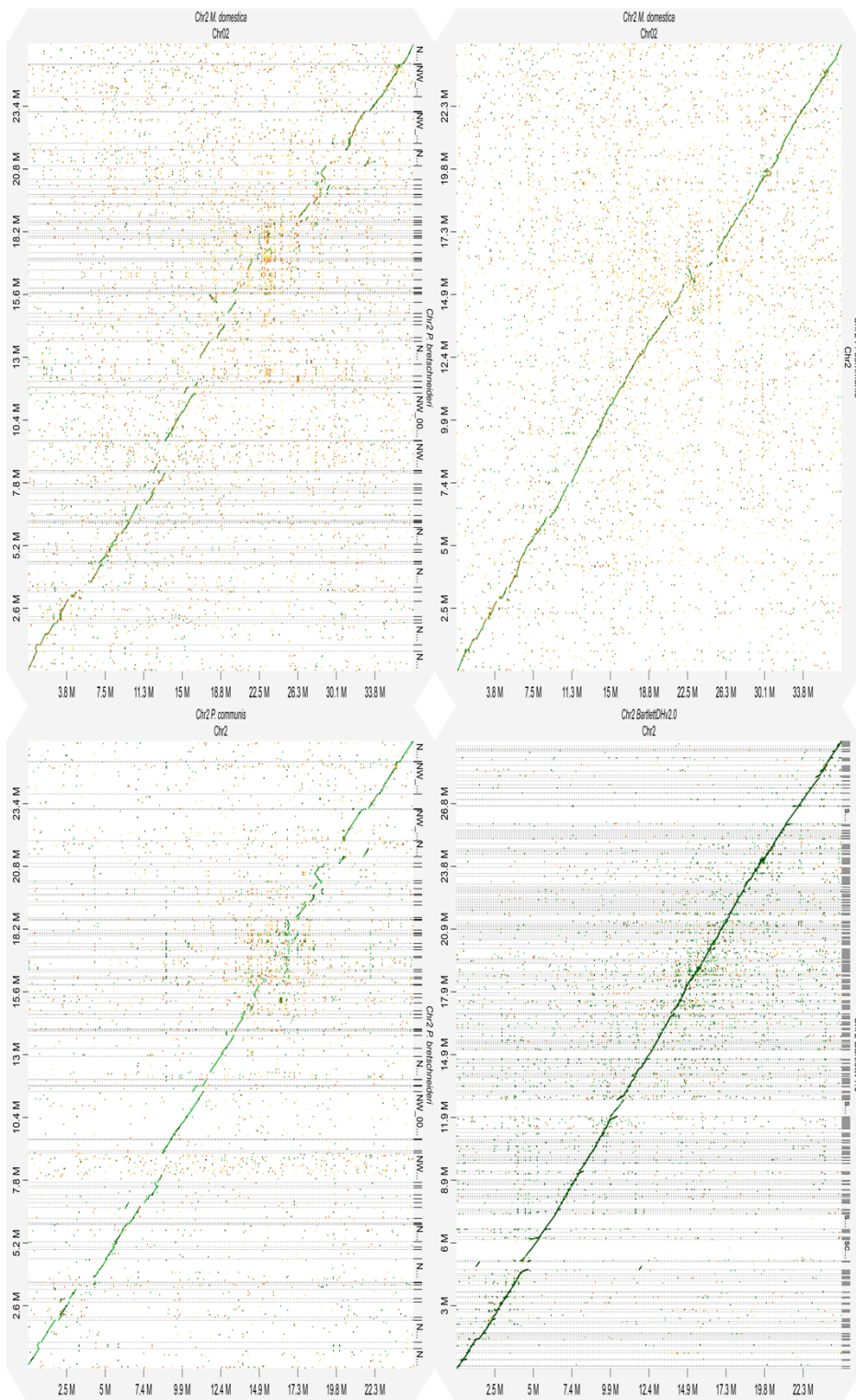


Figure S19. Chromosome 2 alignments

(Fig S19a) Alignment of Chromosome 2 *P. bretschneideri* to *P. communis* (top left)

(Fig S19b) Alignment of Chromosome 2 *P. communis* to *M. domestica* (top right)

(Fig S19c) Alignment of Chromosome 2 *P. bretschneideri* to *M. domestica* (bottom left)

(Fig S19d) Alignment of Chromosome 2 *P. communis* BartlettV1.0 to BartlettDHv2.0

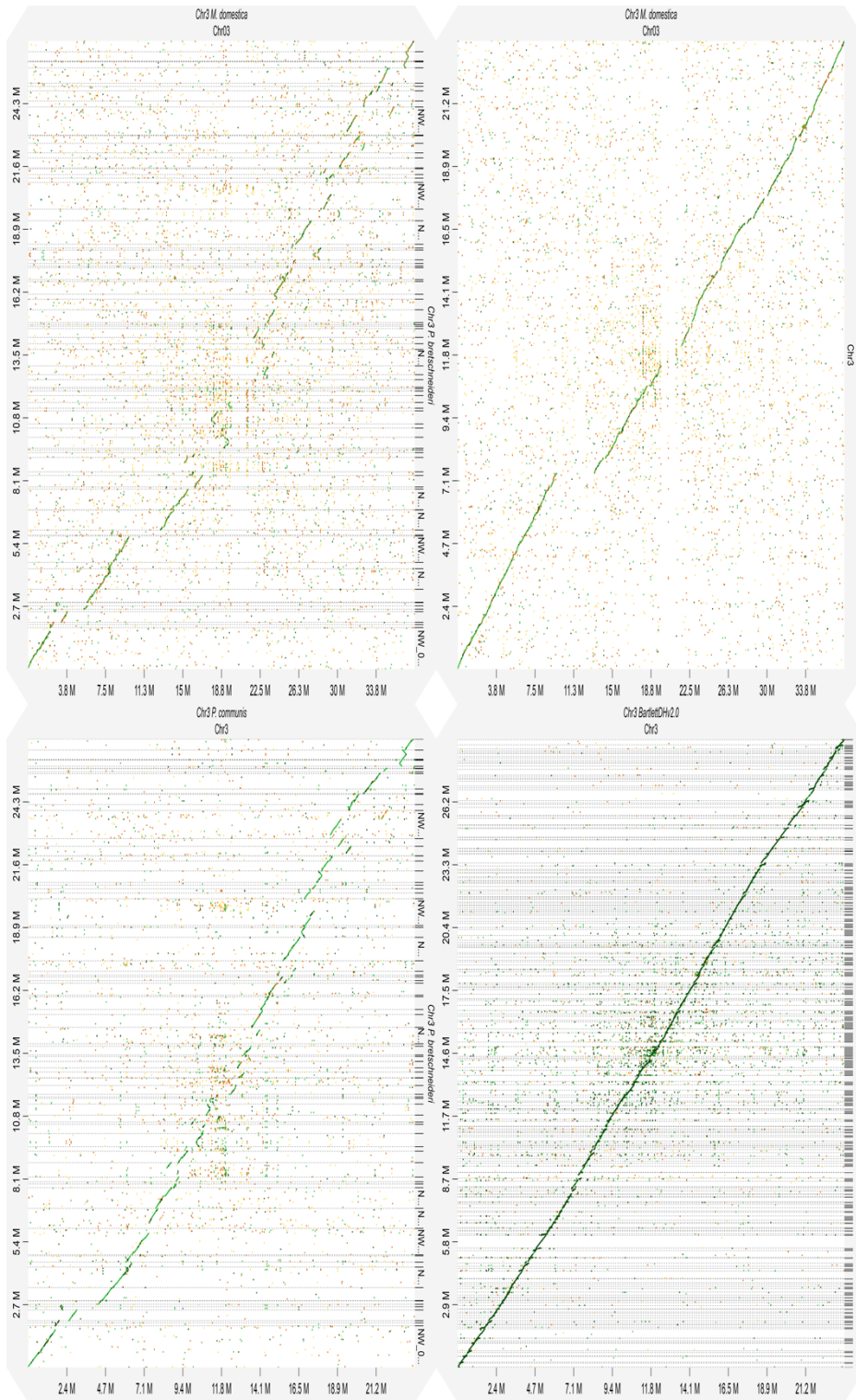


Figure S20. Chromosome 3 alignments

(Fig S20a) Alignment of Chromosome 3 *P. bretschneideri* to *P. communis* (top left)

(Fig S20b) Alignment of Chromosome 3 *P. communis* to *M. domestica* (top right)

(Fig S20c) Alignment of Chromosome 3 *P. bretschneideri* to *M. domestica* (bottom left)

(Fig S20d) Alignment of Chromosome 3 *P. communis* BartlettV1.0 to BartlettDHv2.0

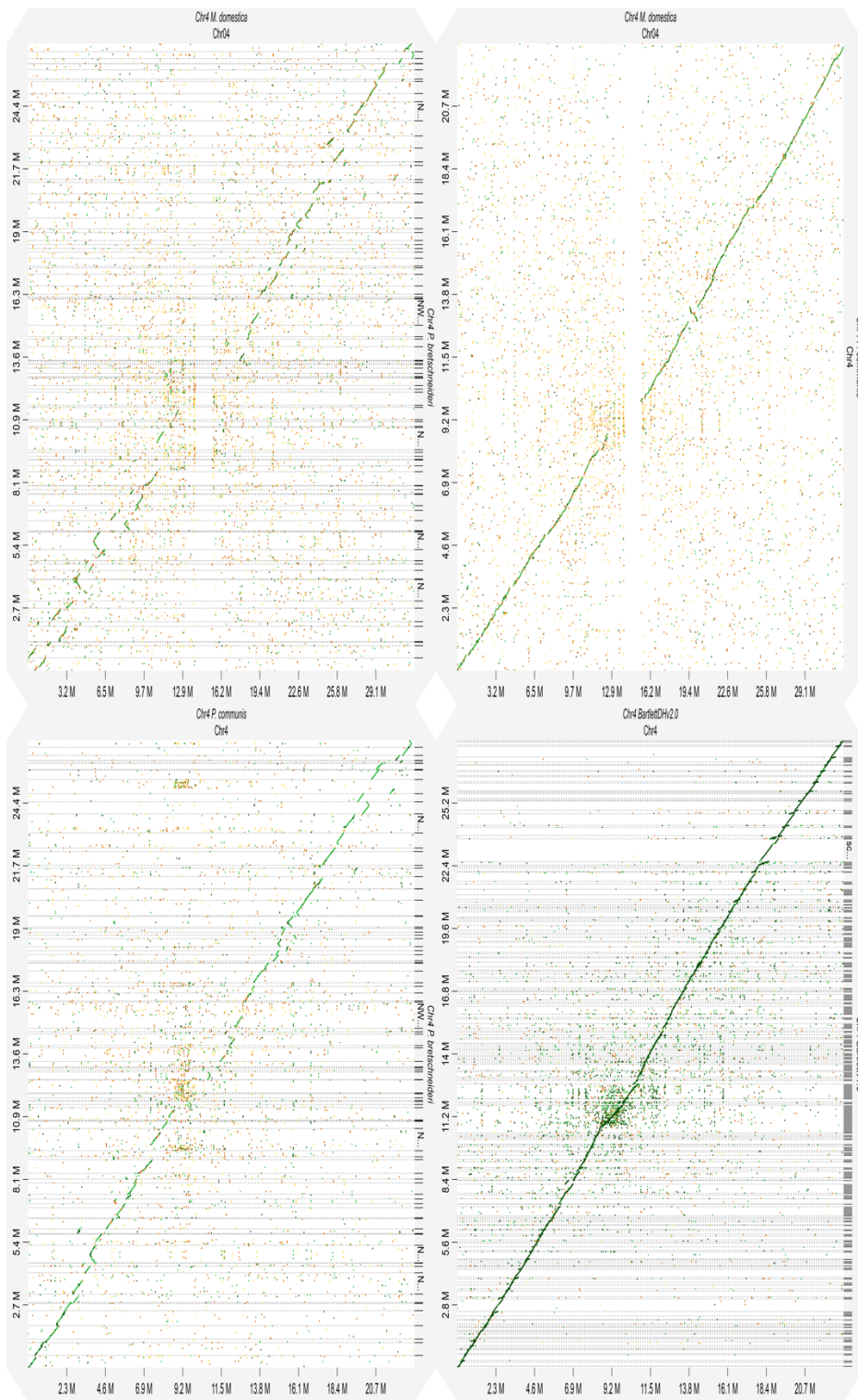


Figure S21. Chromosome 4 alignments

(Fig S21a) Alignment of Chromosome 4 *P. bretschneideri* to *P. communis* (top left)

(Fig S21b) Alignment of Chromosome 4 *P. communis* to *M. domestica* (top right)

(Fig S21c) Alignment of Chromosome 4 *P. bretschneideri* to *M. domestica* (bottom left)

(Fig S21d) Alignment of Chromosome 4 *P. communis* BartlettV1.0 to BartlettDHv2.0

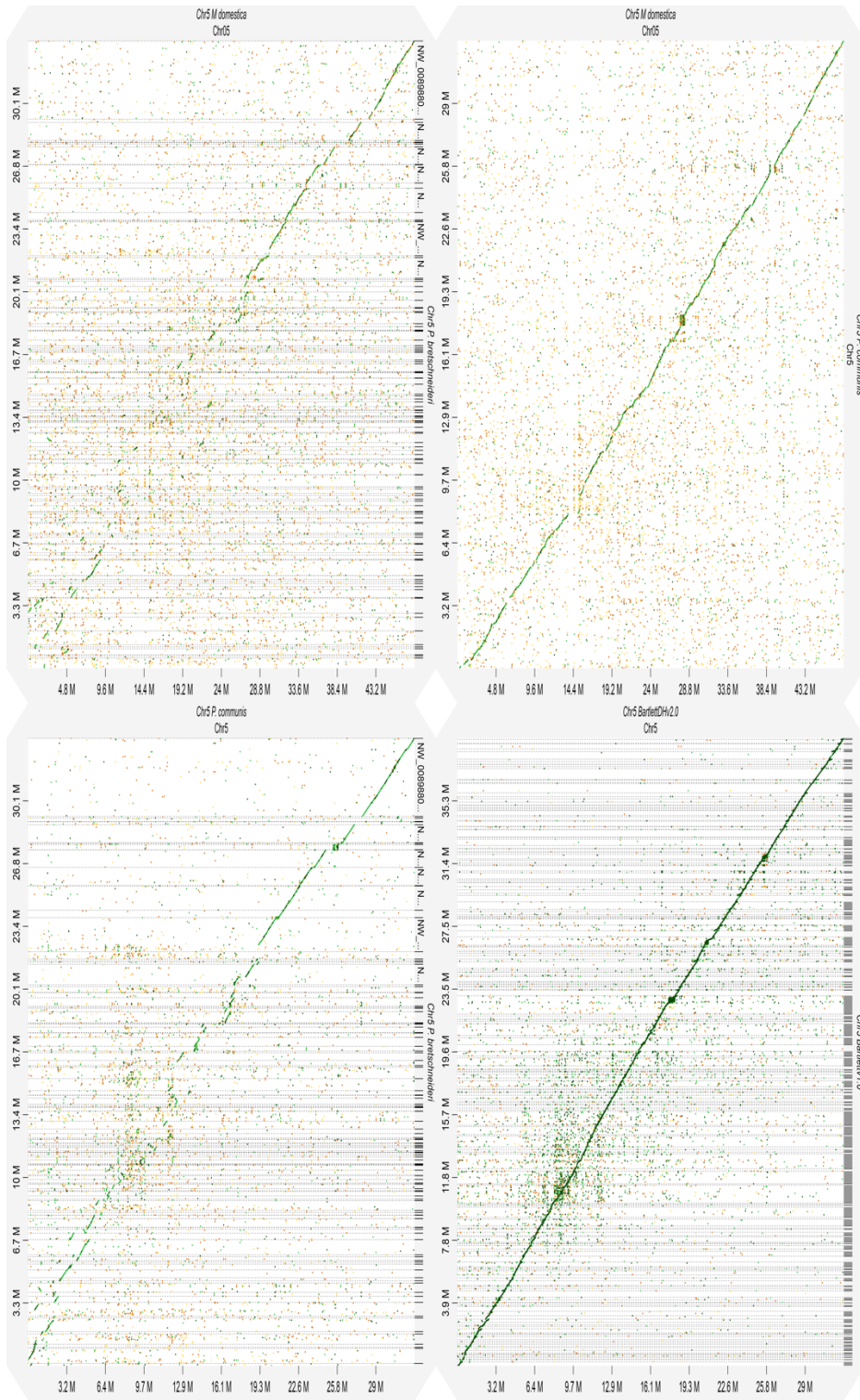


Figure S22. Chromosome 5 alignments

(Fig S22a) Alignment of Chromosome 5 *P. bretschneideri* to *P. communis* (top left)

(Fig S22b) Alignment of Chromosome 5 *P. communis* to *M. domestica* (top right)

(Fig S22c) Alignment of Chromosome 5 *P. bretschneideri* to *M. domestica* (bottom left)

(Fig S22d) Alignment of Chromosome 5 *P. communis* BartlettV1.0 to BartlettDHv2.0

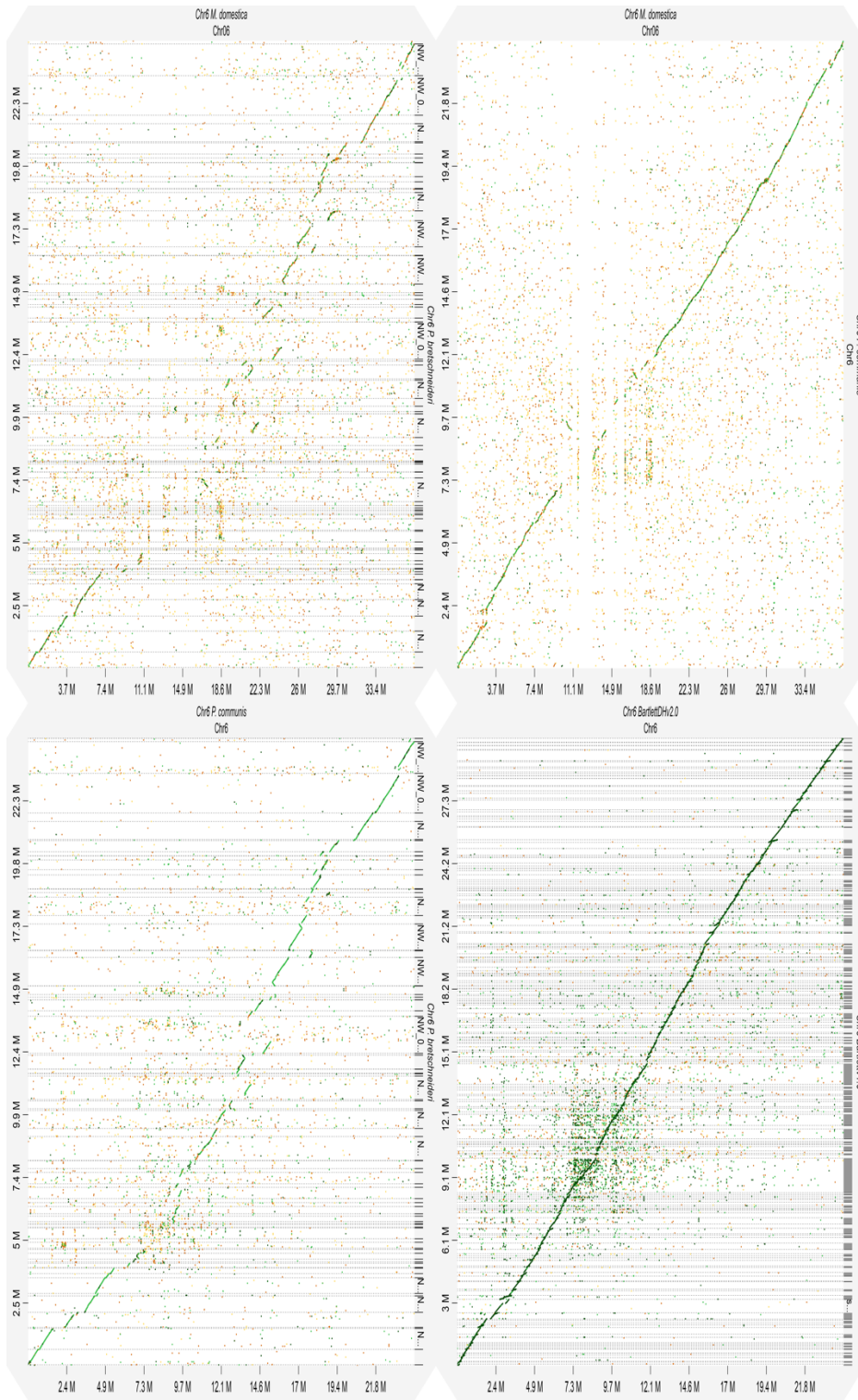


Figure S23. Chromosome 6 alignments

(Fig S23a) Alignment of Chromosome 6 *P. bretschneideri* to *P. communis* (top left)

(Fig S23b) Alignment of Chromosome 6 *P. communis* to *M. domestica* (top right)

(Fig S23c) Alignment of Chromosome 6 *P. bretschneideri* to *M. domestica* (bottom left)

(Fig S23d) Alignment of Chromosome 6 *P. communis* BartlettV1.0 to BartlettDHv2.0

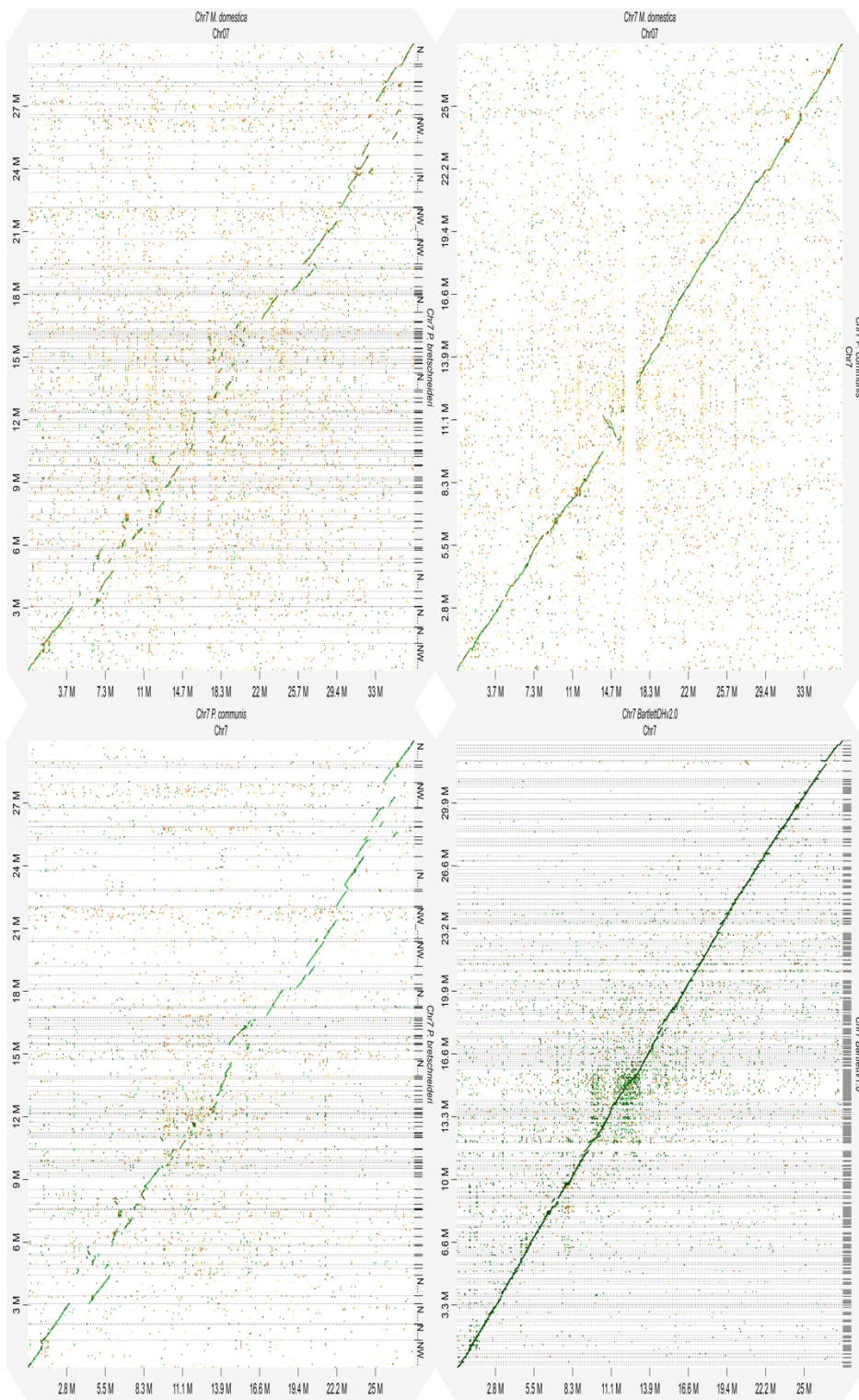


Figure S24. Chromosome 7 alignments

(Fig S24a) Alignment of Chromosome 7 *P. breitschneideri* to *P. communis* (top left)

(Fig S24b) Alignment of Chromosome 7 *P. communis* to *M. domestica* (top right)

(Fig S24c) Alignment of Chromosome 7 *P. breitschneideri* to *M. domestica* (bottom left)

(Fig S24d) Alignment of Chromosome 7 *P. communis* BartlettV1.0 to BartlettDHv2.0

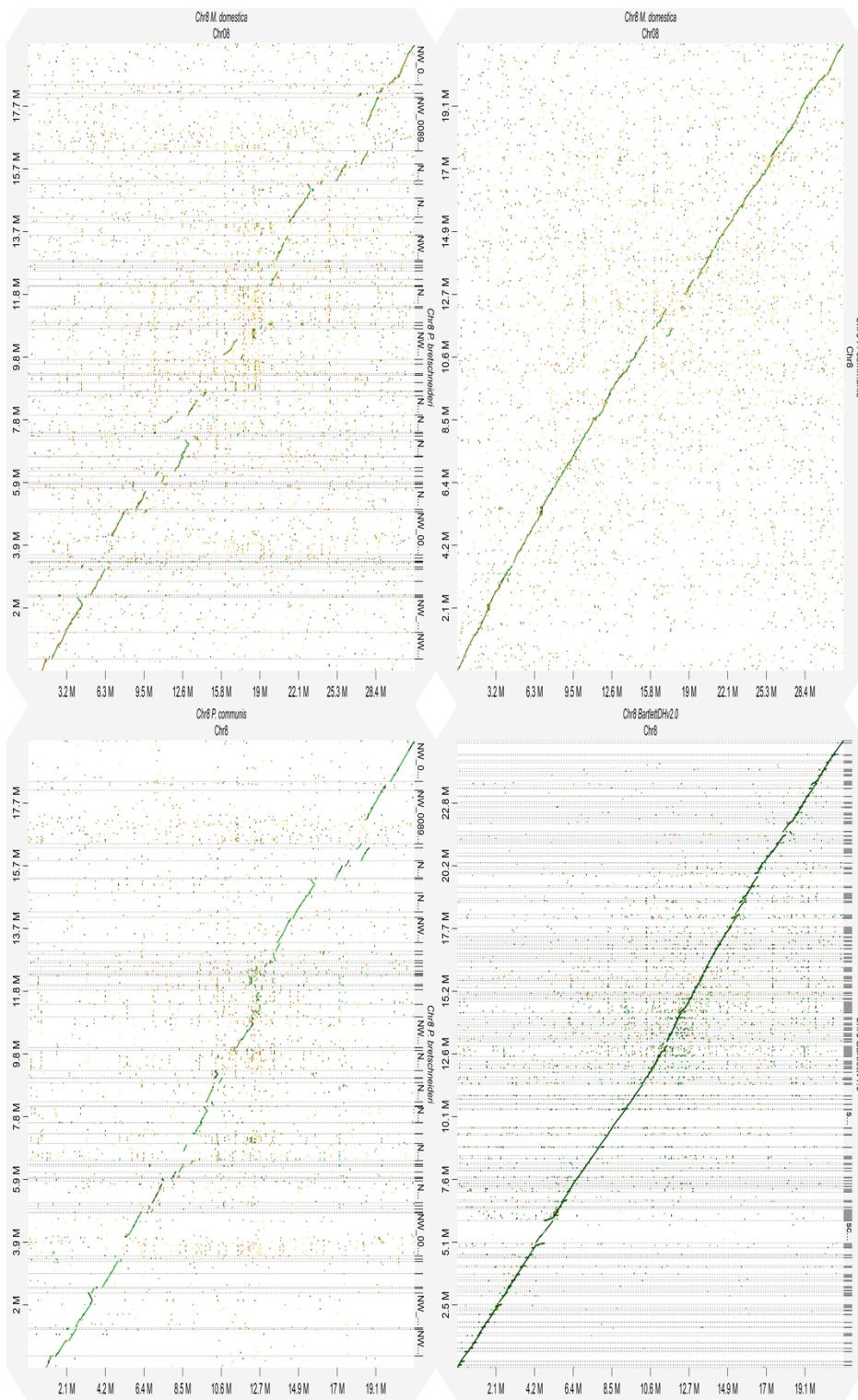


Figure S25. Chromosome 8 alignments

(Fig S25a) Alignment of Chromosome 8 *P. breitschneideri* to *P. communis* (top left)

(Fig S25b) Alignment of Chromosome 8 *P. communis* to *M. domestica* (top right)

(Fig S25c) Alignment of Chromosome 8 *P. breitschneideri* to *M. domestica* (bottom left)

(Fig S25d) Alignment of Chromosome 8 *P. communis* BartlettV1.0 to BartlettDHv2.0

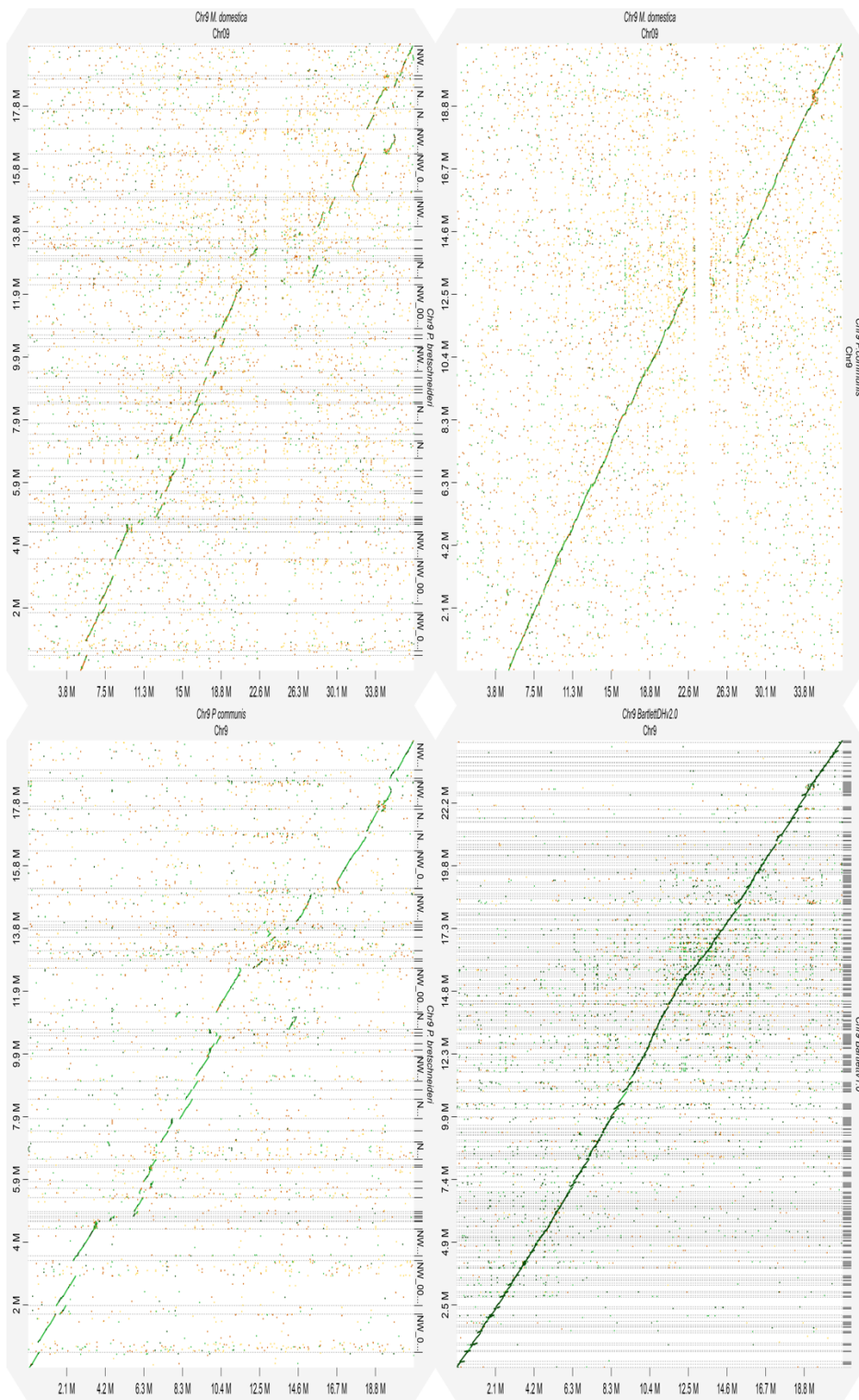


Figure S26. Chromosome 9 alignments

(Fig S26a) Alignment of Chromosome 9 *P. breitschneideri* to *P. communis* (top left)

(Fig S26b) Alignment of Chromosome 9 *P. communis* to *M. domestica* (top right)

(Fig S26c) Alignment of Chromosome 9 *P. breitschneideri* to *M. domestica* (bottom left)

(Fig S26d) Alignment of Chromosome 9 *P. communis* BartlettV1.0 to BartlettDHv2.0

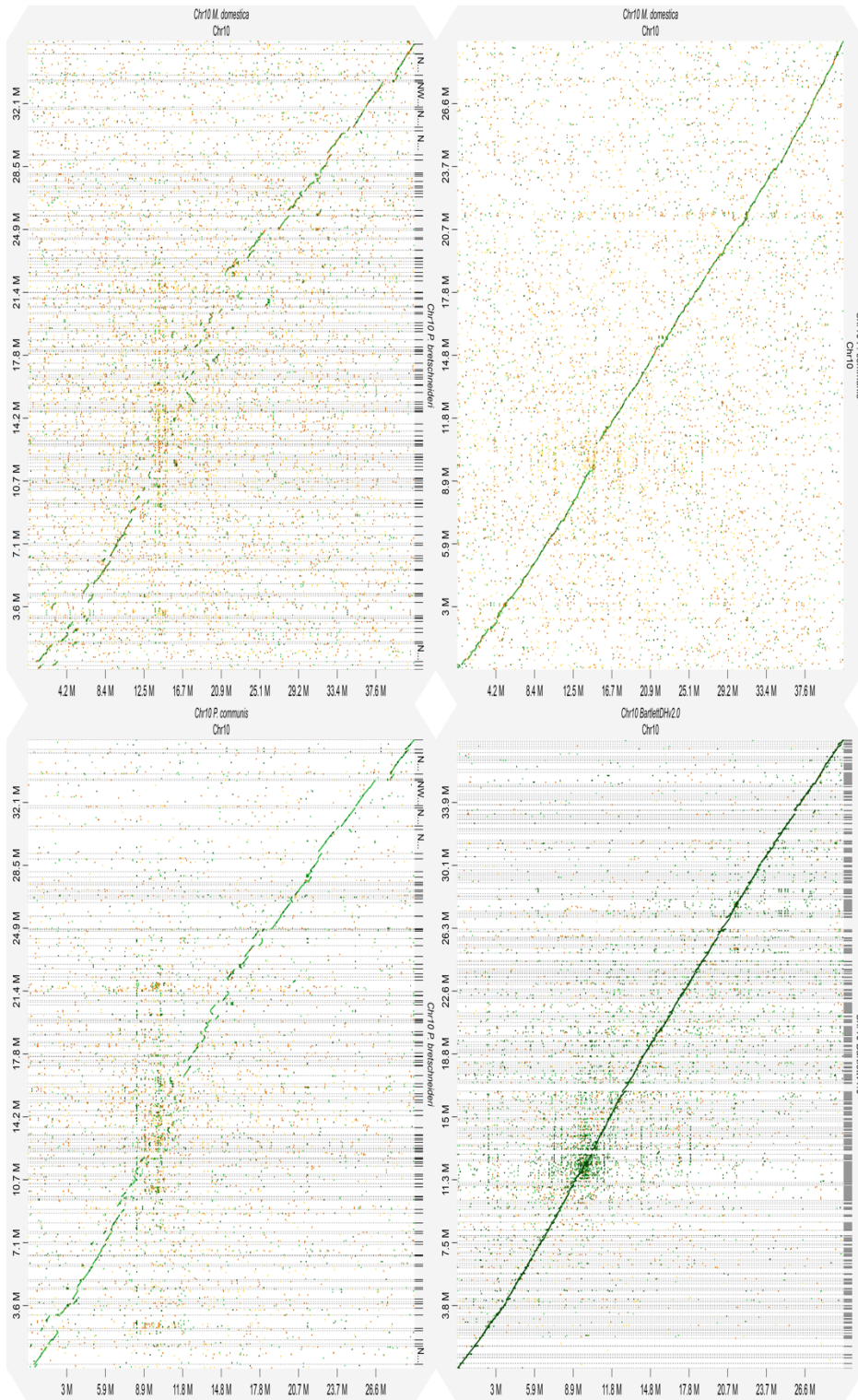


Figure S27. Chromosome 10 alignments

(Fig S27a) Alignment of Chromosome 10 *P. bretschnideri* to *P. communis* (top left)

(Fig S27b) Alignment of Chromosome 10 *P. communis* to *M. domestica* (top right)

(Fig S27c) Alignment of Chromosome 10 *P. bretschnideri* to *M. domestica* (bottom left)

(Fig S27d) Alignment of Chromosome 10 *P. communis* BartlettV1.0 to BartlettDHv2.0

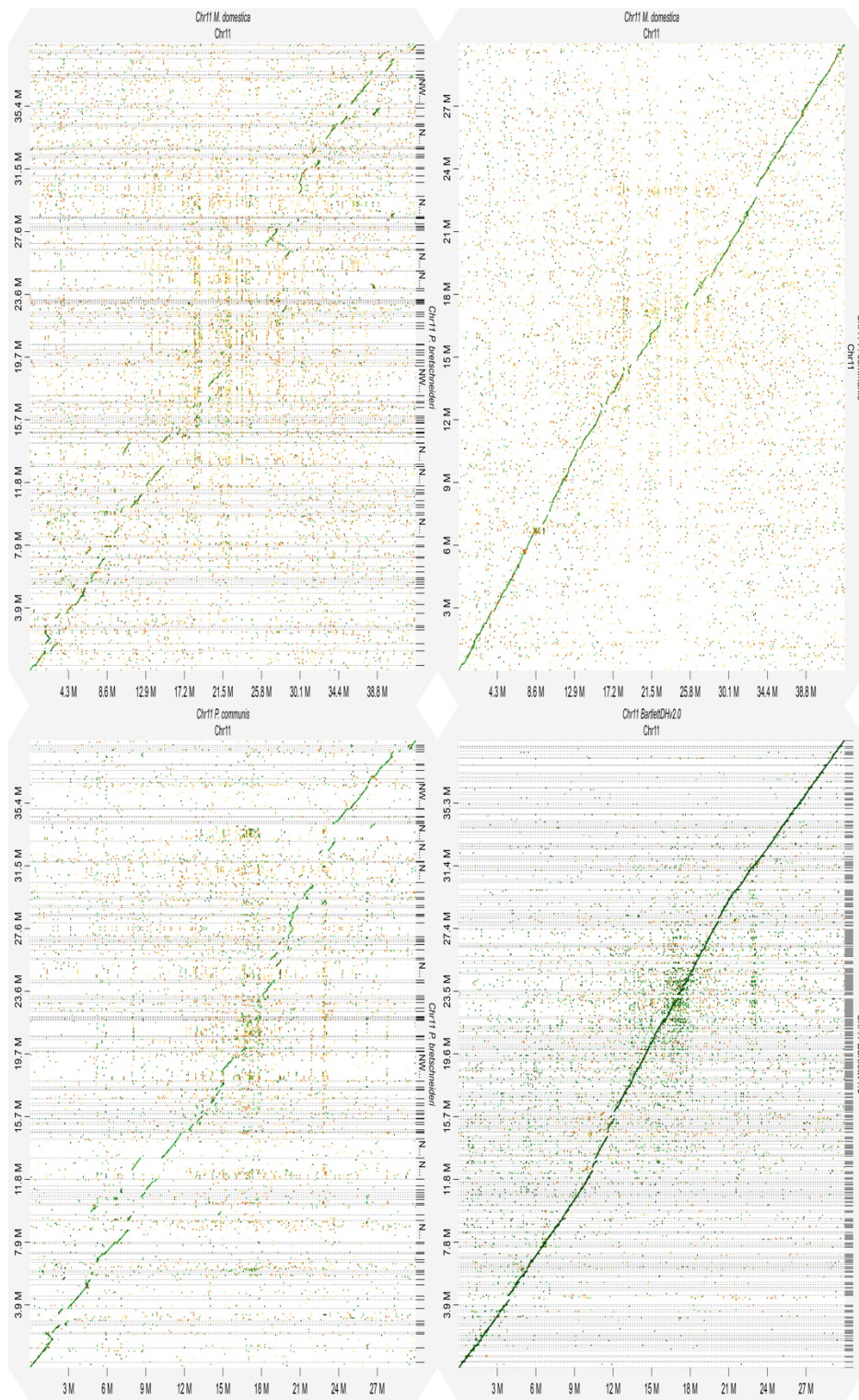


Figure S28. Chromosome 11 alignments

(Fig S28a) Alignment of Chromosome 11 *P. breitschneideri* to *P. communis* (top left)

(Fig S28b) Alignment of Chromosome 11 *P. communis* to *M. domestica* (top right)

(Fig S28c) Alignment of Chromosome 11 *P. breitschneideri* to *M. domestica* (bottom left)

(Fig S28d) Alignment of Chromosome 11 *P. communis* BartlettV1.0 to BartlettDHv2.0

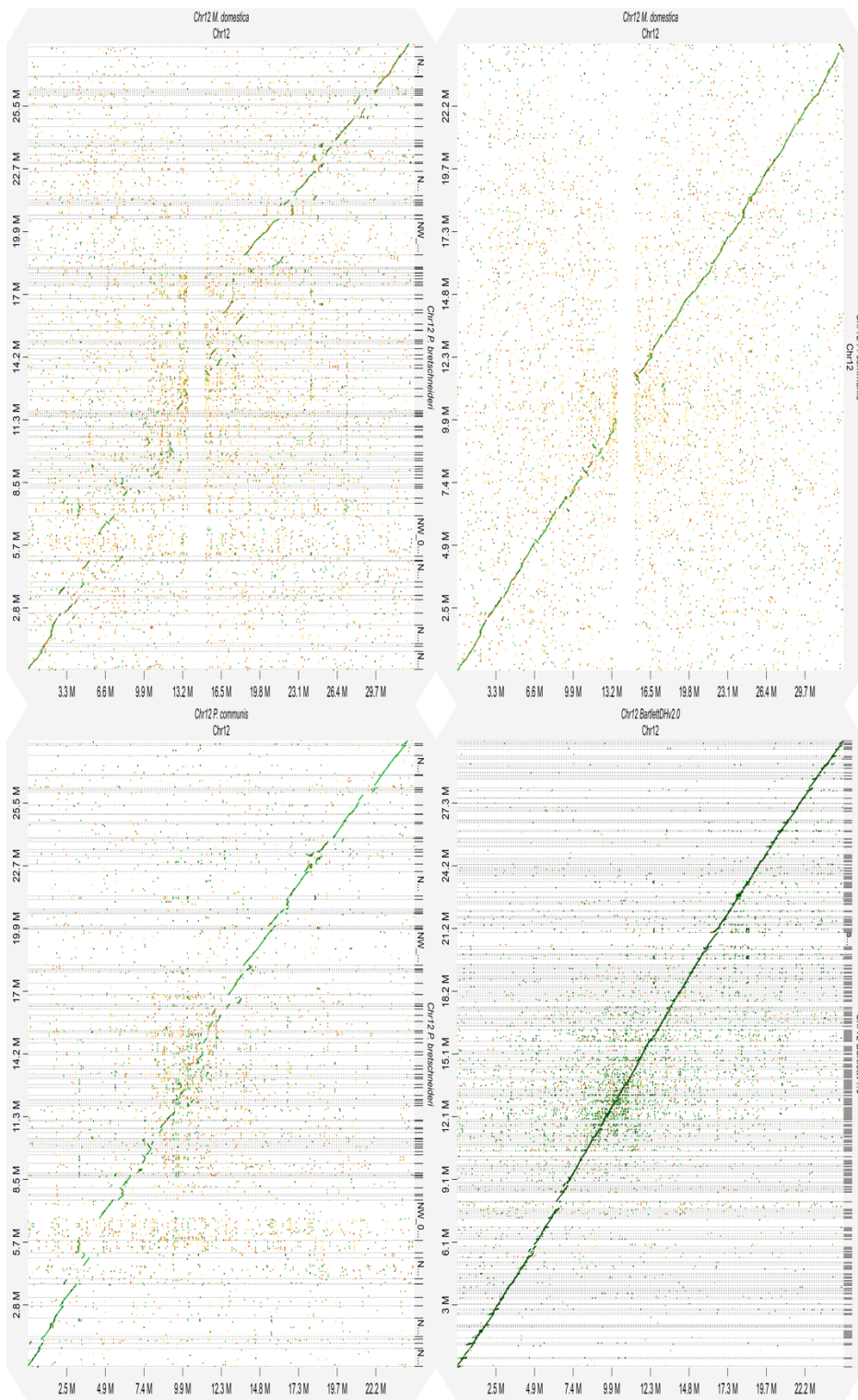


Figure S29. Chromosome 12 alignments

(Fig S29a) Alignment of Chromosome 12 *P. bretschnideri* to *P. communis* (top left)

(Fig S29b) Alignment of Chromosome 12 *P. communis* to *M. domestica* (top right)

(Fig S29c) Alignment of Chromosome 12 *P. bretschnideri* to *M. domestica* (bottom left)

(Fig S29d) Alignment of Chromosome 12 *P. communis* BartlettV1.0 to BartlettDHv2.0

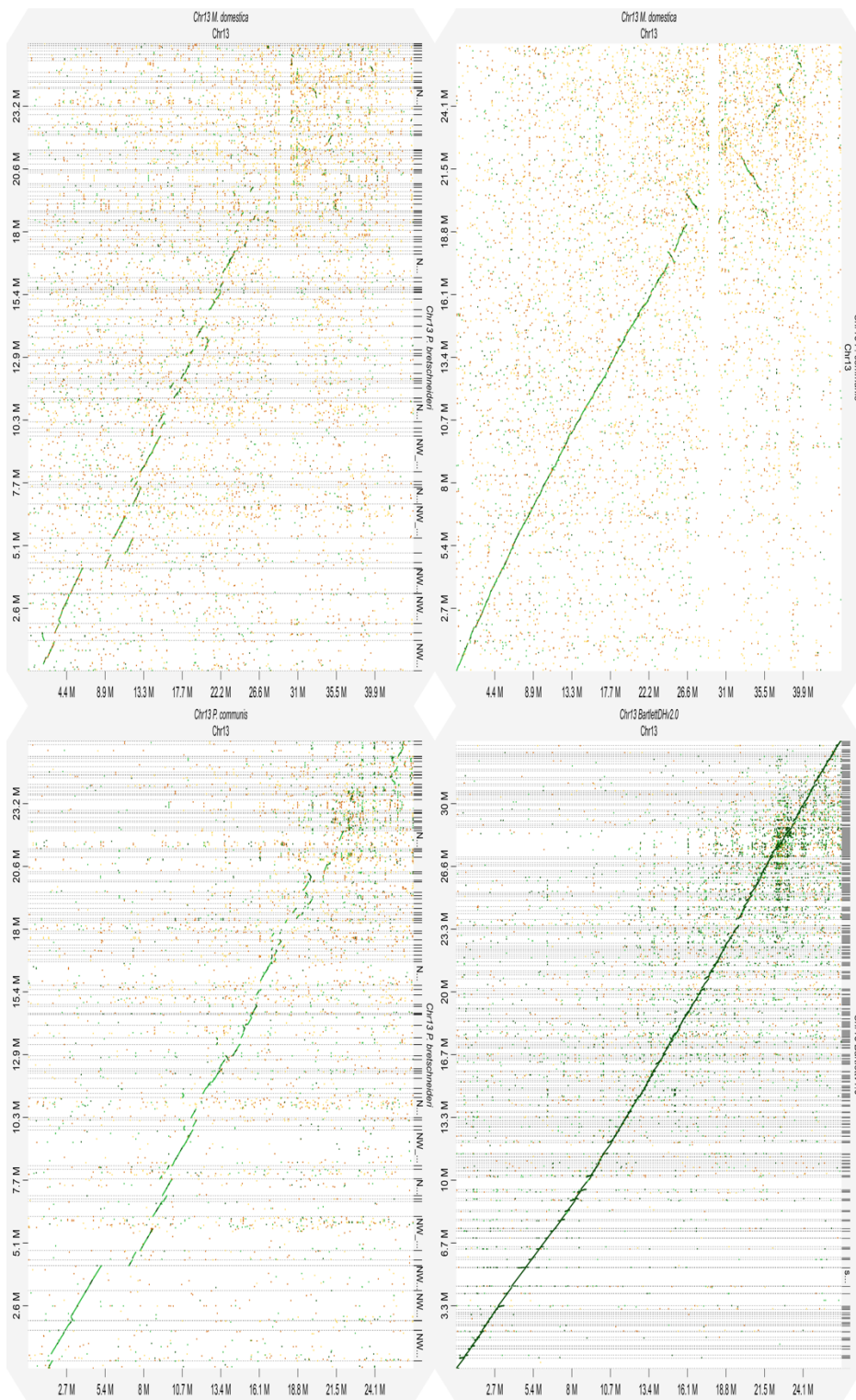


Figure S30. Chromosome 13 alignments

(Fig S30a) Alignment of Chromosome 13 *P. bretschnideri* to *P. communis* (top left)

(Fig S30b) Alignment of Chromosome 13 *P. communis* to *M. domestica* (top right)

(Fig S30c) Alignment of Chromosome 13 *P. bretschnideri* to *M. domestica* (bottom left)

(Fig S30d) Alignment of Chromosome 13 *P. communis* BartlettV1.0 to BartlettDHv2.0

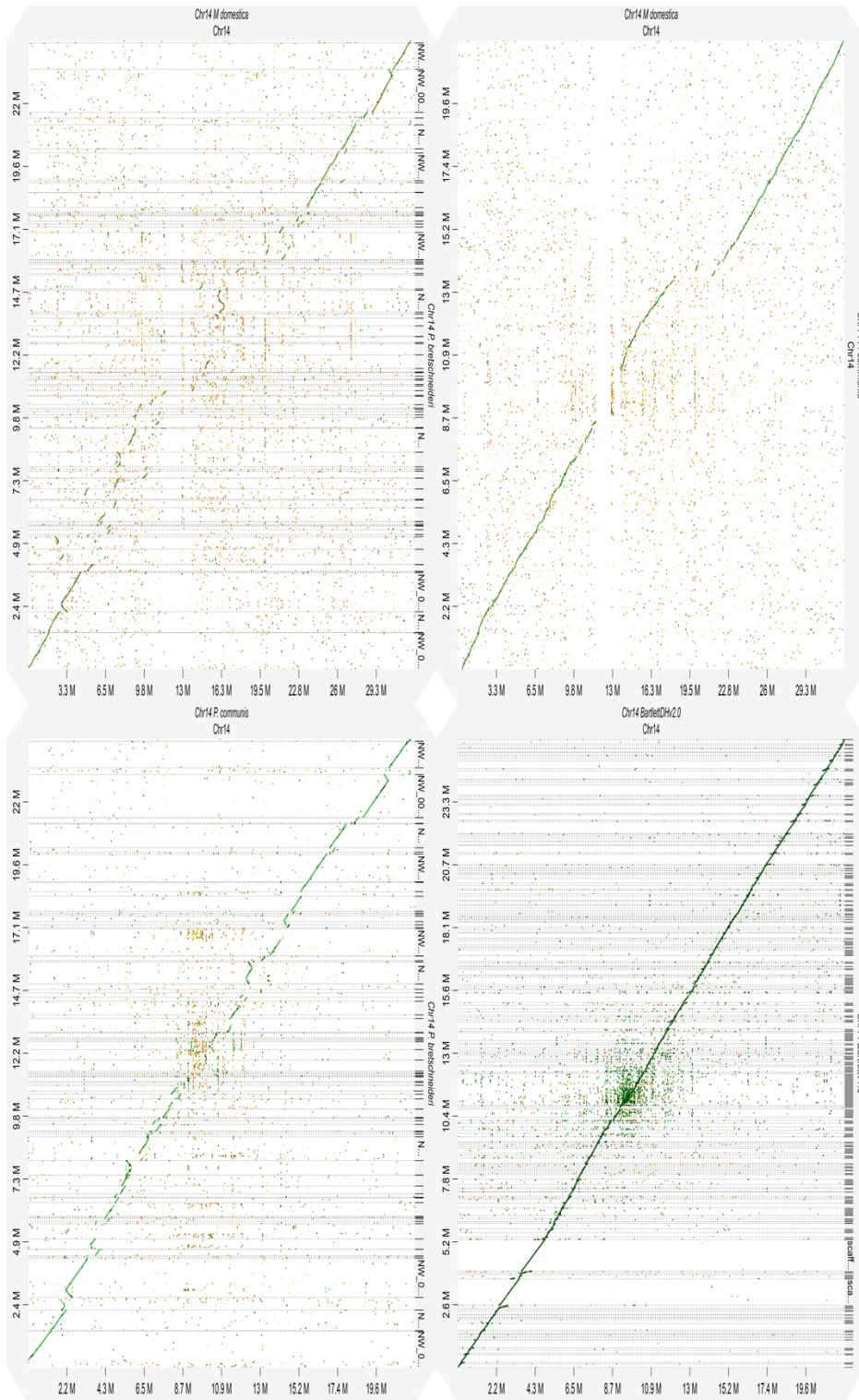


Figure S31. Chromosome 14 alignments

(Fig S31a) Alignment of Chromosome 14 *P. breitschneideri* to *P. communis* (top left)

(Fig S31b) Alignment of Chromosome 14 *P. communis* to *M. domestica* (top right)

(Fig S31c) Alignment of Chromosome 14 *P. breitschneideri* to *M. domestica* (bottom left)

(Fig S31d) Alignment of Chromosome 14 *P. communis* BartlettV1.0 to BartlettDHv2.0

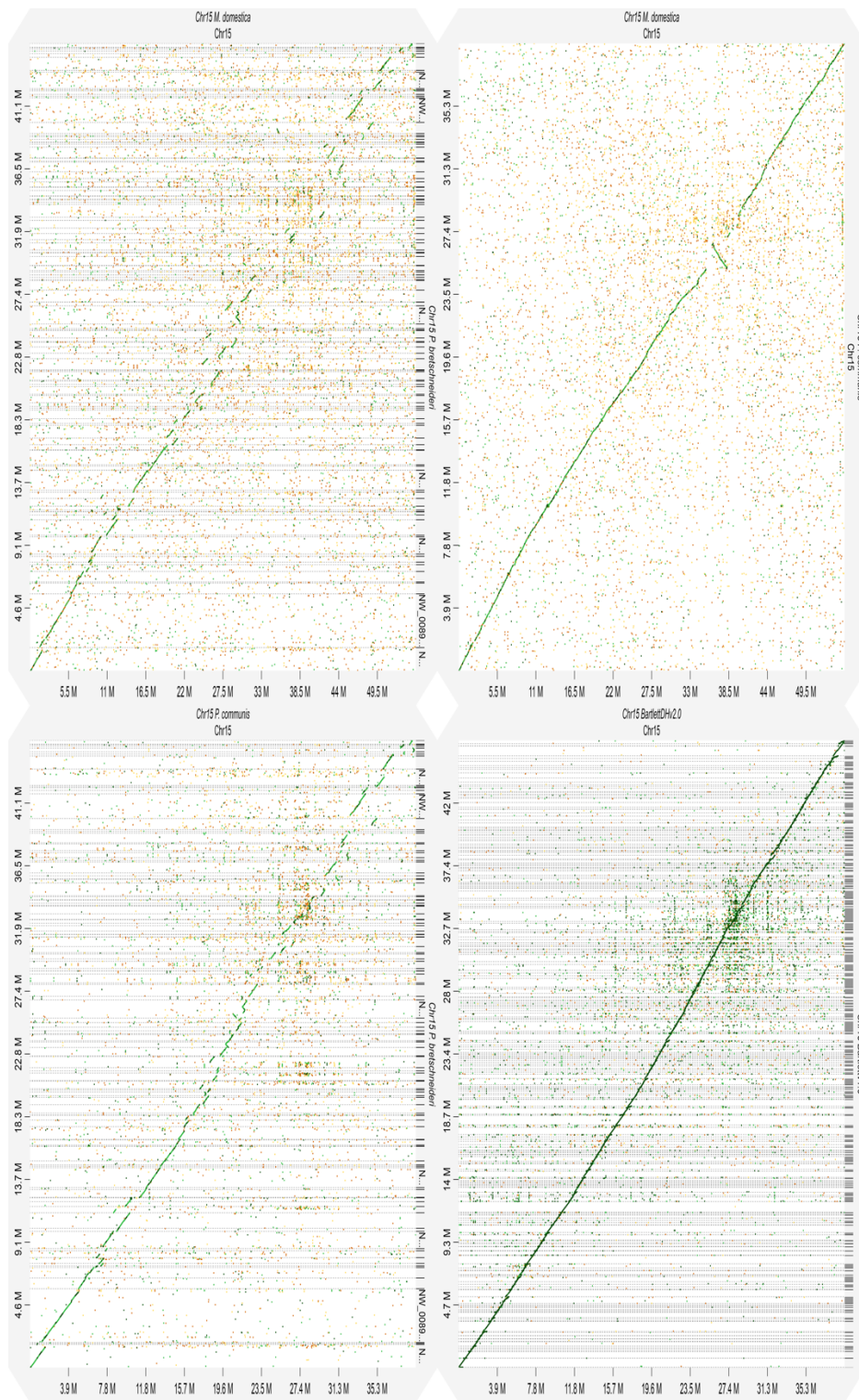


Figure S32. Chromosome 15 alignments

(Fig S32a) Alignment of Chromosome 15 *P. breitschneideri* to *P. communis* (top left)

(Fig S32b) Alignment of Chromosome 15 *P. communis* to *M. domestica* (top right)

(Fig S32c) Alignment of Chromosome 15 *P. breitschneideri* to *M. domestica* (bottom left)

(Fig S32d) Alignment of Chromosome 15 *P. communis* BartlettV1.0 to BartlettDHv2.0

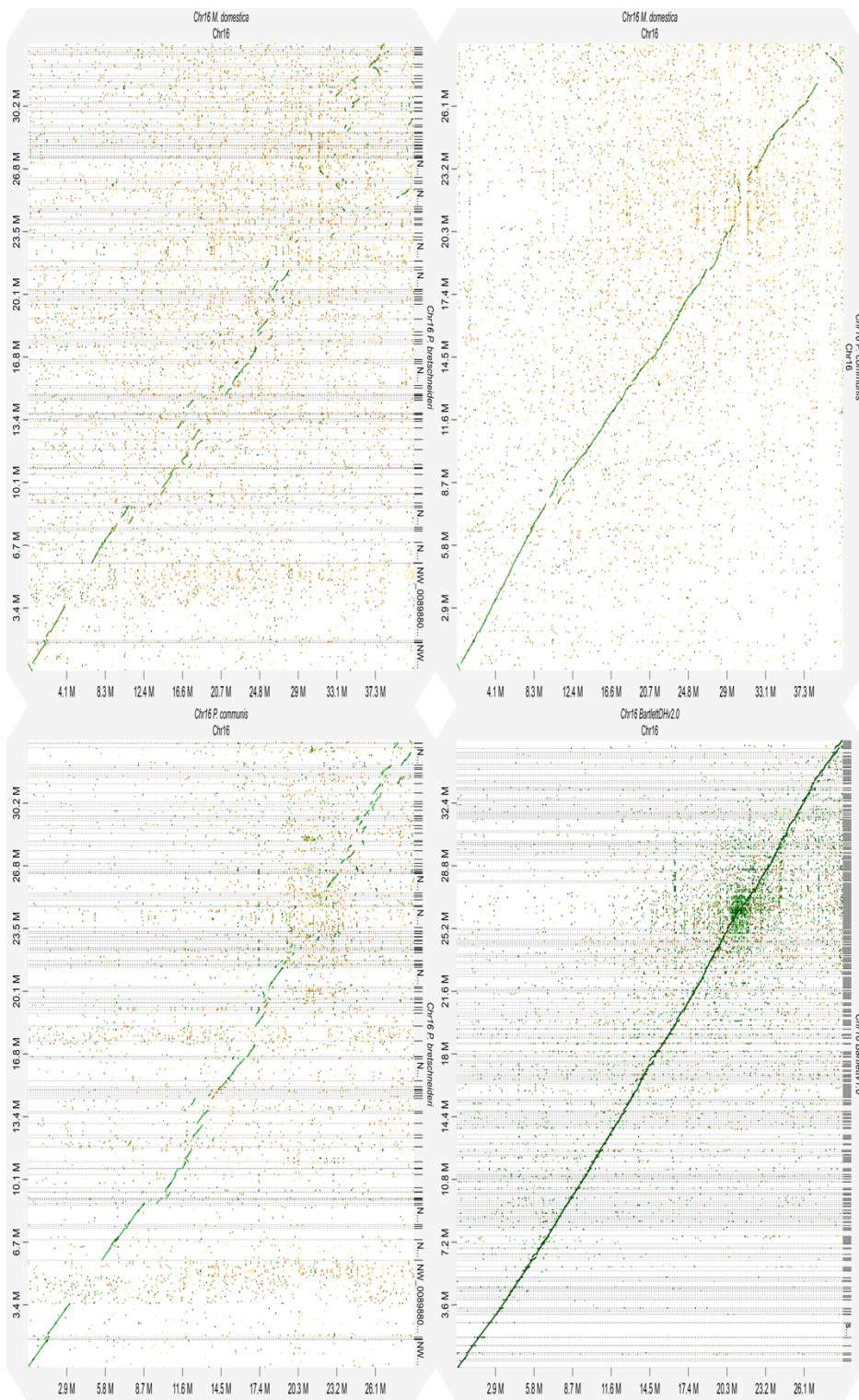


Figure S33. Chromosome 16 alignments

(Fig S33a) Alignment of Chromosome 16 *P. breitschneideri* to *P. communis* (top left)

(Fig S33b) Alignment of Chromosome 16 *P. communis* to *M. domestica* (top right)

(Fig S33c) Alignment of Chromosome 16 *P. breitschneideri* to *M. domestica* (bottom left)

(Fig S33d) Alignment of Chromosome 16 *P. communis* Bartlett1.0 to BartlettDHv2.0

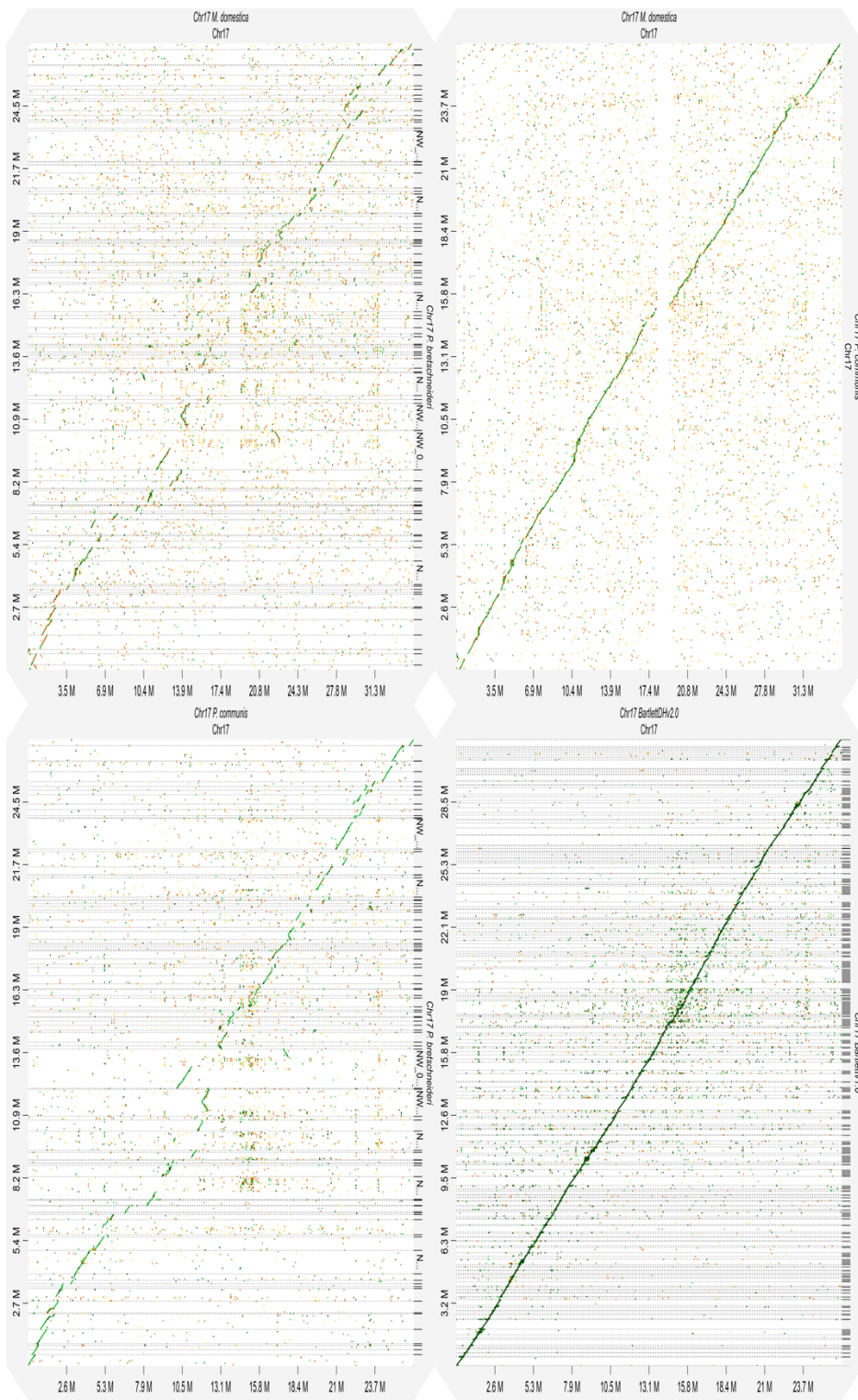


Figure S34. Chromosome 17 alignments

(Fig S34a) Alignment of Chromosome 17 *P. breitschneideri* to *P. communis* (top left)

(Fig S34b) Alignment of Chromosome 17 *P. communis* to *M. domestica* (top right)

(Fig S34c) Alignment of Chromosome 17 *P. breitschneideri* to *M. domestica* (bottom left)

(Fig S34d) Alignment of Chromosome 17 *P. communis* BartlettV1.0 to BartlettDHv2.0

Enriched GO terms

Table S1 GO terms enriched in *P. communis* genes determined to be pomme specific

#Type	GO-id	Enrichment	p-value	subset-ratio	description
MF	GO:0001882	0.411353449	6.16E-04	25.03037667	nucleoside binding
MF	GO:0001883	0.409747787	7.06E-04	24.90886999	purine nucleoside binding
MF	GO:0003824	0.259594027	9.57E-07	59.29526124	catalytic activity
MF	GO:0004872	0.98725488	0.038161026	4.009720535	receptor activity
MF	GO:0004888	0.98725488	0.038161026	4.009720535	transmembrane receptor activity
MF	GO:0005215	0.595920778	0.043424568	8.991494532	transporter activity
MF	GO:0005216	1.580096674	0.010753402	2.187120292	ion channel activity
MF	GO:0005524	0.462925951	7.16E-05	24.54434994	ATP binding
MF	GO:0015075	1.066765598	2.41E-04	5.953827461	ion transmembrane transporter activity
MF	GO:0015082	1.81322548	0.026644798	1.579586877	di-, tri-valent inorganic cation transmembrane transporter activity
MF	GO:0015267	1.562818683	0.012551231	2.187120292	channel activity

MF	GO:0015662	2.039783931	2.60E-04	2.065613609	ATPase activity, coupled to transmembrane movement of ions, phosphorylative mechanism
MF	GO:0017076	0.362399652	0.003413612	26.00243013	purine nucleotide binding
MF	GO:0022803	1.562818683	0.012551231	2.187120292	passive transmembrane transporter activity
MF	GO:0022804	0.929996543	0.041293348	4.374240583	active transmembrane transporter activity
MF	GO:0022838	1.580096674	0.010753402	2.187120292	substrate-specific channel activity
MF	GO:0022857	0.79510714	0.002745981	7.776427704	transmembrane transporter activity
MF	GO:0022891	0.958105226	3.31E-04	6.925880923	substrate-specific transmembrane transporter activity
MF	GO:0022892	0.883137525	8.73E-04	7.290400972	substrate-specific transporter activity
MF	GO:0030554	0.409747787	7.06E-04	24.90886999	adenyl nucleotide binding

MF	GO:0032553	0.414544354	3.86E-04	25.63791009	ribonucleotide binding
MF	GO:0032555	0.414544354	3.86E-04	25.63791009	purine ribonucleotide binding
MF	GO:0032559	0.462212099	7.42E-05	24.54434994	adenyl ribonucleotide binding
MF	GO:0042625	1.59654954	0.015306675	2.065613609	ATPase activity, coupled to transmembrane movement of ions
MF	GO:0046873	1.463283009	0.019407649	2.308626974	metal ion transmembrane transporter activity
BP	GO:0006754	1.515121941	0.044409183	2.065613609	ATP biosynthetic process
BP	GO:0009141	1.495704487	0.033186541	2.187120292	nucleoside triphosphate metabolic process
BP	GO:0009142	1.495704487	0.033186541	2.187120292	nucleoside triphosphate biosynthetic process
BP	GO:0009144	1.495704487	0.033186541	2.187120292	purine nucleoside triphosphate metabolic process

BP	GO:0009145	1.495704487	0.033186541	2.187120292	purine nucleoside triphosphate biosynthetic process
BP	GO:0009199	1.495704487	0.033186541	2.187120292	ribonucleoside triphosphate metabolic process
BP	GO:0009201	1.495704487	0.033186541	2.187120292	ribonucleoside triphosphate biosynthetic process
BP	GO:0009205	1.495704487	0.033186541	2.187120292	purine ribonucleoside triphosphate metabolic process
BP	GO:0009206	1.495704487	0.033186541	2.187120292	purine ribonucleoside triphosphate biosynthetic process
BP	GO:0045087	1.037018255	0.038395427	3.888213852	innate immune response
BP	GO:0046034	1.515121941	0.044409183	2.065613609	ATP metabolic process
CC	GO:0005741	2.548171907	0.018169086	0.85054678	mitochondrial outer membrane