File S3: **Assignment of *Choristoneura fumiferana* linkage groups (LGs) to *Bombyx mori* and *Melitaea cinxia* chromosomes.** *C. fumiferana* LGs were assigned to chromosomes based on the number of TBLASTX hits obtained for reads containing LG-associated SNP markers.

C. fumiferana	Synteny with *B. mori*		Synteny with *M. cinxia*	
LG number	No. of hits	Chr. number*	No. of hits	Chr. number*
Z	20	**15** *(13)* - **Z** *(7)*	17	**Z** *(9)* - **3** *(8)*
2	20	**13** *(19)* - **9** *(1)*	6	15
3	15	4	3	2
4	12	9	4	10
5	15	**10** *(14)* - **11** *(1)*	11	**9** *(9)* – **6** *(1)* – **26** *(1)*
6	5	17	4	**8** *(3)* – **12** *(1)*
7	20	**18** *(19)* - **11***(1)*	13	7
8	15	**11**	6	12
9	9	**16** *(8)* - **5** *(1)*	6	**21** *(4)* – **24** *(2)*
10	17	12	10	4
11	6	25	6	18
12	4	22	2	11
13	7	6	6	**5** *(5)* – **19** *(1)*
14	7	19	7	16
15	11	14	6	26
16	8	**23**	8	14
17	10	8	8	13
18	15	**5** *(14)* – **26** *(1)*	8	6
19	11	27	12	**24** *(11)* – **19** *(1)*
20	10	7	7	**20** *(6)* – **23** *(1)*
21	2	21	2	19
22	5	28	3	22
23	6	3	5	17
24	10	**20** *(8)* - **18** *(2)*	3	25
25	5	26	4	**23** *(3)* – **6** *(1)*
26	6	**24**	2	29
27	4	2	2	28
28	4	**23**	2	30
29	3	**24**	3	27
30	3	**11**	0	31
30 chr.	285	28 chr.	176	31 chr.

*LGs corresponding to two chromosomes in *B. mori* and *M. cinxia* are indicated in red characters, and *B. mori* chromosomes corresponding to two LGs in *C. fumiferana* are in blue fonts. For linkage groups which markers hit different chromosomes, the chromosome numbers are followed by the number of hits and the most likely orthologue chromosome is underlined. One *C. fumiferana* LGs could not be directly assigned to *M. cinxia* chromosomes as it generated no hits in TBLASTX searches against *M. cinxia* chromosomes; in this case, LG assignment (shaded in grey in the last column) was first inferred, and then checked with the published *M. cinxia–B. mori* synteny analysis (Ahola *et al.* 2014), which was then crossed-referenced with the results of our *C. fumiferana–B. mori* synteny analysis.