

**Table S1. Phylogenetic organization of four gene neighborhoods of *D. melanogaster* in other *Drosophila* species according to recent reconstructions of their gene order**

Neighborhood <sup>a</sup>	Collinear Blocks <sup>b</sup>	Species Where Disrupted <sup>c</sup>
<i>CG15446-CG1494</i>	553, 554, 555	<i>wil, pse</i>
<i>CG4767-CG17329</i>	892, 893, 894, 895, 897, 898, 899	<i>ana, pse, wil, vir, moj, gri</i>
<i>CG13330-CG13440</i>	1208, 1209, 1210, 1211, 1212	<i>ere, yak, pse, wil, vir, moj, gri</i>
<i>CG14225-CG33931</i>	527, 528, 529, 530, 531, 532	<i>yak, ana, pse, wil, vir, moj, gri</i>

Based on comparative data from [1].

<sup>a</sup> Empirically disrupted in *D. melanogaster* [2].

<sup>b</sup> Numerical code of those collinear blocks in which the genes of the neighborhood are located. Collinear blocks were delineated based on conservation of gene order, but not necessarily on conservation of gene orientation (GO definition), across nine *Drosophila* species; gene transpositions in and out were allowed [1].

<sup>c</sup> *ere, D. erecta; yak, D. yakuba; ana, D. ananassae; pse, D. pseudoobscura; wil, D. willistoni; vir, D. virilis; moj, D. mojavensis; gri, D. grimshawi.*

### Supporting References

1. von Grotthuss M, Ashburner M, Ranz JM (2010) Fragile regions and not functional constraints predominate in shaping gene organization in the genus *Drosophila*. *Genome Res* 20: 1084-1096.
2. Meadows LA, Chan YS, Roote J, Russell S (2010) Neighbourhood continuity is not required for correct testis gene expression in *Drosophila*. *PLoS Biol* 8: e1000552.