

Supplemental Table 1: Accession numbers of protein sequences

<b>Species</b>	<b>Pp1Y1</b>	<b>Pp1Y2</b>	<b>ARY</b>	<b>ORY</b>	<b>WDY</b>	<b>PPrY</b>	<b>CCY</b>	<b>PRY</b>	<b>kl5</b>	<b>kl3</b>	<b>kl2</b>
<i>D. melanogaster</i>	AAL25117.1	CAG70683.1	DAA06294.1	NP_001015498.3	DAA06296.1	AAL25119.1	ACE79737.1	DAA06439.1	AAF21041.1	AAG29546.2	ACE79738.1
<i>D. yakuba</i>	DAA06405.1	DAA06412.1	DAA06433.1	DAA06427.1	DAA06446.1	DAA06419.1	ACE79736.1	DAA06438.1	ABY85408.1	ACC62138.2	ACC62141.2
<i>D. erecta</i>	DAA06404.1	DAA06411.1	DAA06428.1	DAA06426.1	ADZ32503.1	DAA06418.1	ACE79735.1	ABY59799.1	ABY85406.1	ACC62135.4	ACC62139.1
<i>D. ananassae</i>	DAA06403.1	DAA06410.1	DAA06413.1	DAA06425.1	ABY59794.1	DAA06417.1	ACE79734.1	DAA06437.1	ABY85403.1	ACC62134.4	ACC62142.1
<i>D. willistoni</i>	DAA06402.1	DAA06409.1	DAA06295.1	DAA06424.1	DAA06443.1	DAA06416.1	ACE79732.1	DAA06435.1	DAA06397.1	ACC62133.4	ACC62143.2
<i>D. mojavensis</i>	-	DAA06408.1	DAA06430.1	DAA06423.1	DAA06441.1	DAA06415.1	ACE79731.1	ADF80168.1	ABY85400.2	ACC62137.2	ACC62149.2
<i>D. virilis</i>	DAA06401.1	DAA06407.1	ADF80166.1	DAA06422.1	DAA06442.1	DAA06414.1	ACE79730.1	ABY59796.1	ABY85394.2	ACC62136.4	ACC62147.1
<i>D. grimshawi</i>	DAA06400.1	DAA06406.1	DAA06429.1	DAA06421.1	DAA06440.1	-	ACE79729.1	DAA06420.1	ABY85393.1	ACC62132.3	ACC62144.2
<i>D. pseudoobscura</i>	DAA06398.1	DAA06399.1	DAA06432.1	AAW23319.1	DAA06444.1	ADF80167.1	ACE79733.1	ADF80164.1	DAA05701.1	DAA05699.1	ACC62140.2

Supplemental Table 2: Accession numbers of nucleotide sequences

<b>Species</b>	<b>Pp1Y1</b>	<b>Pp1Y2</b>	<b>ARY</b>	<b>ORY</b>	<b>WDY</b>	<b>PPrY</b>	<b>CCY</b>	<b>PRY</b>	<b>kl5</b>	<b>kl3</b>	<b>kl2</b>
<i>D. melanogaster</i>	AF427493.1	AJ781055.1	BK006427	NM_001015498.3	BK006449	AF427495.1	EU685282.1	BK006442.1	AF210453.1	AF313480.2	EU685283.1
<i>D. yakuba</i>	BK006413.1	BK006420.1	BK006426.1	BK006457.1	BK006450.1	BK006435.1	EU685281.1	BK006441.1	EU417452.1	EU514472.2	EU595398.2
<i>D. erecta</i>	BK006412.1	BK006419.1	BK006421.1	BK006456.1	HQ852741.1	BK006434.1	EU685280.1	EU362867.1	EU417450.1	EU514469.3	EU595396.1
<i>D. ananassae</i>	BK006411.1	BK006418.1	BK006429.1	BK006455.1	EU362855.1	BK006433.1	EU685279.1	BK006440.1	EU417447.1	EU514468.3	EU595399.1
<i>D. willistoni</i>	BK006410.1	BK006417.1	BK006428.1	BK006454.1	BK006446.1	BK006432.1	EU685277.1	BK006438.1	BK006568.1	EU514467.3	EU595400.2
<i>D. mojavensis</i>	-	BK006416.1	BK006423.1	BK006453.1	BK006444.1	BK006431.1	EU685276.1	GU937421.1	EU417444.2	EU514471.2	EU595403.2
<i>D. virilis</i>	BK006409.1	BK006415.1	GU937419.1	BK006452.1	BK006445.1	BK006430.1	EU685275.1	EU362864.1	EU417438.2	EU514470.3	EU595402.1
<i>D. grimshawi</i>	BK006408.1	BK006414.1	BK006422.1	BK006451.1	BK006443.1	-	EU685274.1	BK006436.1	EU417437.1	EU514466.3	EU595401.2
<i>D. pseudoobscura</i>	BK006569.1	BK006570.1	BK006425.1	AY857328.1	BK006447.1	GU937420.1	EU685278.1	GU937417.1	BK005628.1	BK005626.1	EU595397.2

Supplemental Table 3: Counts of reads mapping to each gene in *D. melanogaster*

<b>Gene</b>	<b>Linkage</b>	<b>Female Rep 1</b>	<b>Female Rep 2</b>	<b>Male Rep 1</b>	<b>Male Rep 2</b>
<i>ARY</i>	Y	0	0	62	195
<i>CCY</i>	Y	0	0	329	833
<i>ORY</i>	Y	0	0	25	42
<i>PP1Y1</i>	Y	0	0	16	22
<i>PP1Y2</i>	Y	0	0	92	267
<i>PPrY</i>	Y	0	0	30	75
<i>PRY</i>	Y	0	0	21	57
<i>WDY</i>	Y	0	0	148	397
<i>k12</i>	Y	0	0	136	287
<i>k13</i>	Y	0	2	122	254
<i>k15</i>	Y	0	0	289	568
<b>Total reads</b>		23855845	64625294	22628970	71918838

Supplemental Table 4: Counts of reads mapping to each gene in *D. ananassae*

<b>Gene</b>	<b>Linkage</b>	<b>Female Rep 1</b>	<b>Female Rep 2</b>	<b>Male Rep 1</b>	<b>Male Rep 2</b>
<i>ARY</i>	Y	11	9	86	526
<i>CCY</i>	Y	1	3	71	180
<i>ORY</i>	Y	3	2	63	192
<i>PP1Y1</i>	Y	0	0	18	82
<i>PP1Y2</i>	Y	6	6	100	298
<i>PPrY</i>	Y	1	1	48	84
<i>PRY</i>	Y	0	1	9	26
<i>WDY</i>	Y	1	0	54	69
<i>k12</i>	Y	3	5	63	171
<i>k13</i>	Y	14	4	156	454
<i>k15</i>	Y	0	0	289	568
<b>Total reads</b>		21659217	67356046	15894559	61812221

Supplemental Table 5: Counts of reads mapping to each gene in *D. yakuba*

<b>Gene</b>	<b>Linkage</b>	<b>Female Rep 1</b>	<b>Female Rep 2</b>	<b>Male Rep 1</b>	<b>Male Rep 2</b>
<i>ARY</i>	Y	0	1	38	418
<i>CCY</i>	Y	0	10	373	1498
<i>ORY</i>	Y	0	2	117	484
<i>PP1Y1</i>	Y	0	2	37	114
<i>PP1Y2</i>	Y	1	1	48	223
<i>PPrY</i>	Y	0	1	61	316
<i>PRY</i>	Y	0	0	9	25
<i>WDY</i>	Y	0	2	72	320
<i>k12</i>	Y	0	0	68	426
<i>k13</i>	Y	4	8	118	1017
<i>k15</i>	Y	0	5	203	1348
<b>Total reads</b>		22457529	64308049	14050414	76143175

Supplemental Table 6: Counts of reads mapping to each gene in *D. pseudoobscura*

<b>Gene</b>	<b>Linkage</b>	<b>Female Rep 1</b>	<b>Female Rep 2</b>	<b>Male Rep 1</b>	<b>Male Rep 2</b>
<b><i>ARY</i></b>	autosome	18	12	1494	2206
<b><i>CCY</i></b>	autosome	370	257	18458	52912
<b><i>ORY</i></b>	autosome	10	9	519	615
<b><i>PP1Y1</i></b>	autosome	8	13	552	1537
<b><i>PP1Y2</i></b>	autosome	12	10	693	1867
<b><i>PPrY</i></b>	autosome	6	2	467	562
<b><i>PRY</i></b>	autosome	2	2	148	271
<b><i>WDY</i></b>	autosome	21	18	863	2292
<b><i>k12</i></b>	autosome	12	2	736	893
<b><i>k13</i></b>	autosome	19	7	1049	1450
<b><i>k15</i></b>	autosome	43	42	1225	5902
<b>Total reads</b>		24242339	74533950	26447322	72665615

Supplemental Table 7: Counts of reads mapping to each gene in *D. mojavensis*

<b>Gene</b>	<b>Linkage</b>	<b>Female Rep 1</b>	<b>Female Rep 2</b>	<b>Male Rep 1</b>	<b>Male Rep 2</b>
<i>ARY</i>	autosome	15	59	1484	1815
<i>CCY</i>	autosome	129	133	8129	11849
<i>ORY</i>	Y	6	5	299	514
<i>PP1Y2</i>	autosome	9	34	737	1578
<i>PPrY</i>	Y	1	1	58	173
<i>PRY</i>	autosome	4	13	57	103
<i>WDY</i>	autosome	2	23	576	651
<i>kI2</i>	Y	5	9	464	970
<i>kI3</i>	Y	16	25	1434	3183
<i>kI5</i>	Y	23	16	1388	2996
<b>Total reads</b>		19033796	54613414	22056234	62081181

Supplemental Table 8: Counts of reads mapping to each gene in *D. virilis*

<b>Gene</b>	<b>Linkage</b>	<b>Female Rep 1</b>	<b>Female Rep 2</b>	<b>Male Rep 1</b>	<b>Male Rep 2</b>
<i>ARY</i>	autosome	82	222	598	1182
<i>CCY</i>	autosome	143	425	10756	8914
<i>ORY</i>	Y	4	12	239	426
<i>PP1Y1</i>	autosome	4	23	190	450
<i>PP1Y2</i>	autosome	7	59	109	1210
<i>PPrY</i>	autosome	0	7	34	148
<i>PRY</i>	Y	0	2	11	24
<i>WDY</i>	autosome	4	32	173	620
<i>k12</i>	Y	6	28	149	831
<i>k13</i>	Y	9	60	518	1975
<i>k15</i>	Y	7	87	578	2646
<b>Total reads</b>		23277181	74658687	20089745	78385383