

1 **Adaptive introgression across semipermeable species boundaries between local *Helicoverpa zea* and**  
2 **invasive *Helicoverpa armigera* moths**

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4 **Supplementary material**

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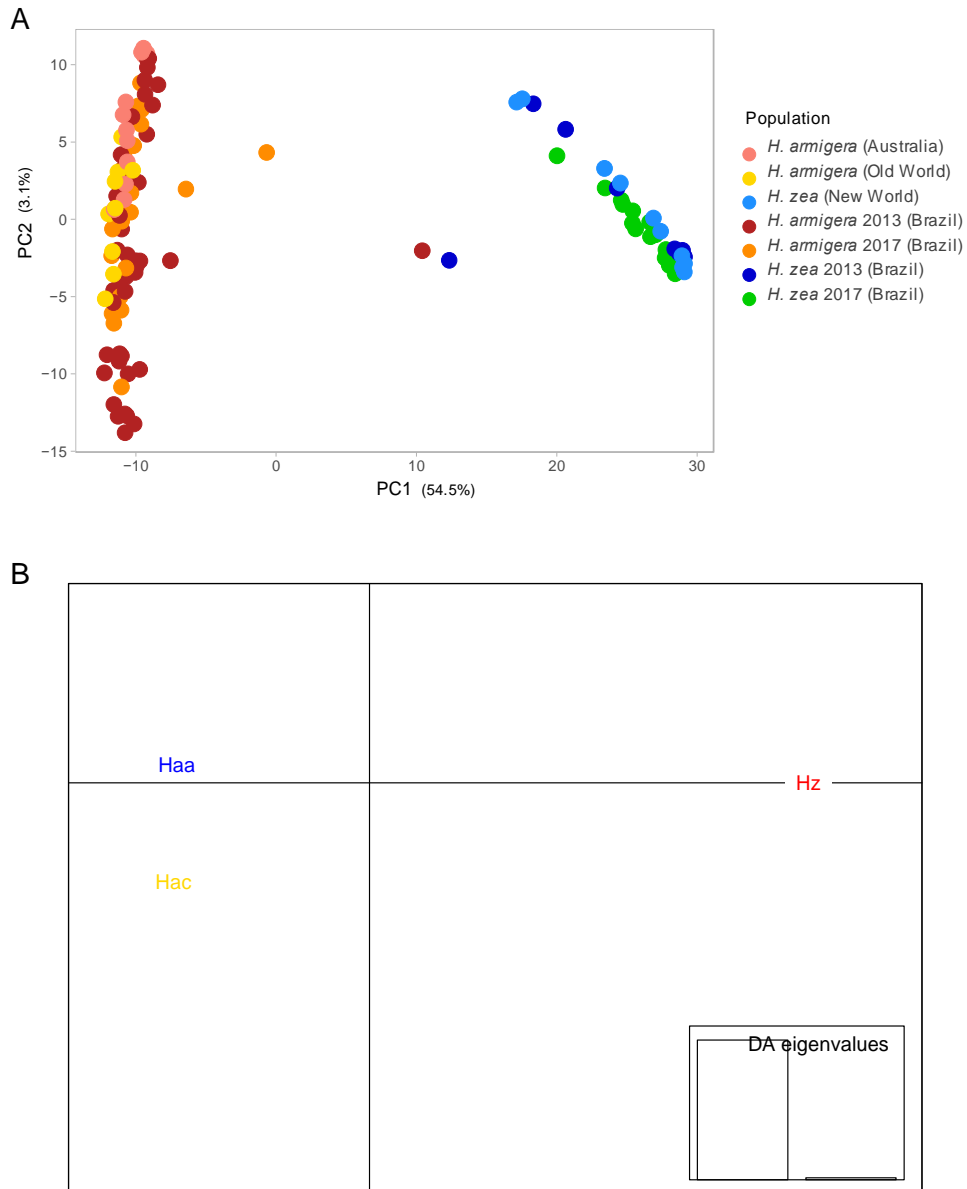
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22 **Figure S1. *Helicoverpa armigera* and *H. zea* populations.** A. Principal Component Analysis of *Helicoverpa armigera*

23 and *H. zea*. B. Discriminant Component Analysis of *Helicoverpa* samples (DAPC) of *Helicoverpa armigera armigera*

24 (Haa), *H. a. conferta* (Hac), and *H. zea* (Hz) populations, resuming first 25 axes of variation.

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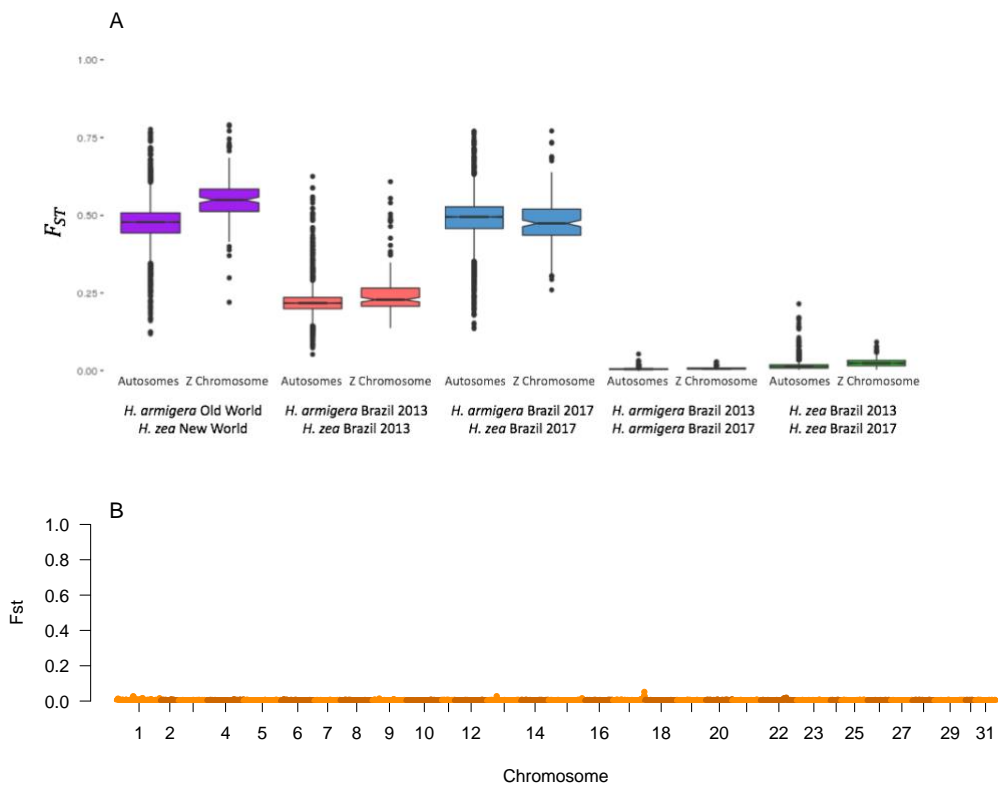
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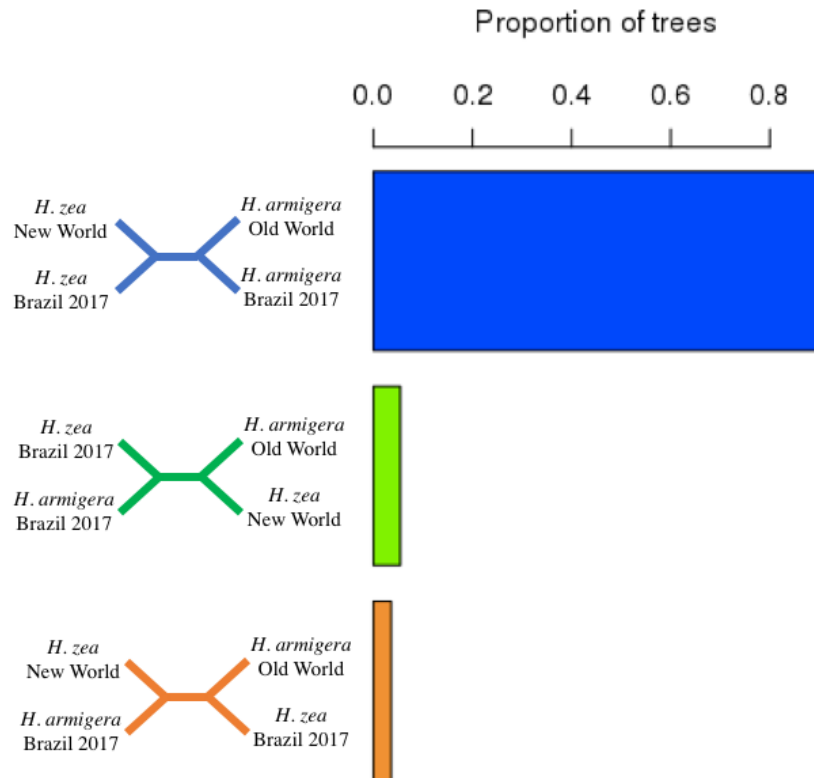
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**Figure S2. Admixture results for *Helicoverpa armigera* and *H. zea*.** Admixture results for  $k=2$ , the number of clusters that receive more support.



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**Figure S3. Genome-wide  $F_{ST}$  for different populations.** **A.**  $F_{ST}$  for autosomes and Z-chromosome for different comparisons within and between species for allopatric and sympatric populations of *Helicoverpa armigera* and *H. zea*. **B.**  $F_{ST}$  between *H. armigera* 2013 and *H. armigera* 2017. The Z chromosome corresponds to the chromosome labelled as 1.



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43 **Figure S4. Summary of the representation of the weights of the trees across the genome.** Proportion of the three  
 44 possible unrooted relations between the four samples: ((Old World *H. armigera*, Brazilian *H. armigera* 2017) (New World  
 45 *H. zea*, Brazilian *H. zea* 2017)). Blue represents the weight of the species topology ((Old World *H. armigera*, Brazilian *H.*  
 46 *armigera* 2017) (New World *H. zea*, Brazilian *H. zea* 2017)). Green ((Brazilian *H. zea* 2017, Brazilian *H. armigera* 2017)  
 47 (New World *H. zea*, Old World *H. armigera*)) and orange ((New World *H. zea*, Brazilian *H. armigera* 2017) (Brazilian *H.*  
 48 *zea* 2017, Old World *H. armigera*)).

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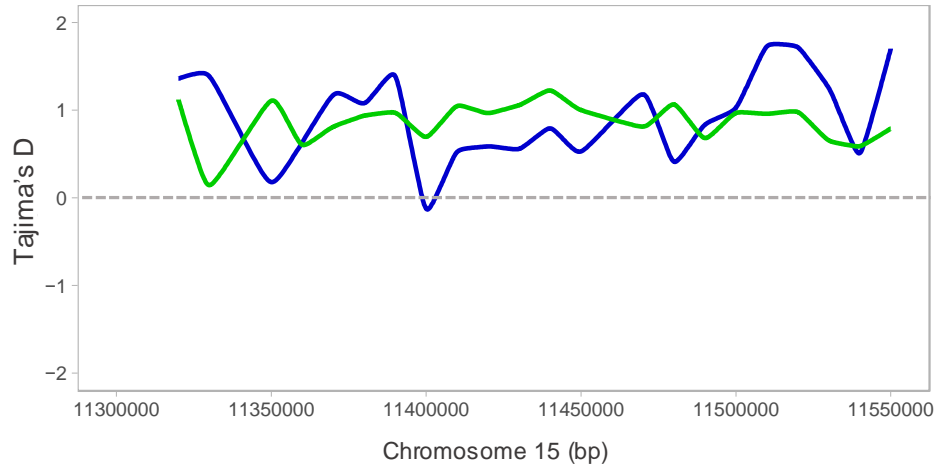
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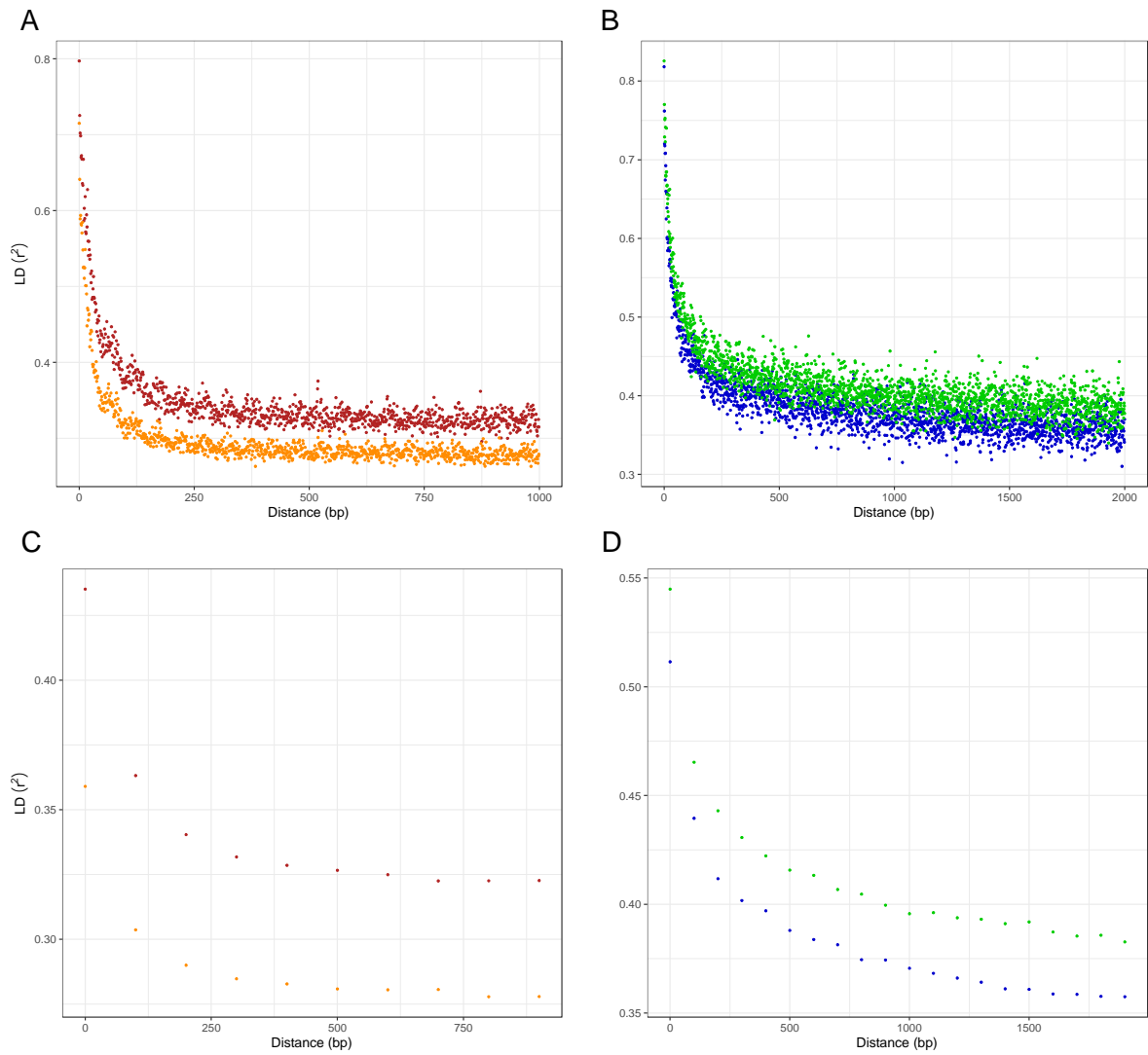


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56 **Figure S5. Tajimas' D along the region in chromosome 15 containing *CYP337B3*.** Tajima's D along the region in  
57 chromosome 15 containing the *CYP337B* locus for populations of *H. zea* 2013 (blue) and *H. zea* in 2017 (green). Grey  
58 shading indicates the location of *CYP337B3*, and the dashed line indicates Tajima's D = 0.

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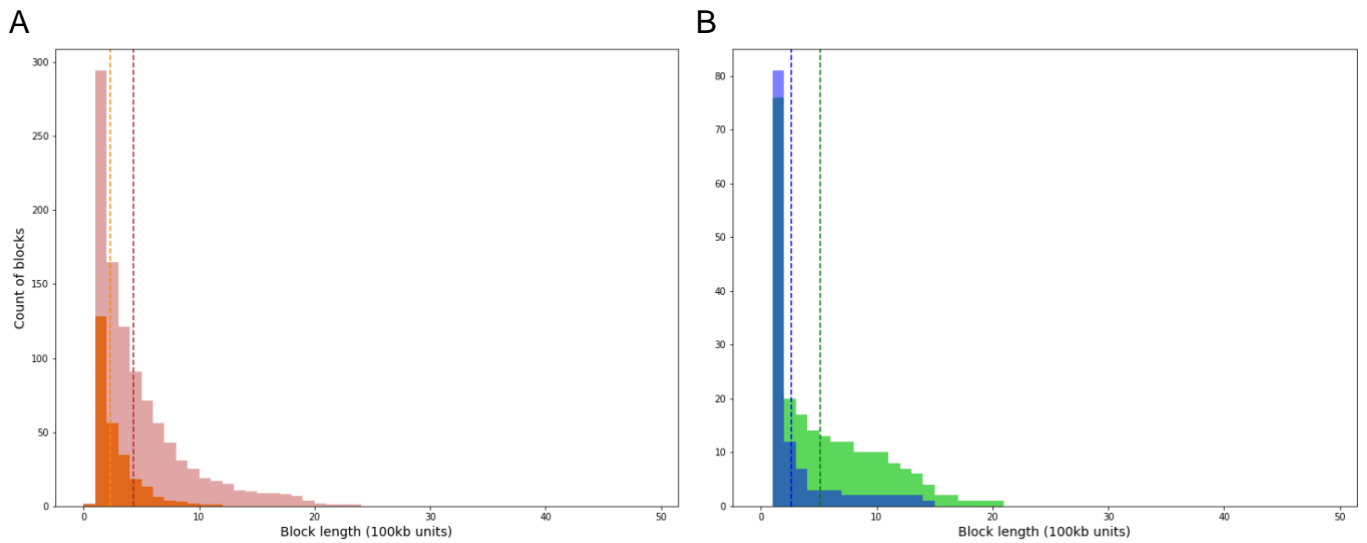
62 **Figure S6. Genome-wide LD decay. A.** LD decay for Brazilian *H. armigera* 2013 (red) and *H. armigera* 2017 (orange).

63 **B.** LD decay for Brazilian *H. zea* 2013 (blue) and *H. armigera* 2017 (green). **C.** LD decay for Brazilian *H. armigera* 2013

64 (red) and *H. armigera* 2017 (orange) in 100bp windows. **D.** LD decay for Brazilian *H. zea* 2013 (blue) and *H. zea* 2017

65 (green) in 100bp windows.

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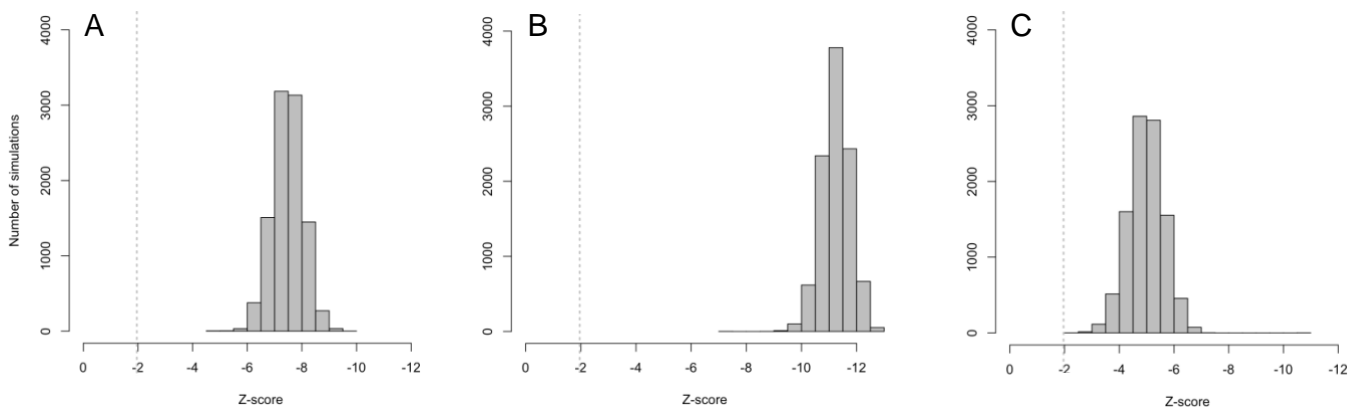
69 **Figure S7. Distribution of introgressed block lengths for *H. armigera* and *H. zea* populations in Brazil. A.**

70 Distribution of block length for *H. armigera* 2013 (red-pink) and *H. armigera* 2017 (orange) with the mean block length

71 for each population (dashed line). **B.** Distribution of block length for *H. zea* 2013 (blue) and *H. armigera* 2017 (green)

72 with the mean block length for each population (dashed line).

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75 **Figure S8. Distribution of Z-scores resulting from tests between simulated neutral distributions of introgressed**

76 **block size and the observed distribution of introgressed blocks in *H. armigera* Brazil 2017. A.** Distribution of Z-

77 scores of tests between observed data set and simulated data sets with 4 generations/year. **B.** Distribution of Z-

78 tests between observed data set and simulated data sets with 9 generations/year. C. Distribution of Z-scores of tests  
79 between observed data set and simulated data sets with 12 generations/year. The dashed grey line indicates the  
80 significance threshold (p-value = 0.05). Note that we run 10,000 simulations per generation time and all the permutation  
81 tests between simulated and observed data sets support that the *H. armigera* 2017 population showed shorter introgressed  
82 tracts than expected by neutral recombination.

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107 **Table S1.**  $F_{st}$  within and between species for allopatric and sympatric populations of *Helicoverpa armigera* and *H. zea*.108 *H. armigera* (Old World) refers to the subspecies *H. armigera armigera* distributed in the Old World, excluding109 Australia. *H. zea* (New World) comprises Brazilian pre-invasion and USA, and finally, *H. armigera* 2013/2017 and *H.*110 *zea* 2013/2017 refer to the post-invasion sympatric populations in Brazil.

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Population 1	Population 2	Chromosome	$F_{st}$	Standard error
<i>H. armigera</i> Old World	<i>H. zea</i> New World	Z-chromosome	0.5534	0.0063
		Autosomes	0.4745	0.0012
<i>H. armigera</i> 2013	<i>H. armigera</i> 2017	Z-chromosome	0.0053	0.0003
		Autosomes	0.0032	0.0000
<i>H. zea</i> 2013	<i>H. zea</i> 2017	Z-chromosome	0.0273	0.0026
		Autosomes	0.0207	0.0003
<i>H. armigera</i> 2013	<i>H. zea</i> 2013	Z-chromosome	0.2484	0.0066
		Autosomes	0.2174	0.0008
<i>H. armigera</i> 2017	<i>H. zea</i> 2017	Z-chromosome	0.4891	0.0068
		Autosomes	0.4968	0.0013
<i>H. zea</i> New World	<i>H. zea</i> 2013	Z-chromosome	0.0339	0.0026
		Autosomes	0.0188	0.0003
<i>H. zea</i> New World	<i>H. zea</i> 2017	Z-chromosome	0.0233	0.0013
		Autosomes	0.0118	0.0003
<i>H. armigera</i> Old World	<i>H. armigera</i> 2013	Z-chromosome	0.0107	0.0010
		Autosomes	0.0047	0.0001
<i>H. armigera</i> Old World	<i>H. armigera</i> 2017	Z-chromosome	0.0162	0.0016
		Autosomes	0.0062	0.0002

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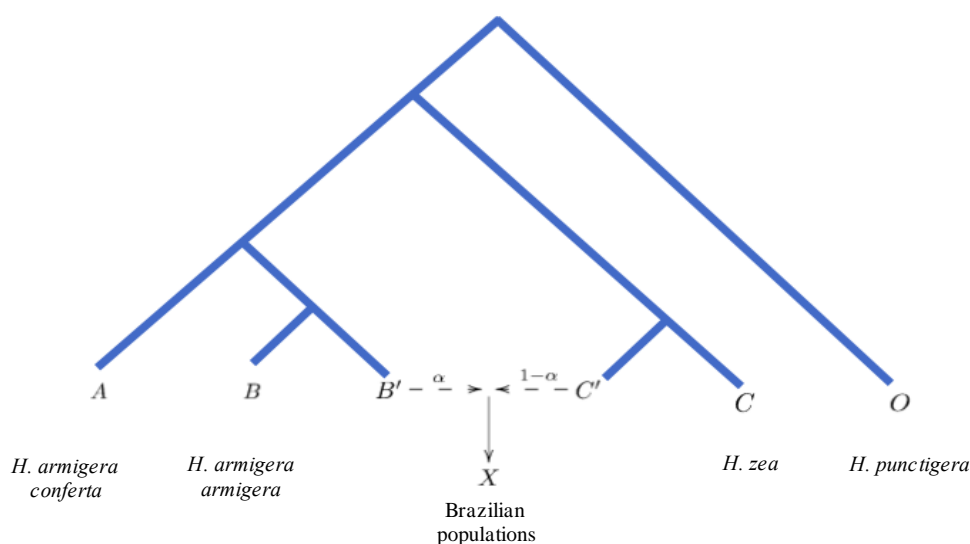
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**Table S2.** Results of F4-ratio test, which represent the mixing proportions of an admixture event. The populations are related to each other, as portrayed in the model below. Alpha represents the proportion derived from *H. armigera armigera* from each subpopulation. Below, model explaining the F-4 ratio test. B' and C' are the populations that are admixed in C. Adapted from Patterson et al. 2012 (1).

Target population	alpha	Z-score	P-value
<i>H. armigera</i> 2013	0.949304 ± 0.003496	271.555	< 0.0001
<i>H. armigera</i> 2017	0.969701 ± 0.003354	289.131	< 0.0001
<i>H. zea</i> 2013	0.001761 ± 0.001555	1.132	0.2576
<i>H. zea</i> 2017	0.021975 ± 0.003370	6.520	< 0.0001

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135 **Table S3.** Tajima's D calculated across 10kb windows. Mean and standard deviation were calculated using all windows  
136 across the genome that had more than 100 SNPs. Tajima's D at the window, including the *CYP337B3* locus. *CYP337B3+*  
137 refers to all the *H. zea* individuals that contain the *CYP337B3* gene.

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Population	Mean Tajima's D	Standard Deviation	Tajima's D at <i>CYP337B3</i> locus
<i>H. armigera</i> 2013	-1.212	0.273	-1.504
<i>H. armigera</i> 2017	-0.983	0.357	-0.582
<i>H. zea</i> 2013	0.857	0.566	0.559
<i>H. zea</i> 2017	0.275	0.592	1.058
<i>H. zea</i> 2017 <i>CYP337B3+</i>	0.565	0.591	-0.723

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**Tab. S4.** Sample sequencing and collection data, proportion of hybrid ancestry, and presence of *CYP337B3* in *H. armigera armigera* and *H. zea* individuals. The Heterozygous/Uncertain record is due to the chimeric nature of the *CYP337B3* gene, which makes it challenging to record the state when it is not homozygous.

Individual	Mean depth of variants	Species	Country	Locality	Collection date	Host	Proportion derived from <i>H. zea</i>	<i>CYP337b3</i>
110_N704_S504	17.02	<i>H. armigera</i>	Brazil	Mato Grosso	Jun-13	Sunflower	0.0454	Present
142_N703_S503	9.38	<i>H. armigera</i>	Brazil	Mato Grosso	NA	NA	0.0082	Present
6_1_1	32.53	<i>H. armigera</i>	Brazil	Planaltina	Nov-12	Multicrop including soybean and corn	0.0371	Present
6_1_10	17.04	<i>H. armigera</i>	Brazil	Planaltina	Nov-12	Multicrop including soybean and corn	0.0237	Present
6_1_2	51.82	<i>H. armigera</i>	Brazil	Planaltina	Nov-12	Multicrop including soybean and corn	0.0298	Present
6_1_20	12.05	<i>H. armigera</i>	Brazil	Planaltina	Feb-13	Multicrop including soybean and corn	0.0161	Present
6_1_22	37.22	<i>H. armigera</i>	Brazil	Planaltina	Feb-13	Multicrop including soybean and corn	0.0530	Present
6_1_3	19.07	<i>H. armigera</i>	Brazil	Planaltina	Nov-12	Multicrop including soybean and corn	0.0258	Present
6_1_4	14.94	<i>H. armigera</i>	Brazil	Planaltina	Nov-12	Multicrop including	0.0150	Present

6_1_5	49.00	<i>H. armigera</i>	Brazil	Planaltina	Nov-12	soybean and corn Multicrop including soybean and corn	0.0432	Present
6_1_7	65.17	<i>H. armigera</i>	Brazil	Planaltina	Nov-12	soybean and corn Multicrop including soybean and corn	0.0375	Present
6_1_8	26.87	<i>H. armigera</i>	Brazil	Planaltina	Nov-12	soybean and corn Multicrop including soybean and corn	0.0338	Present
6_2_1	17.82	<i>H. armigera</i>	Brazil	Planaltina	Nov-13	soybean and corn Multicrop including soybean and corn	0.0236	Present
6_2_3	10.90	<i>H. armigera</i>	Brazil	Planaltina	Nov-13	soybean and corn Multicrop including soybean and corn	0.0116	Heterozygous/Uncertain
6_2_4	23.68	<i>H. armigera</i>	Brazil	Planaltina	Nov-13	soybean and corn Multicrop including soybean and corn	0.0284	Present
6_4_14	22.12	<i>H. armigera</i>	Brazil	Planaltina	Nov-15	soybean and corn Multicrop including soybean and corn	0.0303	Present
6_4_29	14.04	<i>H.zea</i>	Brazil	Planaltina	May-16	soybean and corn Multicrop including soybean and corn	0.9682	Heterozygous/Uncertain
6_4_30	10.20	<i>H.zea</i>	Brazil	Planaltina	May-16	soybean and corn Multicrop including soybean and corn	0.9700	Heterozygous/Uncertain

6_5_1	9.21	<i>H. armigera</i>	Brazil	Planaltina	Feb-17	Multicrop including soybean and corn	0.0043	Present
6_5_10	20.94	<i>H.zea</i>	Brazil	Planaltina	Oct-16	Multicrop including soybean and corn	0.9693	Heterozygous/Uncertain
6_5_11	20.87	<i>H.zea</i>	Brazil	Planaltina	Oct-16	Multicrop including soybean and corn	0.9687	Absent
6_5_13	20.90	<i>H.zea</i>	Brazil	Planaltina	Oct-16	Multicrop including soybean and corn	0.9654	Heterozygous/Uncertain
6_5_2	24.82	<i>H.zea</i>	Brazil	Planaltina	Feb-17	Multicrop including soybean and corn	0.9786	Heterozygous/Uncertain
6_5_20	18.58	<i>H. armigera</i>	Brazil	Planaltina	Mar-17	Multicrop including soybean and corn	0.0246	Present
6_5_24	13.90	<i>H. armigera</i>	Brazil	Planaltina	Jan-17	Multicrop including soybean and corn	0.0131	Present
6_5_25	18.07	<i>H. armigera</i>	Brazil	Planaltina	Jan-17	Multicrop including soybean and corn	0.0214	Present
6_5_26	16.99	<i>H. armigera</i>	Brazil	Planaltina	Jan-17	Multicrop including soybean and corn	0.0208	Present
6_5_29	12.87	<i>H.zea</i>	Brazil	Planaltina	Feb-17	Multicrop including	0.9755	Absent

6_5_30	44.37	<i>H.zea</i>	Brazil	Planaltina	Feb-17	soybean and corn Multicrop including soybean and corn	0.9810	Absent
6_5_6	6.40	<i>Early hybrid</i>	Brazil	Planaltina	Jan-17	Multicrop including soybean and corn	0.2900	Present
6_5_7	13.28	<i>H.zea</i>	Brazil	Planaltina	Nov-16	Multicrop including soybean and corn	0.9654	Absent
6_5_8	20.07	<i>H. armigera</i>	Brazil	Planaltina	Nov-16	Multicrop including soybean and corn	0.0254	Present
6_5_9	19.20	<i>H.zea</i>	Brazil	Planaltina	Nov-16	Multicrop including soybean and corn	0.9671	Present
7_1_10	7.04	<i>H. armigera</i>	Brazil	Bahia	Mar-13	Cotton	0.0047	Present
7_1_11	7.68	<i>H. armigera</i>	Brazil	Bahia	Mar-13	Cotton	0.0046	Absent
7_1_12	11.59	<i>H. armigera</i>	Brazil	Bahia	Mar-13	Cotton	0.0108	Present
7_1_13	10.15	<i>H. armigera</i>	Brazil	Bahia	Mar-13	Cotton	0.0087	Heterozygous/Uncertain
7_1_15	11.00	<i>H. armigera</i>	Brazil	Bahia	Apr-13	Cotton	0.0099	Present
7_1_16	9.45	<i>H. armigera</i>	Brazil	Bahia	Apr-13	Cotton	0.0055	Present
7_1_17	5.72	<i>H. armigera</i>	Brazil	Bahia	Apr-13	Cotton	0.0031	Heterozygous/Uncertain
7_1_18	31.00	<i>H. armigera</i>	Brazil	Bahia	Apr-13	Cotton	0.0342	Present
7_1_2	55.37	<i>H. armigera</i>	Brazil	Bahia	Feb-13	Cotton	0.0440	Present
7_1_20	11.64	<i>Early hybrid</i>	Brazil	Bahia	Feb-13	Cotton	0.4025	Heterozygous/Uncertain
7_1_21	13.33	<i>H. armigera</i>	Brazil	Bahia	Feb-13	Cotton	0.0154	Present
7_1_23	16.14	<i>H. armigera</i>	Brazil	Bahia	Feb-13	Cotton	0.0159	Present

7_1_24	13.82	<i>H. armigera</i>	Brazil	Bahia	Feb-13	Cotton	0.0111	Present
7_1_3	9.66	<i>H. armigera</i>	Brazil	Bahia	Feb-13	Cotton	0.0052	Present
7_1_6	33.73	<i>H. armigera</i>	Brazil	Bahia	Feb-13	Cotton	0.0426	Present
7_1_7	21.86	<i>H. armigera</i>	Brazil	Bahia	Feb-13	Cotton	0.0346	Present
7_1_8	43.26	<i>H. armigera</i>	Brazil	Bahia	Feb-13	Cotton	0.0299	Heterozygous/Uncertain
7_1_9	25.87	<i>H. armigera</i>	Brazil	Bahia	Feb-13	Cotton	0.0370	Present
7_5_10	9.25	<i>H.zea</i>	Brazil	Bahia	Feb-17	Cotton not Bt	0.9704	Heterozygous/Absent
7_5_11	10.61	<i>H.zea</i>	Brazil	Bahia	Feb-17	Cotton not Bt	0.9683	Heterozygous/Absent
7_5_12	6.97	<i>H.zea</i>	Brazil	Bahia	Jun-17	Cotton not Bt	0.9695	Heterozygous/Absent
7_5_13	8.12	<i>H.zea</i>	Brazil	Bahia	Jan-17	Cotton not Bt	0.9680	Present
7_5_14	7.22	<i>H. armigera</i>	Brazil	Bahia	Jan-17	Cotton not Bt	0.0026	Present
7_5_15	11.42	<i>H. armigera</i>	Brazil	Bahia	Jan-17	Cotton not Bt	0.0104	Heterozygous/Uncertain
7_5_16	11.28	<i>H. armigera</i>	Brazil	Bahia	Jan-17	Cotton not Bt	0.0079	Present
7_5_17	8.22	<i>H. armigera</i>	Brazil	Bahia	Feb-17	Cotton not Bt	0.0030	Present
7_5_18	4.49	<i>H. armigera</i>	Brazil	Bahia	Feb-17	Cotton not Bt	0.0005	Heterozygous/Uncertain
7_5_20	5.08	<i>H.zea</i>	Brazil	Bahia	Nov-16	Soya	0.9555	Present
7_5_21	4.58	<i>H. armigera</i>	Brazil	Bahia	Nov-16	Soya	0.0004	Present
7_5_22	10.22	<i>H. armigera</i>	Brazil	Bahia	Nov-16	Soya	0.0089	Present
7_5_24	4.44	<i>H. armigera</i>	Brazil	Bahia	Nov-16	Soya	0.0004	Present
7_5_26	6.40	<i>H. armigera</i>	Brazil	Bahia	Apr-17	Cotton not Bt	0.0033	Present
7_5_27	5.34	<i>H. armigera</i>	Brazil	Bahia	Apr-17	Cotton not Bt	0.0018	Present
7_5_28	5.04	<i>H.zea</i>	Brazil	Bahia	Apr-17	Cotton not Bt	0.9793	Present



7_5_29	7.57	<i>H. armigera</i>	Brazil	Bahia	Apr-17	Cotton not Bt	0.0041	Present
7_5_8	10.21	<i>H.zea</i>	Brazil	Bahia	Feb-17	Cotton not Bt	0.9725	Heterozygous/Uncertain
7_5_9	11.28	<i>H.zea</i>	Brazil	Bahia	Feb-17	Cotton not Bt	0.9751	Heterozygous/Uncertain
BF0005	14.84	<i>H. armigera</i>	Burkina Faso	Diapaga	Jun-05	Cotton not Bt	0.0000	Present
BR0008	10.05	<i>H. armigera</i>	Brazil	Maranhao	Jul-05	Cotton	0.0074	Present
BR0030	8.99	<i>H. armigera</i>	Brazil	Mato Grosso	Jul-05	Cotton	0.0066	Present
BR0032	5.48	<i>H. armigera</i>	Brazil	Mato Grosso	Jul-05	Cotton	0.0016	Present
BR0034	4.86	<i>H. armigera</i>	Brazil	Mato Grosso	Jul-05	Cotton	0.0015	Present
BR0036	4.29	<i>H. armigera</i>	Brazil	Mato Grosso	Jul-05	Cotton	0.0006	Present
BR0045	10.56	<i>H. armigera</i>	Brazil	Mato Grosso	Jul-05	Cotton	0.0060	Present
BR0050	11.41	<i>H. armigera</i>	Brazil	Mato Grosso	Jul-05	Cotton	0.0098	Present
BR0051	7.82	<i>H. armigera</i>	Brazil	Mato Grosso	Jul-05	Cotton	0.0029	Present
BR0086	8.40	<i>H. armigera</i>	Brazil	Mato Grosso	Jul-05	Cotton	0.0057	Present
BR0101	4.75	<i>H. armigera</i>	Brazil	Mato Grosso	Jul-05	Cotton	0.0028	Present
BR0135	9.77	<i>H. armigera</i>	Brazil	Mato Grosso	Jul-05	Cotton	0.0054	Present
Bra_Mig132_S5	8.43	<i>H.zea</i>	Brazil	Mato Grosso	Jul-05	NA	NA	Absent
Bra_Mig47_S4	29.91	<i>H.zea</i>	Brazil	Mato Grosso	Jul-05	NA	NA	Absent
Bra_Mig69_S3	27.74	<i>H.zea</i>	Brazil	Mato Grosso	Jul-05	NA	NA	Absent
Bra_Mig75_S2	24.67	<i>H.zea</i>	Brazil	Mato Grosso	Jul-05	NA	NA	Absent
Bra_Mig76_S1	21.93	<i>H.zea</i>	Brazil	Mato Grosso	Jul-05	NA	NA	Absent
FR0003	7.90	<i>H. armigera</i>	Francia	Corsica	Jul-05	Vicia fabae	0.0000	Present
FR0009	8.38	<i>H. armigera</i>	Francia	Corsica	Jul-05	Vicia fabae	0.0000	Present
H2B21_S6	31.77	<i>H.zea</i>	Brazil	Mato Grosso	Jun-05	NA	NA	Absent
H2B22_S7	38.01	<i>H.zea</i>	Brazil	Mato Grosso	Jun-05	NA	NA	Absent
H2B23_S8	37.42	<i>H.zea</i>	Brazil	Mato Grosso	Jun-05	NA	NA	Absent

H2B24_S9	34.02	<i>H.zea</i>	Brazil	Mato Grosso	Jun-05	NA	NA	Absent
HM0002	4.83	<i>H. armigera</i>	Australia	NSW	Jul-05	Cotton	NA	Present
HM0003	5.69	<i>H. armigera</i>	Australia	NSW	Jul-05	Cotton	NA	Present
HM0004	3.89	<i>H. armigera</i>	Australia	NSW	Jul-05	Cotton	NA	Present
IS0008	14.12	<i>H. armigera</i>	India	Yavtamal	Jun-05	Eggplant	0.0000	Present
Index_125_702_501	2.97	<i>H. armigera</i>	Brazil	Mato Grosso	Jun-13	NA	0.0001	Present
Index_131_704_501	4.49	<i>H. armigera</i>	Brazil	Mato Grosso	Jun-13	NA	0.0006	Absent
Index_132_705_502	1.79	<i>H.zea</i>	Brazil	Mato Grosso	Jun-13	NA	0.9987	Absent
Index_134_705_503	2.37	<i>H.zea</i>	Brazil	Mato Grosso	Jun-13	NA	0.9981	Absent
Index_70_703_503	5.37	<i>H.zea</i>	Brazil	Mato Grosso	NA	NA	0.9801	Absent
Index_73_702_503	6.47	<i>H.zea</i>	Brazil	Mato Grosso	NA	NA	0.9729	Absent
Index_BRA2_704_503	7.90	<i>H. armigera</i>	Brazil	Mato Grosso	Apr-13	NA	0.0051	Present
Index_BRA4_701_504	5.72	<i>H. armigera</i>	Brazil	Mato Grosso	Apr-13	NA	0.0021	Present
Index_HZRL10_703_502	5.29	<i>H.zea</i>	United States	Riverland, NY	Dec-05	Corn	1.0000	Absent
Index_HZRL12_701_503	3.06	<i>H.zea</i>	United States	Riverland, NY	Dec-05	Corn	1.0000	Absent
Index_HZRL17_705_504	3.38	<i>H.zea</i>	United States	Riverland, NY	Dec-05	Corn	1.0000	Absent
Index_HZRL20_704_502	5.67	<i>H.zea</i>	United States	Riverland, NY	Dec-05	Corn	1.0000	Absent
Index_TPG2_701_501	5.09	<i>H. armigera</i>	Brazil	Goias,Palmeiras	Aug-13	Tomato	0.0000	Present
M0001	18.96	<i>H. armigera</i>	Australia	NSW	Jul-05	Cotton	NA	Present
M0087	8.41	<i>H. punctigera</i>	Australia	NSW	Jul-05	Cotton	NA	-
M0163	14.16	<i>H. armigera</i>	Australia	NSW	Jul-05	Cotton	NA	Present
M0236	5.33	<i>H. punctigera</i>	Australia	NSW	Jul-05	Cotton	NA	-
M0243	11.30	<i>H. armigera</i>	Australia	NSW	Jul-05	Cotton	NA	Present
M0244	5.19	<i>H. punctigera</i>	Australia	NSW	Jul-05	Cotton	NA	-
M0245	4.87	<i>H. punctigera</i>	Australia	NSW	Jul-05	Cotton	NA	-
M0250	11.36	<i>H. armigera</i>	Australia	NSW	Jul-05	Cotton	NA	Present
M0251	9.68	<i>H. armigera</i>	Australia	NSW	Jul-05	Cotton	NA	Present
M0261	10.30	<i>H. armigera</i>	Australia	NSW	Jul-05	Cotton	NA	Present

M0263	4.94	<i>H. punctigera</i>	Australia	NSW	Jul-05	Cotton	NA	-
M0264	6.22	<i>H. punctigera</i>	Australia	NSW	Jul-05	Cotton	NA	-
M0270	11.62	<i>H. armigera</i>	Australia	NSW	Jul-05	Cotton	NA	Present
M0272	6.37	<i>H. armigera</i>	Australia	NSW	Jul-05	Cotton	NA	Absent
M0273	15.44	<i>H. armigera</i>	Australia	NSW	Jul-05	Cotton	NA	Present
M0276	3.68	<i>H. armigera</i>	Australia	NSW	Jul-05	Cotton	NA	Present
M0299	5.29	<i>H. armigera</i>	Australia	NSW	Jul-05	Cotton	NA	Present
MD0014	14.35	<i>H. armigera</i>	Madagascar	Antsirabe	Jun-05	Corn	0.0000	Present
SE0053	10.25	<i>H. armigera</i>	Spain	Sevilla	Jul-05	<i>Medicago</i> sp.	0.0000	Present
SN0045	17.07	<i>H. armigera</i>	Senegal	Noto	Jun-05	Tomato	0.0000	Present
SRR5332777	19.90	<i>H.zea</i>	United States	Mississippi	Mar-15	Wild host (Clover)	1.0000	Absent
SRR5332778	10.67	<i>H.zea</i>	United States	Mississippi	Mar-15	Wild host (Clover)	1.0000	Absent
SRR5332814	13.07	<i>H.zea</i>	United States	Mississippi	Mar-15	Wild host (Clover)	1.0000	Absent
SRR5332816	25.86	<i>H.zea</i>	United States	Mississippi	Mar-15	Wild host (Clover)	1.0000	Absent
TI0002	16.60	<i>H. armigera</i>	Asia	NA	NA	NA	0.0000	Present
TMG4_N701_S501	27.72	<i>Early hybrid</i>	Brazil	Goiás, Morrinhos	Aug-13	Tomato	0.4739	Present
YC0048	6.31	<i>H. armigera</i>	China	Yancheng	Jul-05	NA	0.0000	Present

## References

1. Patterson N, Moorjani P, Luo Y, Mallick S, Rohland N, Zhan Y, et al. Ancient Admixture in Human History. *Genetics*. Nov. de 2012;192(3):1065–93.