

Table S5. Coleopteran species and GH protein sequences used in this study.

Species	GH9	GH5	GH45	GH48	GH28	GH16	GH1	GH31	GH27	GH11
[Chrysomeloidea]										
<i>Chrysomela tremulae</i>	None	None	ADU33285.1 Ctre_GH45-1 ADU33286.1 Ctre_GH45-2	ADU33283.1 Ctre_GH48_1 ADU33284.1 Ctre_GH48_2	ACP18831.1 Ctre_GH28-1 ADU33275.1 Ctre_GH28-2 ADU33276.1 Ctre_GH28-3 ADU33277.1 Ctre_GH28-4 ADU33278.1 Ctre_GH28-5 ADU33279.1 Ctre_GH28-6 ADU33280.1 Ctre_GH28-7 ADU33281.1 Ctre_GH28-8 ADU33282.1 Ctre_GH28-9	-	-	-	-	-
<i>Gastrophysa viridula</i>	None	ADU33333.1 Gvir_GH5	ADU33334.1 Gvir_GH45	ADU33335.1 Gvir_GH48_1 ADU33336.1 Gvir_GH48_2 ADU33337.1 Gvir_GH48_3	ADU33338.1 Gvir_GH28-1 ADU33339.1 Gvir_GH28-2 ADU33340.1 Gvir_GH28-3 ADU33341.1 Gvir_GH28-4 ADU33342.1 Gvir_GH28-5 ADU33343.1 Gvir_GH28-6 ADU33344.1 Gvir_GH28-7	-	-	-	-	-
<i>Leptinotarsa decemlineata</i>	None	None	ADU33345.1 Ldec_GH45-1 ADU33346.1 Ldec_GH45-2 ADU33347.1 Ldec_GH45-3 ADU33348.1 Ldec_GH45-4 ADU33349.1 Ldec_GH45-5 ADU33350.1 Ldec_GH45-6 ADU33351.1 Ldec_GH45-7	ADU33352.1 Ldec_GH48_1 ADU33353.1 Ldec_GH48_2 ADU33354.1 Ldec_GH48_3	ADU33355.1 Ldec_GH28-1 ADU33356.1 Ldec_GH28-2 ADU33357.1 Ldec_GH28-3 ADU33358.1 Ldec_GH28-4 ADU33359.1 Ldec_GH28-5 ADU33360.1 Ldec_GH28-6 ADU33361.1 Ldec_GH28-7 ADU33362.1 Ldec_GH28-8 ADU33363.1 Ldec_GH28-9 ADU33364.1 Ldec_GH28-10 AEX93414.1 Ldec_GH28-11**	-	-	-	-	-
<i>Phaedon cochleariae</i>	-	-	CCJ09450.1 Pcoc_GH45-1 CCJ09451.1 Pcoc_GH45-2 CCJ09452.1 Pcoc_GH45-3 CCJ09453.1 Pcoc_GH45-4 CCJ09454.1 Pcoc_GH45-5 CCJ09455.1 Pcoc_GH45-6 CCJ09456.1 Pcoc_GH45-7	-	CCJ09441.1 Pcoc_GH28-1 CCJ09442.1 Pcoc_GH28-2 CCJ09443.1 Pcoc_GH28-3 CCJ09444.1 Pcoc_GH28-4 CCJ09445.1 Pcoc_GH28-5 CCJ09446.1 Pcoc_GH28-6 CCJ09447.1 Pcoc_GH28-7 CCJ09448.1 Pcoc_GH28-8 CCJ09449.1 Pcoc_GH28-9	-	-	-	-	AGK45631.1 AGK45632.1
<i>Gastrophysa atrocyanea</i>	-	-	-	BAE94320.1 Gatr_GH48-1 BAE94321.1 Gatr_GH48-2	-	-	-	-	-	-
<i>Callosobruchus maculatus</i>	None	ADU33271.1 Cmac_GH5-1 ADU33272.1 Cmac_GH5-2 ADU33273.1 Cmac_GH5-3 ADU33274.1 Cmac_GH5-4	None	None	ADU33264.1 Cmac_GH28-1 ADU33265.1 Cmac_GH28-2 ADU33266.1 Cmac_GH28-3 ADU33267.1 Cmac_GH28-4 ADU33268.1 Cmac_GH28-5 ADU33269.1 Cmac_GH28-6 ADU33270.1 Cmac_GH28-7	-	-	-	-	-
<i>Apriona germari</i>	-	AAX18655.1 Ager_GH5	AAU44973.1 Ager_GH45-1 AAR22385.1 Ager_GH45-2	-	-	-	-	-	-	-
<i>Psacotheta hilaris</i>	-	BAB86867.1 Phil_GH5	-	-	-	-	-	-	-	-
<i>Anoplophora chinensis</i>	-	AFN89566.1 Achi_GH5	AFN89565.1 Achi_GH45	-	-	-	-	-	-	-
<i>Oncideres albomarginata chamela</i>	-	ADI24131.1 Oalb_GH5	ADI24132.1 Oalb_GH45	-	-	-	-	-	-	-

[Curculionoidea]											
<i>Dendroctonus ponderosae</i>	None	None	ADU33287.1 Dpon_GH45-1 ADU33288.1 Dpon_GH45-2 ADU33289.1 Dpon_GH45-3 ADU33290.1 Dpon_GH45-4 ADU33291.1 Dpon_GH45-5 ADU33292.1 Dpon_GH45-6 ADU33293.1 Dpon_GH45-7 ADU33294.1 Dpon_GH45-8 ADU33295.1 Dpon_GH45-9	ADU33296.1 Dpon_GH48_1 ADU33297.1 Dpon_GH48_2 ADU33298.1 Dpon_GH48_3 ADU33299.1 Dpon_GH48_4 ADU33300.1 Dpon_GH48_5 ADU33301.1 Dpon_GH48_6		ADU33302.1 Dpon_GH28-1 ADU33303.1 Dpon_GH28-2 ADU33304.1 Dpon_GH28-3 ADU33305.1 Dpon_GH28-4 ADU33306.1 Dpon_GH28-5 ADU33307.1 Dpon_GH28-6 ADU33308.1 Dpon_GH28-7 ADU33309.1 Dpon_GH28-8 ADU33310.1 Dpon_GH28-9 ADU33311.1 Dpon_GH28-10 ADU33312.1 Dpon_GH28-11 ADU33313.1 Dpon_GH28-12 ADU33314.1 Dpon_GH28-13 ADU33315.1 Dpon_GH28-14 ADU33316.1 Dpon_GH28-15 ADU33317.1 Dpon_GH28-16 ADU33318.1 Dpon_GH28-17 ADU33319.1 Dpon_GH28-18 ADU33320.1 Dpon_GH28-19	ENN78831.1 ENN78830.1 ENN83076.1 ENN83093.1 ENN72429.1	AEE63189.1 AEE62454.1 AEE61591.1 AEE63265.1 ERL86564.1 AEE62108.1 AEE61793.1 AEE62242.1 ERL84361.1 ERL83310.1 ERL83693.1 ERL84272.1 ERL91732.1 ENN80860.1 AEE62089.1 AEE62876.1 ENN74637.1 ENN73453.1 AEE61395.1	ERL94909.1 ERL94908.1 ENN82337.1 ENN79930.1 ERL90588.1 ENN75533.1 ENN75708.1 ERL87701.1 ENN77102.1 ERL92906.1	XP_970010.1 ENN70227.1	-
<i>Ips pini</i>	-	None	CB408544 Ipin_GH45_1	-	-	-	-	-	-	-	-
<i>Hypothenemus hampei</i>	-	ACU52526.1 Hham_GH5-1 ACU52527.1 Hham_GH5-2	-	-	-	-	-	-	-	-	-
<i>Sitophilus oryzae</i>	None	None	ADU33246.1 Sory_GH45-1 ADU33247.1 Sory_GH45-2 ADU33248.1 Sory_GH45-3 ADU33249.1 Sory_GH45-4 ADU33250.1 Sory_GH45-5	ADU33251.1 Sory_GH48_1 ADU33252.1 Sory_GH48_2	ADU33253.1 Sory_GH28-1 ADU33254.1 Sory_GH28-2 ADU33255.1 Sory_GH28-3 ADU33256.1 Sory_GH28-4 ADU33257.1 Sory_GH28-5 ADU33258.1 Sory_GH28-6	-	-	-	-	-	
<i>Otiorhynchus sulcatus</i>	-	-	-	CAH25542.1 Osul_GH48	-	-	-	-	-	-	
[Tenebrionoidea]											
<i>Tribolium castaneum</i>	XP_001810693.1	None	None	None	None	None	XP_970010.1	XP_975666 XP_975665 XP_972437 XP_972082 XP_972032 XP_972134 XP_968318 XP_970224.1 XP_972386.1 EFA06171.1 XP_972182.1 XP_972285.1 XP_966332.1 XP_972231.1 XP_972342.1	XP_967022.2 XP_967103.1 XP_968811.2 XP_968738.2 XP_968946.1 XP_969694.1 EFA02566.1	XP_973404.1 XP_973339.2 XP_973373.1	-
[Diptera]											
<i>Drosophila melanogaster</i>	None	None	None*	None	None*	-	-	NP_648918 NP_652145.1 NP_651391.1	NP_611119.1 NP_609354.1	-	

NOTE:

For each sequence, its accession number (NCBI) and the ID used in this study is listed. For GH families that were not included in our study '-' is shown.

*In Calderón-Cortés *et al.* [12], *Drosophila melanogaster* is shown to have two GH45 (EC068056 and CO334668) and one GH28 (CO335003). The nucleotide sequences of these two GH45s are 100% identical, and there are only three nucleotide differences between these *D. melanogaster* GH45s and *L. decemlineata* GH45-7 (ADU33351.1) (100% identical in amino acid sequences). The *D. melanogaster* GH28 and *L. decemlineata* GH28-9 (ADU33363.1) are also 100% identical at the nucleotide level. Furthermore, BLAST similarity search against the *D. melanogaster* genome (ver. 5.51; <http://flybase.org>) failed to find any similar sequences. Therefore, we concluded that these are likely misidentifications. GH45 and GH28 are absent in *D. melanogaster*.

**Pauchet *et al.* [22] showed ten GH28 genes (ADU33355.1-ADU33364.1) in *L. decemlineata*. However, we found one more GH28 gene (AEX93414.1, Ldec_GH28-11) in the NCBI NR database.