Supplementary data file legend

Supplementary data file 1 Diversity estimate Pi (π) for red palm weevil (*R. ferrugineus*) using Angsd (http://www.popgen.dk/angsd/index.php/ANGSD)

Supplementary data file 2 Transposable elements identification among the five species of insects in the study using Repeatmasker software (http://www.repeatmasker.org)

Supplementary data file 3 Summary of the mitochondrial genes of the red palm weevil (*R. ferrugineus*).

Supplementary data file 4 Annotation of red palm weevil proteins (*R. ferrugineus)* using NCBI non-redundant database (nr).

Supplementary data file 5 Annotation of red palm weevil proteins (*R. ferrugineus)* using GO ontology terms.

Supplementary data file 6 Annotation of red palm weevil proteins (*R. ferrugineus)* using InterProScan database.

Supplementary data file 7 PFAM protein domain annotation of red palm weevil (*R. ferrugineus)* from InterProScan.

Supplementary data file 8 KEGG pathway annotation of red palm weevil (*R. ferrugineus)*

Supplementary data file 9 Enrichment results of red palm weevil proteins (*R. ferrugineus)* using 'Molecular Function from Gene Ontology (GO)', created by dcGO Enrichment.

Supplementary data file 10 Comparative analysis of protein and signaling pathway of the five species in the study.

Supplementary data file 11 Expanded gene families from CAFÉ software (https://github.com/hahnlab/CAFÉ).

Supplementary data file 12 Contracted gene families from CAFÉ software (https://github.com/hahnlab/CAFÉ).

Supplementary data file 13 Zipped file including expanded and contracted gene families phylogenetic trees.

Supplementary data file 14 Comparative analysis of PBP/GOBP families of the five species in the study.

Supplementary data file 15 Summary of structural variation, duplication, deletion, inversion, tandem duplication of the five species in the study.

Supplementary data file 16 Total numbers of structural variations (SVs) of the five species in the study.

Supplementary data file 17 Parameter estimates and likelihood scores for transient receptor potential ion channels (Melastatin) (TRPM) genes under models of variable ω ratios.

Supplementary data file 18 Zipped files of LastZ alignments of red palm weevil (*R. ferrugineus)* against red flour beetle (*T.castaneum*)