

# Supplementary Material

**Figure S1** The rates of cannibalism displayed by gregarious hoppers at different stages.

**Figure S2** Chromatograms of PAN in locust body volatiles. PAN is indicated in yellow.

**Figure S3 Schematic diagram of single-guide RNA (sgRNA) targeting site of LmOr70a (a) and CYP305M2 (b).** sgRNA of Or70a (a) and CYP305M2 were designed in exon 1 and 2, respectively. sgRNA shown in grey. The protospacer adjacent motif (PAM) sequence shown in yellow. The change in length marked with dashed line.

**Table S1** Locust volatile compounds used to test the LmOR70a function.

**Table S2** Primer sequences used for cloning LmOR70a and genotyping LmOr70a and CYP305M2 mutation line.

**Text S1** The coding sequence of the LmOR70a gene.

Fig S1

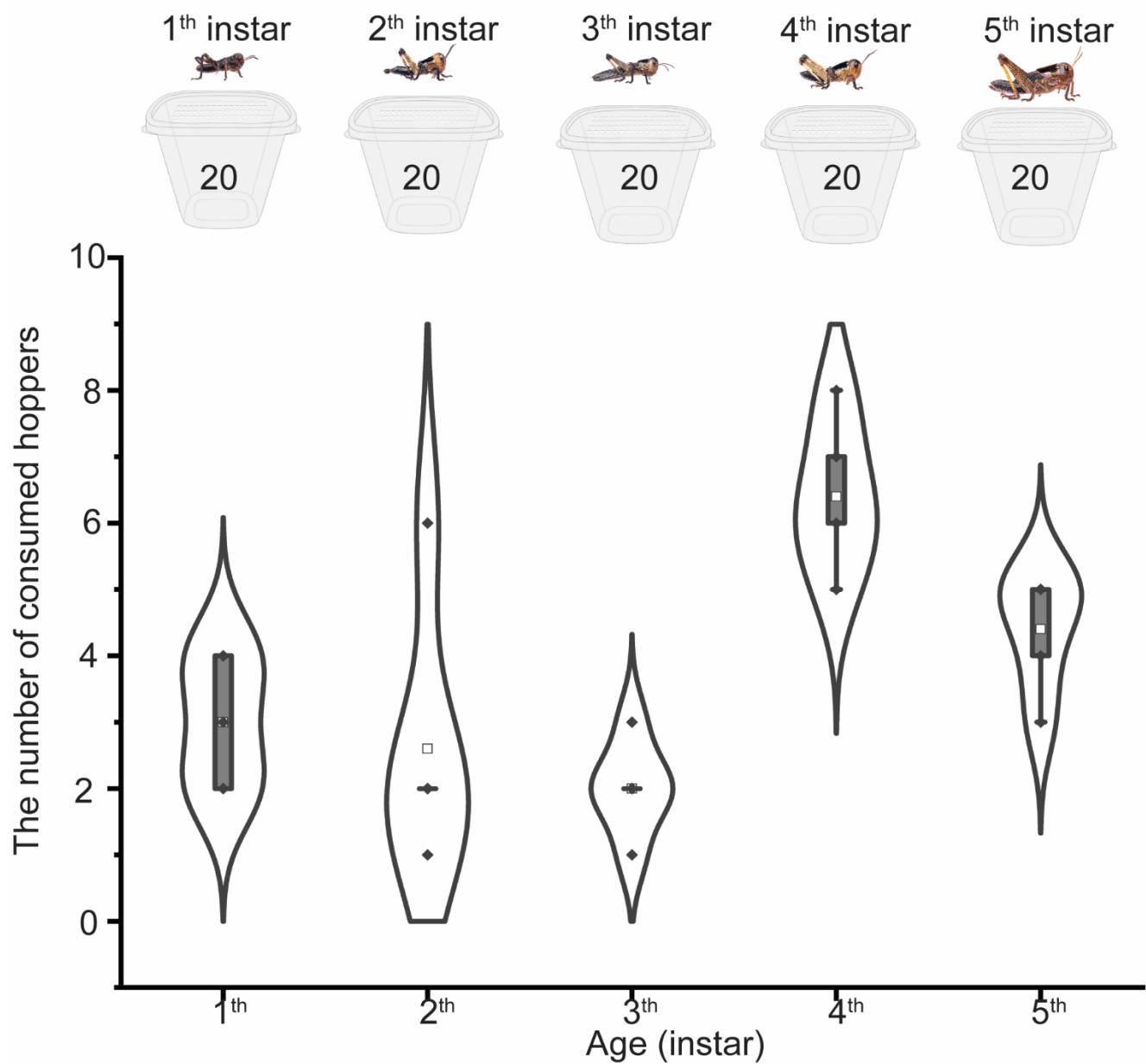


Fig S2

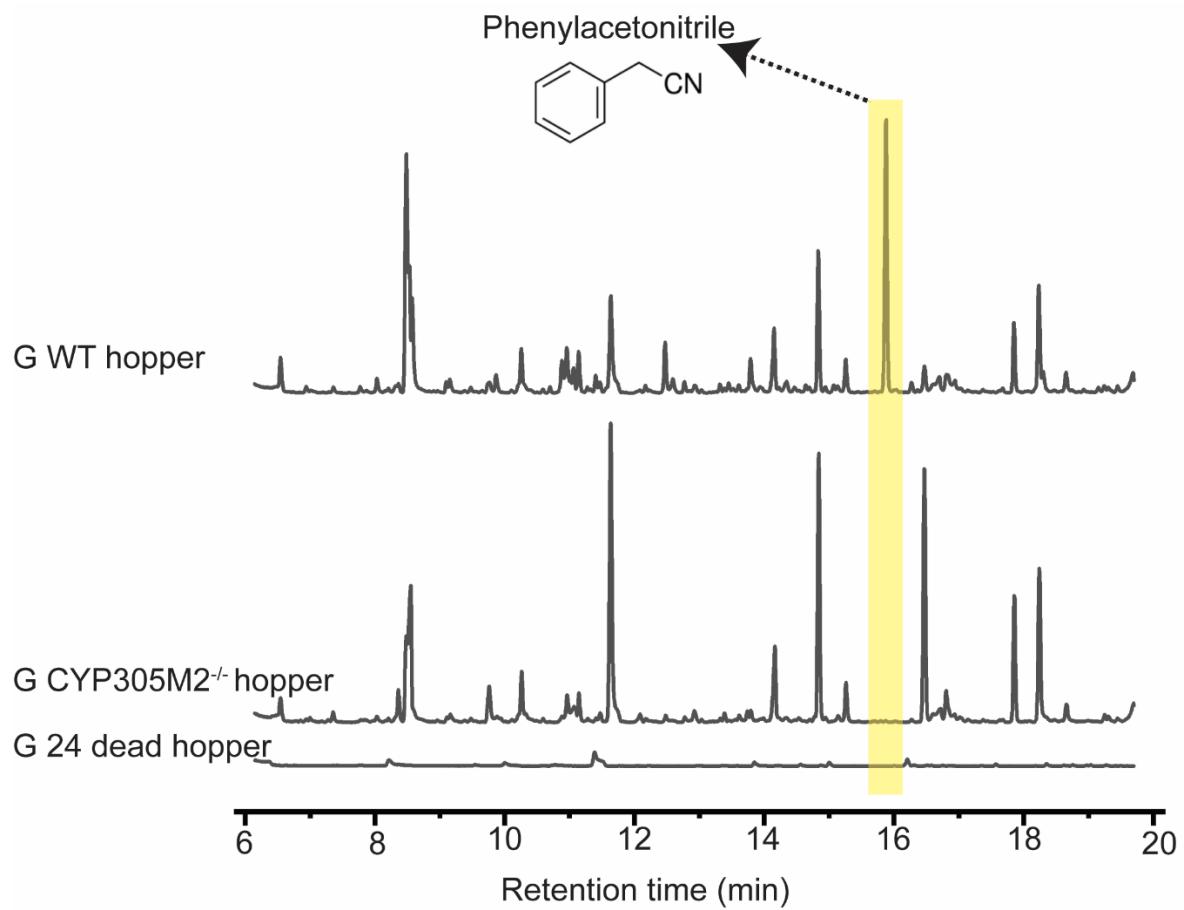


Fig S3

