

1 **Article name:**

2 Gut bacteria promotes host fitness to special ecological niche by regulating sugar
3 metabolism in *Drosophila suzukii*

4 **Journal name:**

5 Journal of pest science

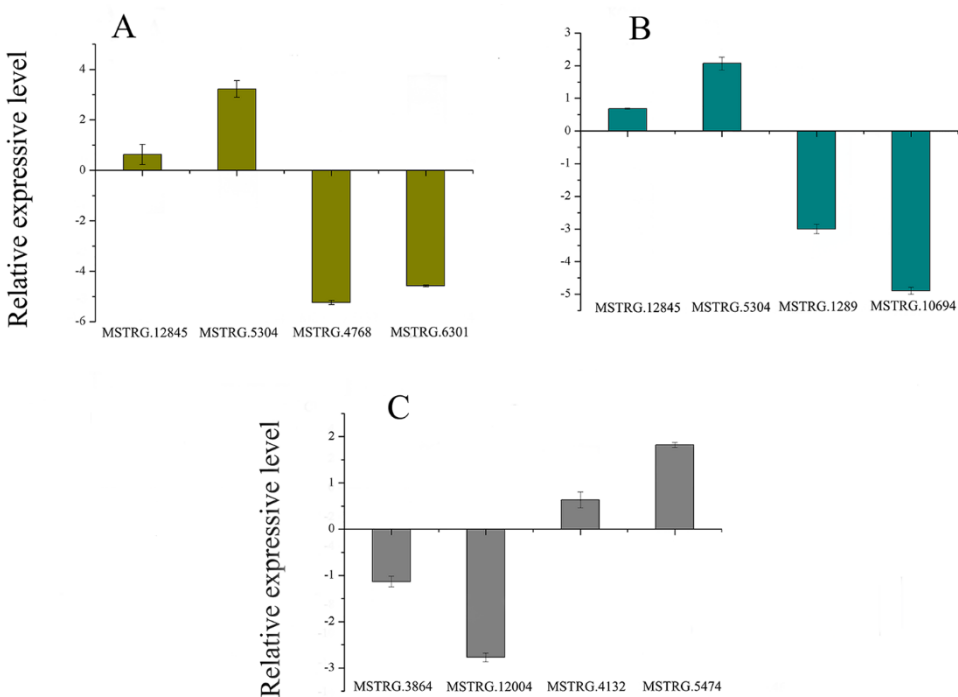
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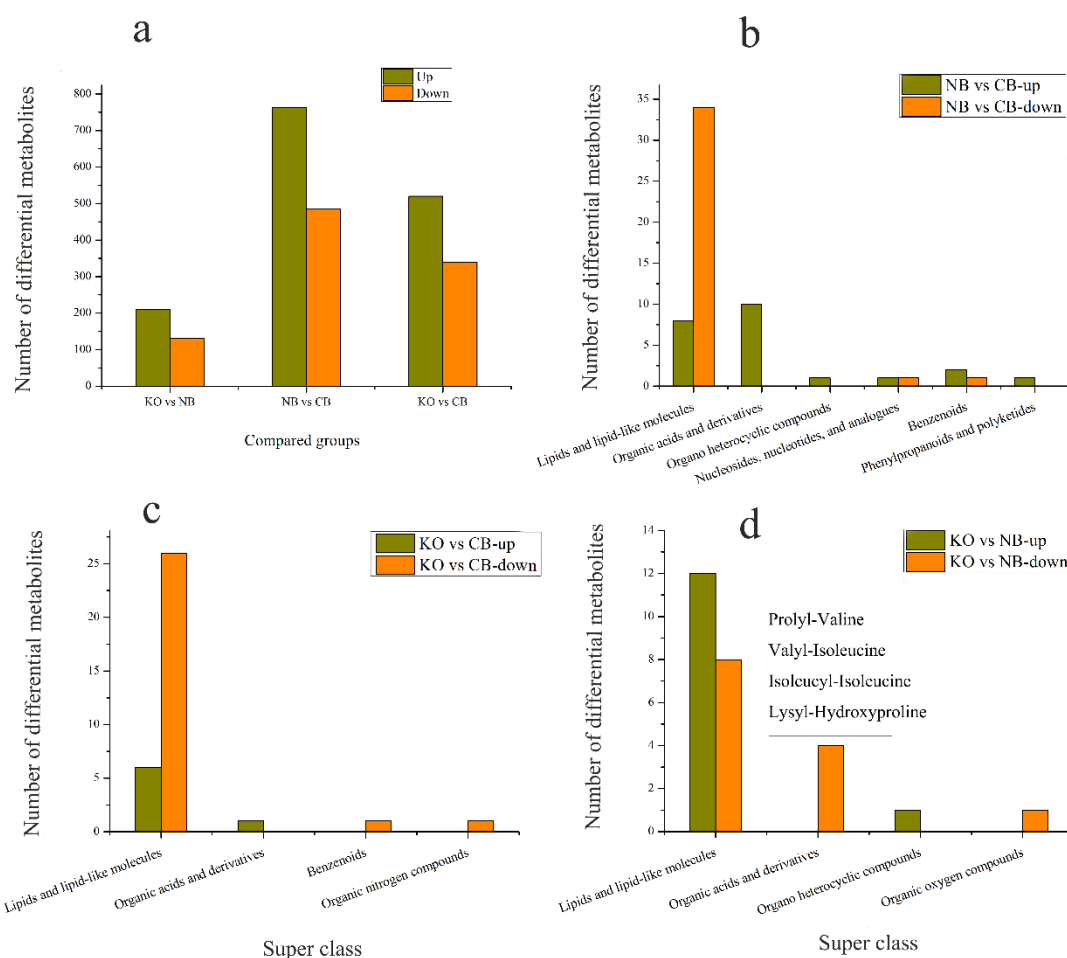


14 **EMS_6.** (D-F) Quantitative real-time polymerase chain reaction (qRT-PCR) analysis of gene expression

15 in three *Drosophila* strains. β -tubulin were reference genes. qRT-PCR data calculated with the $2^{-\Delta\Delta Ct}$

16 method. The value of relative expression level on the y-axis calculated according to $\log(2^{-\Delta\Delta Ct})$. A: KO vs

17 NB; B: KO vs CB; C: NB vs CB.



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20 **EMS_8.** Numbers of detected differentially expressed metabolites among the three *Drosophila* strains.

21 CB: Control *D. suzukii* strain, NB: Non-bacterial *D. suzukii* strain, KO: *K. oxytoca*-*D. suzukii* strain. A:

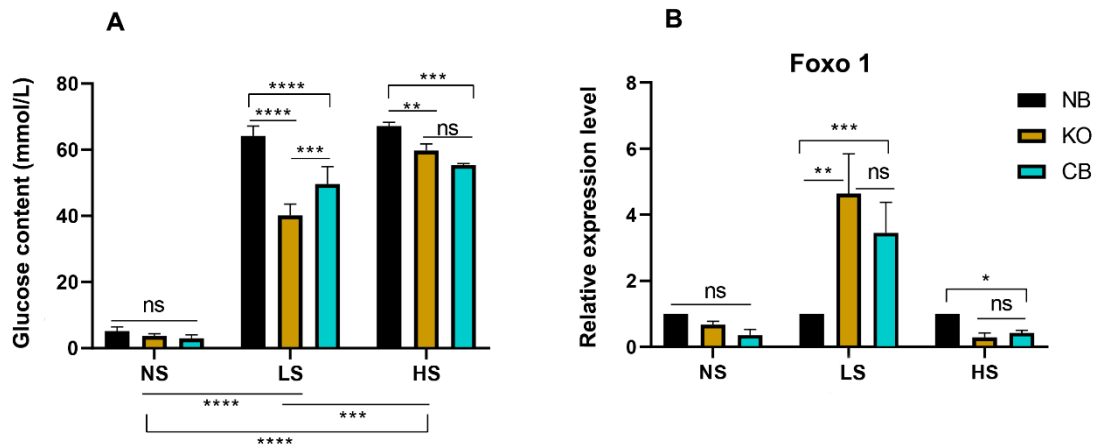
22 Numbers of detected differentially expressed metabolites among the three *Drosophila* strains; B:

23 Numbers of detected differentially expressed metabolites between NB vs CB based on super class; C:

24 Numbers of detected differentially expressed metabolites between KO vs CB based on super class; D:

25 Numbers of detected differentially expressed metabolites between KO vs NB based on super class.

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EMS_10. The contents of glucose (A) and qRT-PCR analysis of *Foxo1* gene expression (B) in three *Drosophila* strains feeding different contents of sugar. Two-way ANOVA followed by Tukey's multiple comparison test was performed for glucose contents of samples. In qRT-PCR analysis, β -tubulin were reference genes. qRT-PCR data calculated with the $2^{-\Delta\Delta C_t}$ method. The value of relative expression level on the y-axis calculated according to $\log(2^{-\Delta\Delta C_t})$. (one-way ANOVA followed by Tukey's multiple comparison test was performed with a significant difference at $**P<0.001$, $*P<0.05$, $ns P>0.05$). NS: no sugar in the food, LS: low content sugar in the food, HS: high content sugar in the food.