

1 Performances of survival, feeding behavior, and gene expression
2 in aphids reveal their different fitness to host alteration

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21 **Supporting Information**

22 Data S1. List of salivary gland-expressed genes of the pea aphid.

23 Data S2. The enriched GO molecular functions (Level 3) for all salivary

1 gland-expressed genes and the genes putatively encoding secretory proteins of
2 pea aphids.

3 Data S3. List of differently expressed genes in the YYC clone after feeding on *Vicia*
4 *villosa*, *Medicago truncatula*, or *Medicago sativa* for 5 h. The genes that varied
5 in aphids for specific host plant are in bold.

6 Data S4. Commonly upregulated and downregulated genes when the YYC clone was
7 short-term shifted to *Vicia villosa*, *Medicago truncatula*, or *Medicago sativa*, and
8 after long-term acclimated on *V. villosa* or *M. truncatula*.

9 Data S5. List of differently expressed genes in the *Medicago truncatula* and *Vicia*
10 *villosa* colony compared with the YYC clone. The genes that varied in a specific
11 colony are in bold.

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