1 **Supplementary Material**

2 **Leaf-damaging behavior by queens is widespread**

3 **among bumblebee species**

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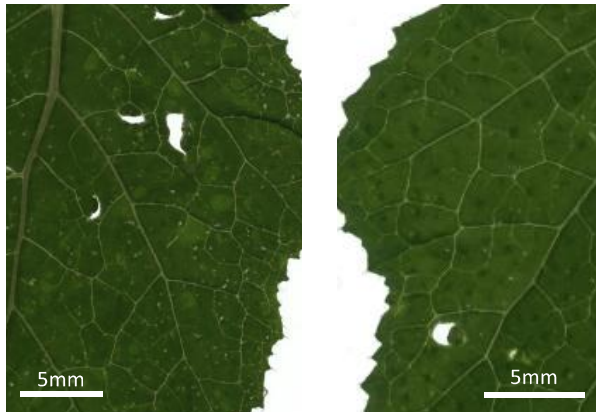6 † Corresponding authors. Email: mescher@usys.ethz.ch;

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a *Bombus pratorum* queen damage   **b** *Bombus pratorum* worker damage

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28 **Fig.S1.: Leaf damage of wild *Bombus pratorum* queens and workers**.

29 **a**, Typical leaf damage of a *B.pratorum* queen on *Brassica nigra*. **b**, Typical leaf damage of a

30 *B.pratorum* worker on *Solanum lycopersicum*. Scale bar=5mm.

a   **b**

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33 **Fig.S2.: Wild queen collection sites**.

34 In Spring 2023 (end of February 2023 until end of July 2023) we collected wild bumblebee

35 queens at different locations in Switzerland. Many of our collections happened at a field site

36 in the Swiss mountains mainly because the delayed phenology at higher elevation shifted the

37 timing of queen emergence to mid-April/mid-May at 1400m and mid-July for 2000m. **a**,

38 Sampling site in Haldenstein, Switzerland (Calanda mountain, 1400m) **b**, Sampling site in

39 Haldenstein, Switzerland (Calanda mountain, 2000m).

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plant species	*Brassica nigra*	*Solanum lycopersicum*
biological replicates per treatment	8	7
mean *duf* queen	17.6±7.2	20.86±3.13
mean *duf* mechanical	34.38 ±14.8	25.57±6.24
Exact Wilcoxon-Mann-Whitney Test wilcox_test()		
Z-value	2.1145	2.1891
p-value	0.03419	0.02972
Package *rstatix* dunn_test ()		
statistic	-2.11	-2.19
p.adjusted	0.0345	0.0286

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44 **Supplementary Table 1: Summary statistics**.

45 For both plant species, the mean days until flowering (duf) was calculated for both treatments

46 (queen= plants damaged by unmated queens, mechanical= mechanical replication of the

47 damage). Statistical significance was determined by exact Wilcoxon-Mann-Whitney test using

48 the function wilcox_test from the R package *coin*. The Z- and p-value are shown in the table.

49 For visualization, we used the function stat_pvalue_manual() from the package *rstatix* and the

50 p-values for this were calculated using the function dunn_test() also from the package *rstatix*.

51 Also here the relevant statistics and adjusted p-vlaues are shown in the table. The R-code can

52 be found in the online repository on figshare (see code availability).