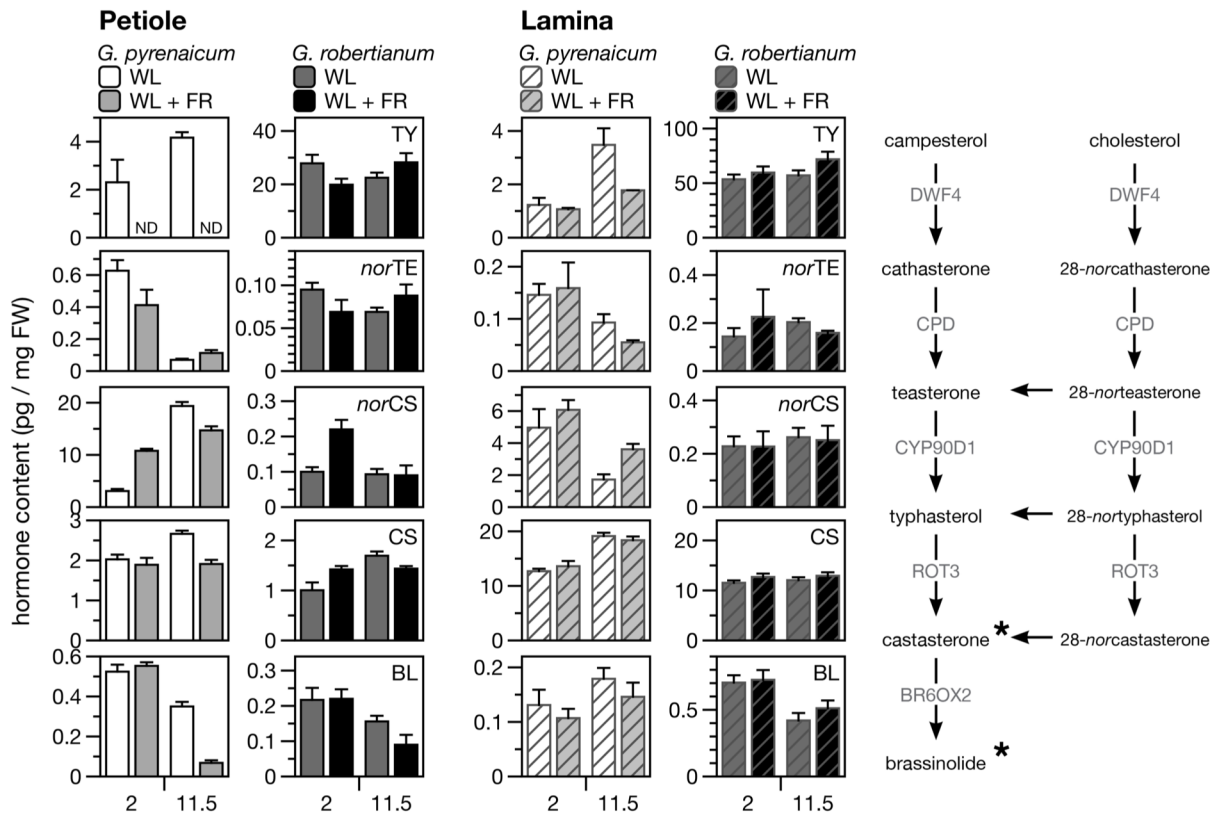
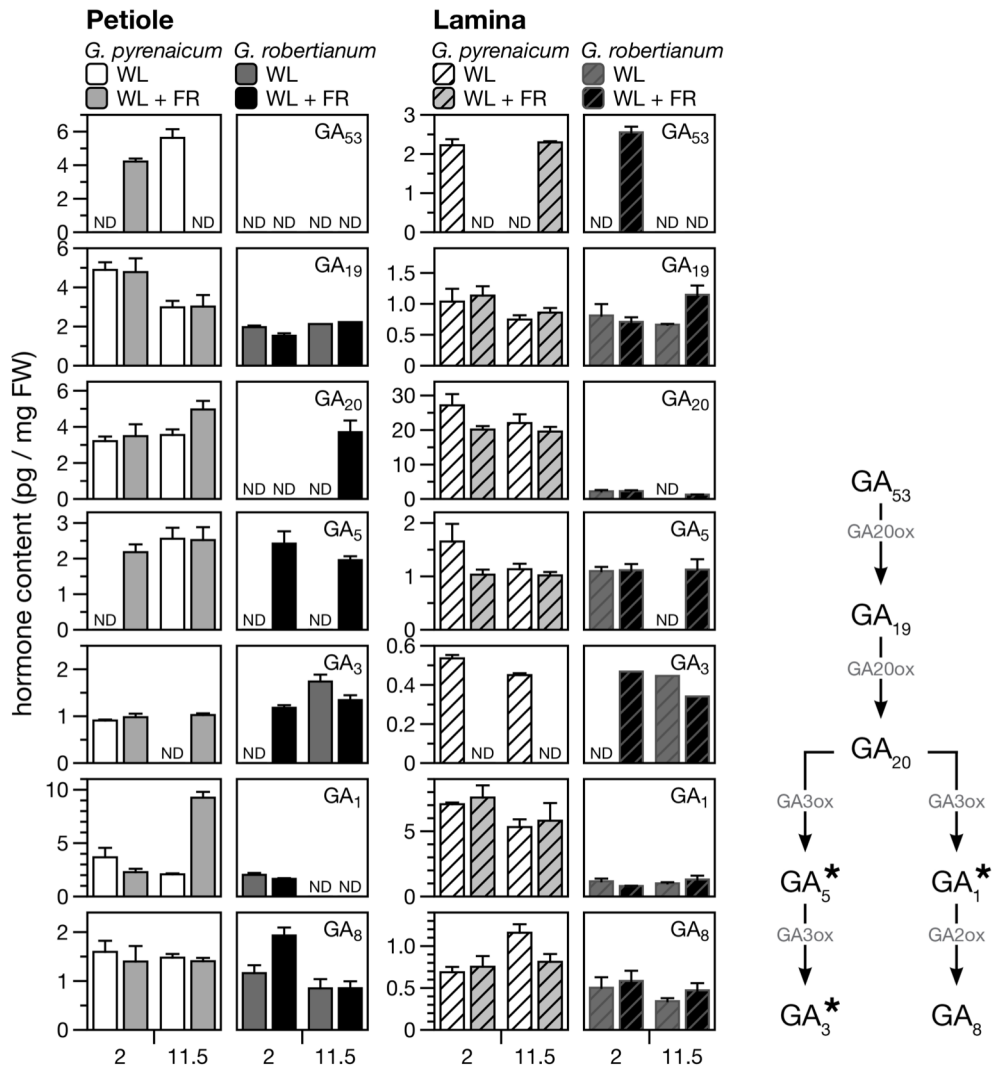


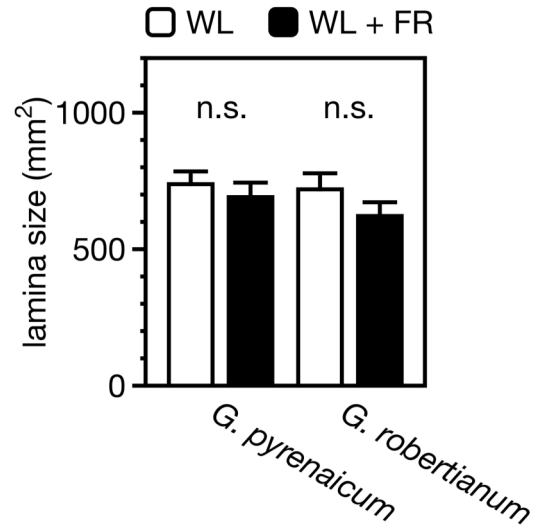
**Figure S1.** Levels (pg / mg fresh weight) of free IAA, catabolite oxIAA and conjugates IAAsp and IAAGlu in *G. pyrenaicum* and *G. robertianum* petioles (plain bars) and lamina (striped bars) exposed to 2 or 11.5 hours of control white light (WL; R:FR 1.8) or WL supplemented with far-red light (WL + FR; R:FR 0.2). Data represent means  $\pm$  SEM, n = 3 biological replicates.



**Figure S2.** Levels (pg / mg fresh weight) of several brassinosteroids (typhasterol (TY), 28-norteastosterone (*nor*TE), 28-norcastasterone (*nor*CS), castasterone (CS) and brassinolide (BL)) in *G. pyrenaicum* and *G. robertianum* petioles (plain bars) and lamina (striped bars) exposed to 2 or 11.5 hours of control white light (WL; R:FR 1.8) or WL supplemented with far-red light (WL+FR; R:FR 0.2). Data represent means  $\pm$  SEM, n = 3 biological replicates. On the right side, a simplified pathway of BR biosynthesis, with bioactive BRs marked by asterisks the associated enzymes marked in grey.

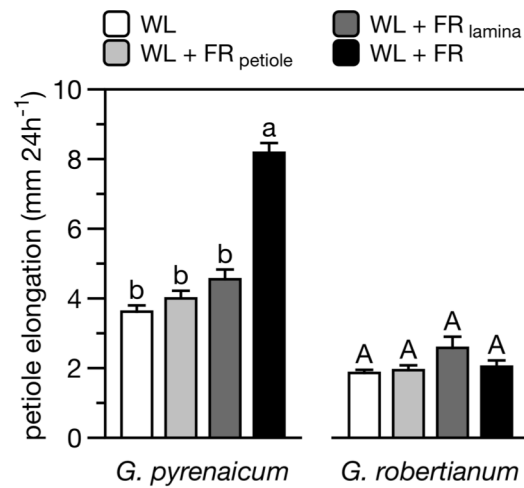


**Figure S3.** Levels (pg / mg fresh weight) of several gibberellins (GA<sub>53</sub>, GA<sub>19</sub>, GA<sub>20</sub>, GA<sub>5</sub>, GA<sub>3</sub>, GA<sub>1</sub> and GA<sub>8</sub>) in *G. pyrenaicum* and *G. robertianum* petioles (plain bars) and lamina (striped bars) exposed to 2 or 11.5 hours of control white light (WL; R:FR 1.8) or WL supplemented with far-red light (WL + FR; R:FR 0.2). Data represent means ± SEM, n = 3 biological replicates. On the right side, a simplified pathway of GA biosynthesis, with bioactive GA<sub>1</sub>, GA<sub>5</sub> and GA<sub>3</sub> marked by asterisks and the associated enzymes marked in grey.



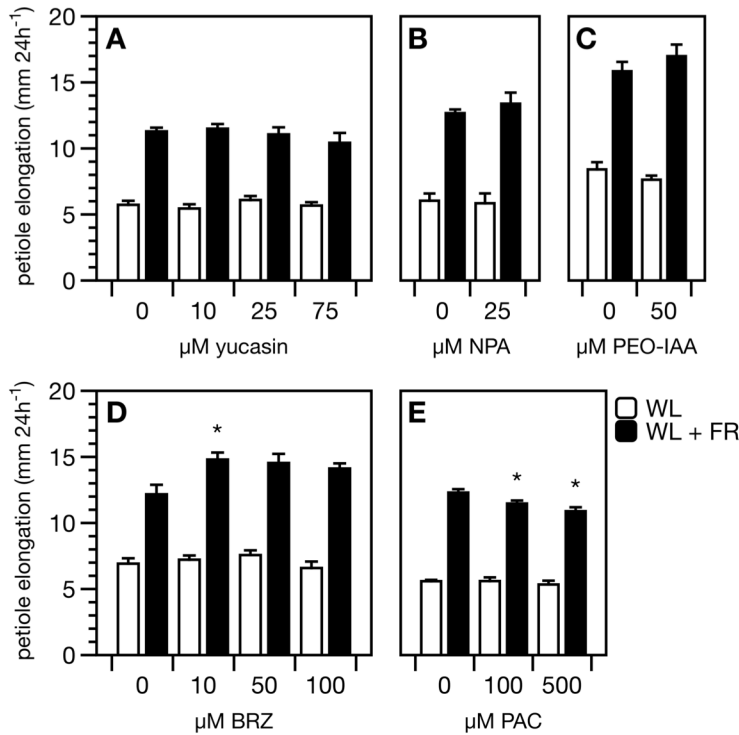
**Figure S4. FR light enrichment does not affect *Geranium* lamina size.**

Lamina size (in mm<sup>2</sup>) of *G. pyrenaicum* and *G. robertianum* leaves grown in control white light (WL; R:FR 1.8) or WL supplemented with far-red light (WL + FR; R:FR 0.2) for 48 hours. Data represent means  $\pm$  SEM, n = 7 biological replicates. No statistical differences are found (student's t-test,  $p < 0.05$ ).



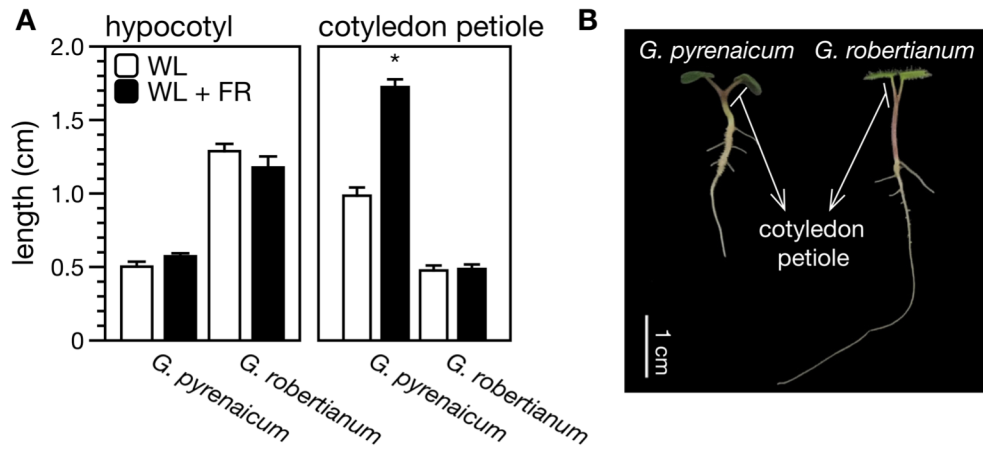
**Figure S5. FR light illumination of *Geranium* petioles does not induce a 'systemic' response in non-treated leaves.**

Petiole elongation (mm 24 h<sup>-1</sup>) of *G. pyrenaicum* and *G. robertianum* plants grown in control white light (WL), WL supplemented with FR (WL + FR), or WL supplemented with a local FR treatment to the petiole (WL + FR<sub>petiole</sub>) or the lamina (WL + FR<sub>lamina</sub>) of an older leaf of the same plant, for 24 hours. Measurements of a younger ('systemic') leaf during the same experiment as presented in Figure 2B. Data represent means ± SEM, n = 8 biological replicates. Different letters represent significant differences (1-way ANOVA, p < 0.05).



**Figure S6. Inhibition of auxin, brassinosteroids or gibberellins has no effect on supplemental FR light-induced elongation in *G. pyrenaicum* petioles.**

Petiole elongation (mm 24 h<sup>-1</sup>) of *G. pyrenaicum* plants grown in control white light (WL; R:FR 1.8) or WL supplemented with far-red light (WL + FR; R:FR 0.2), combined with different concentrations of hormone inhibitors: (A) yucasin (inhibitor of auxin synthesis), (B) 1-*N*-naphthylphthalamic acid (NPA; inhibitor of auxin transport), (C)  $\alpha$ -(phenylethyl-2-one)-IAA (PEO-IAA; inhibitor of auxin perception), (D) brassinazole (BRZ; inhibitor of BR synthesis) or (E) paclobutrazol (PAC; inhibitor of GA synthesis). Yucasin, NPA, PEO-IAA and BRZ were sprayed (250  $\mu$ L) on the plants 24 h before, and at the start of the light treatment (10:00 AM). PAC was applied to the soil, 72 h before the start of the light treatment. Data represent means  $\pm$ SEM, n = 6-7. Asterisks mark significant differences compared to mock in the same light treatment (student's t-test, p < 0.05).



**Figure S7. The shade avoidance syndrome in *Geranium* seedlings is restricted to cotyledons.** (A) Hypocotyl- and ‘cotyledon petiole’ length of 5 day old *G. pyrenaicum* and *G. robertianum* seedlings grown in control white light (WL; R:FR 1.8) or WL supplemented with far-red light (WL + FR; R:FR 0.2). Data are means  $\pm$  SEM,  $n = 6 - 8$  biological replicates, asterisk indicates significant difference between WL and WL + FR (student’s T-test,  $p < 0.05$ ). (B) picture of *G. pyrenaicum* (left) and *G. robertianum* seedling, indicating which organ is referred to as the ‘cotyledon petiole’.

**Table S1. Primers used in this study**

| <b>species</b>        | <b>OMCL</b> | <b>orthologue</b>            | <b>LP</b>               | <b>RP</b>            |
|-----------------------|-------------|------------------------------|-------------------------|----------------------|
| <i>G. pyrenaicum</i>  | OMCL1725    | <i>AT3G57890 (reference)</i> | TGCAGGGTGAGTTAACGAGT    | TGAAGTTGGCATTGACGCAA |
| <i>G. robertianum</i> | OMCL1725    | <i>AT3G57890 (reference)</i> | ATCCGAGTGCAAAATCGACG    | ACTCGATTCTGCAGCCATCT |
| <i>G. pyrenaicum</i>  | OMCL8649    | <i>TAA1</i>                  | GACTCCTCACACTCCAACCA    | TCAGCCTCCCTCAGTACTCT |
| <i>G. robertianum</i> | OMCL8649    | <i>TAA1</i>                  | GCGTGTATTGTGGCCAGTAG    | TGACATCCCCGAACAATCCA |
| <i>G. pyrenaicum</i>  | OMCL6514    | <i>SAUR50</i>                | AAGCTATCACAAGGGGCTGT    | CTCGTACCCACCGTTCTTCT |
| <i>G. robertianum</i> | OMCL6514    | <i>SAUR50</i>                | TGTGGATGGGTCATGGTCAA    | AGGAGGAAGCAAGAGAAGCA |
| <i>G. pyrenaicum</i>  | OMCL6067    | <i>AUX/IAA</i>               | TTTCACGTACTIONTAGTCGCCG | ATCAGTACCTCGACGTCTGT |
| <i>G. robertianum</i> | OMCL6067    | <i>AUX/IAA</i>               | CATTTTCCATGGCACGTAC     | AATGGACCAAGACAACGGAG |
| <i>G. pyrenaicum</i>  | OMCL2073    | <i>BR6OX1</i>                | CTCGGGTCGTTTTCTTAGA     | TGGCAATCAGGGAGAGAAAA |
| <i>G. robertianum</i> | OMCL2073    | <i>BR6OX1</i>                | GAAGCGAGAGAGTACCCAAA    | ATTGGGATGGAAAGGTCGTC |
| <i>G. pyrenaicum</i>  | OMCL3842    | <i>BZR1</i>                  | AGAGCTGCAGAGTTTGAGTT    | TCTTAGCTCCGAGTTTTCCC |
| <i>G. robertianum</i> | OMCL3842    | <i>BZR1</i>                  | CTAGCACTCTCTGTCATGGC    | GTTCCACCTCTCCTACTTA  |
| <i>G. pyrenaicum</i>  | OMCL15304   | <i>GA20OX2</i>               | ATTACCACGCACACTCCCTT    | CGGGCCTGATTTTGAACCAA |
| <i>G. robertianum</i> | OMCL15304   | <i>GA20OX2</i>               | CTGCCACTTGTTTTCGGTGA    | TCAGGATTGACACTCGGGAC |