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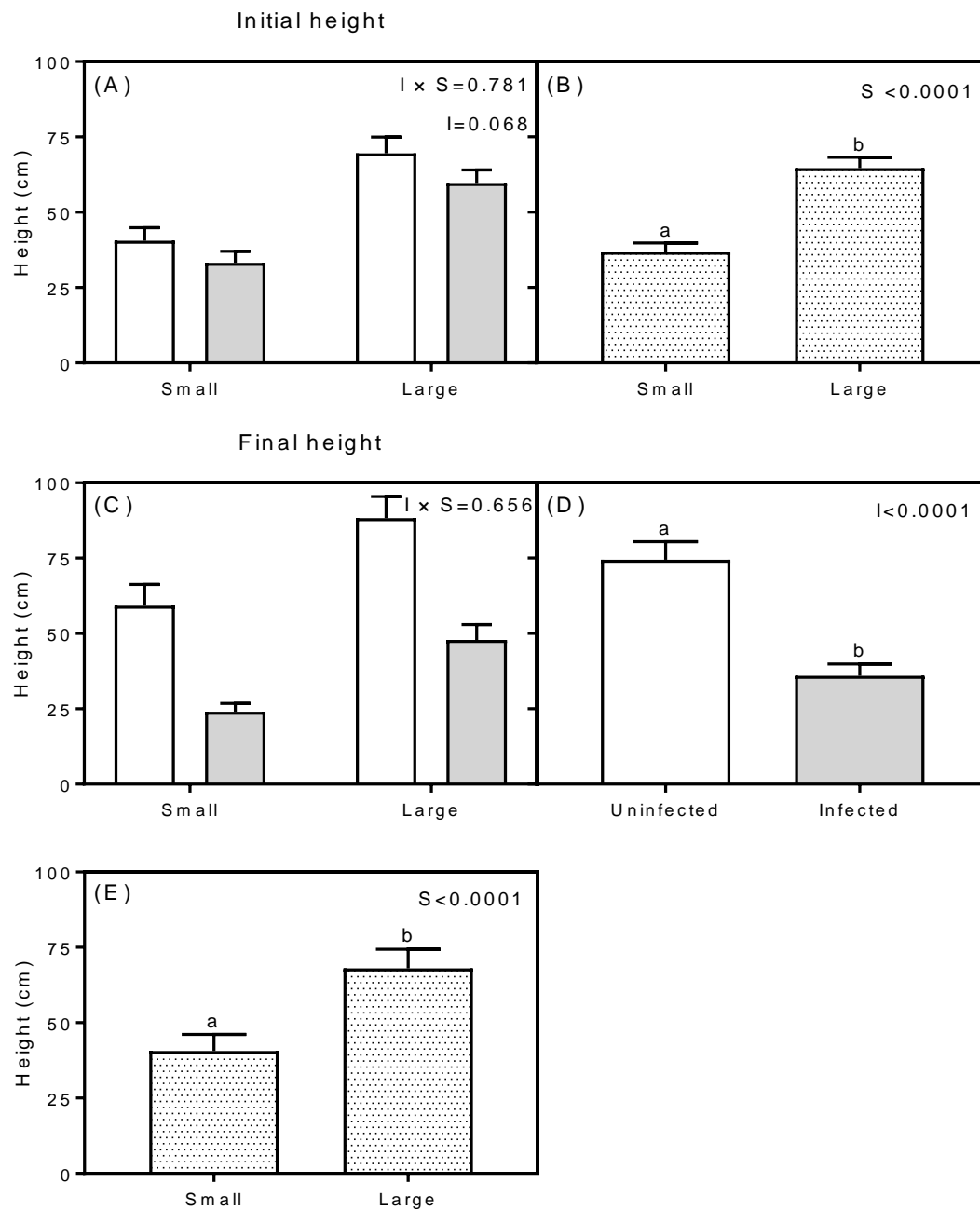
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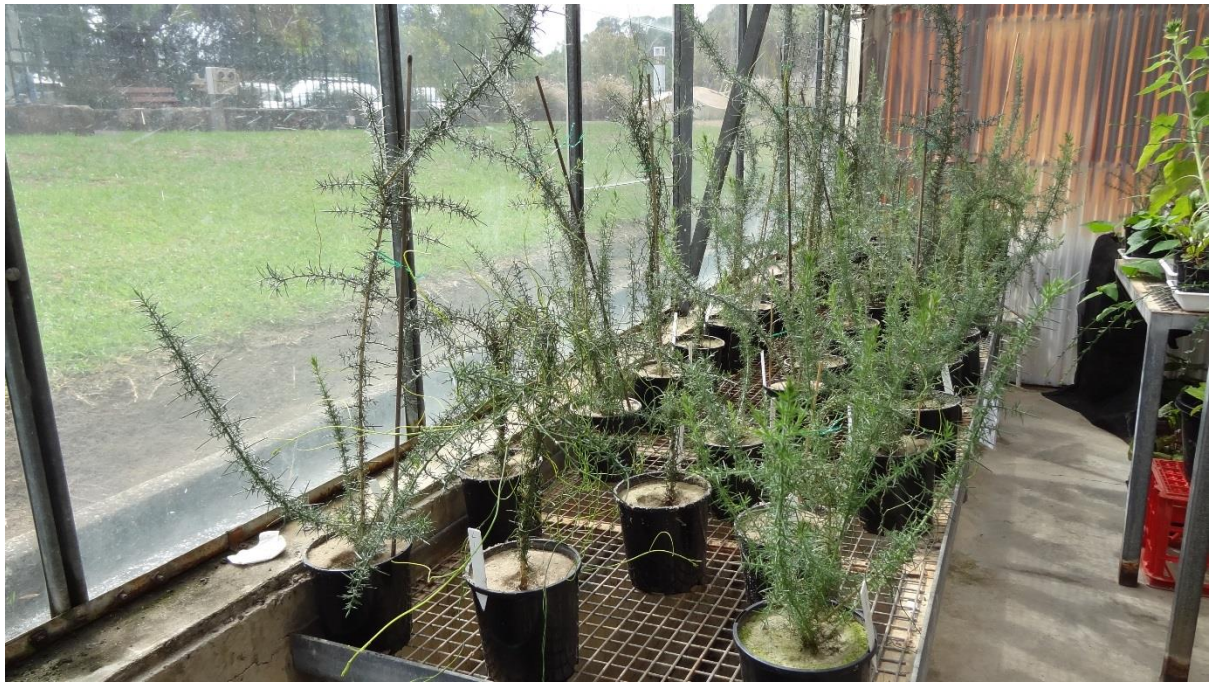
# The impact of a native hemiparasite on a major invasive shrub is affected by host size at time of infection

Robert M. Cirocco, José M. Facelli, Jennifer R. Watling



**Figure S1.** Height of small and large *U. europaeus* either uninfected (white bar) or infected with *C. pubescens* (light grey bar) at the beginning (A) and at end of the experiment (C).

Independent effect of size (B) on height of *U. europaeus* at start of experiment (dotted bars). Independent effect of infection (D) and size (E) on host height at end of experiment. Data are means ( $\pm 1$  SE), (A, C)  $n=9-10$  and (B, D, E)  $n=19-20$ , different letters signify significant difference and  $P$ -values are displayed in panels for infection (I)  $\times$  size (S) interaction and independent I and S effects.



**Figure S2.** Top: photo of the experiment; Bottom: large uninfecting *Ulex europaeus* (white arrow) and *U. europaeus* infected with *Cassytha pubescens* (yellow arrow).





**Figure S3.** Top: small uninfected *U. europaeus* (white arrow); Bottom: small infected *U. europaeus* (yellow arrows).





**Figure S4.** A natural ‘infection front’ of *Cassytha pubescens* moving over a large thicket of *Ulex europaeus* at Crafers (high rainfall area) in the Mt Lofty Ranges of South Australia.

**Table S1.** *F* (italics) and sum of square-values (regular) for independent effects of infection with *C. pubescens* (I), size of *U. europaeus* and their interaction ( $I \times S$ ) on total, shoot and root biomass, shoot/root ratio (S/R), nodule biomass (Nod) and Nod g<sup>-1</sup> host root biomass, predawn and midday quantum yields ( $F_v/F_m$ ,  $\Phi_{PSII}$ ), maximum electron transport rates ( $ETR_{max}$ ), shoot midday water potential ( $\Psi$ ), carbon isotope composition ( $\delta^{13}C$ ), foliar nitrogen (N) and iron (Fe) concentration of *U. europaeus*. For all parameters df=1, 28 (except Fe: df=1, 12)

	<b>Total</b>	<b>Shoot</b>	<b>Root</b>	<b>S/R</b>	<b>Nod</b>	<b>Nod g<sup>-1</sup> root</b>	<b><math>F_v/F_m</math></b>	<b><math>\Phi_{PSII}</math></b>	<b><math>ETR_{max}</math></b>	<b><math>\Psi</math></b>	<b><math>\delta^{13}C</math></b>	<b>N</b>	<b>Fe</b>
I	172	231	66.5	6.12	37.3	7.07	15.9	5.50	10.3	0.081	14.6	0.009	18.2
	101	81.1	21.1	3.51	0.522	1.64	0.031	0.017	0.721	0.006	6.08	0.0009	1.69
S	22.2	23.4	15.6	1.78	7.53	2.81	1.96	4.59	2.67	4.48	12.0	1.52	5.38
	13.1	8.23	4.94	1.02	0.105	0.651	0.004	0.014	0.187	0.336	5.00	0.150	0.499
$I \times S$	4.09	3.67	3.60	0.350	5.31	0.196	0.046	0.751	0.685	1.47	1.85	0.110	22.4
	2.41	1.29	1.14	0.201	0.074	0.045	0.00008	0.002	0.048	0.111	0.772	0.011	2.07
Error	16.5	9.83	8.86	16.1	0.392	6.49	0.054	0.087	1.96	2.10	11.7	2.76	1.11

**Table S2.** *F* (*italics*) and sum of square-values (*regular*) for effect of *U. europaeus* size (*S*) on parasite total biomass and total biomass g host<sup>-1</sup> total biomass, predawn and midday quantum yields ( $F_v/F_m$ ,  $\Phi_{PSII}$ ), maximum electron transport rates ( $ETR_{max}$ ), midday stem water potential ( $\Psi$ ), stem carbon isotope composition ( $\delta^{13}C$ ), nitrogen (*N*), phosphorous (*P*) and potassium (*K*) concentration. *df*=1, 14 for all parameters (except  $\Psi$ , *P* and *K*: *df*=1, 6)

	<b>Biomass</b>	<b>Biomass</b>	<i>F<sub>v</sub>/F<sub>m</sub></i>	$\Phi_{PSII}$	$ETR_{max}$	$\Psi$	$\delta^{13}C$	<i>N</i>	<i>P</i>	<i>K</i>
		<b>g host<sup>-1</sup></b>								
<i>S</i>	<i>61.6</i>	<i>0.242</i>	<i>0.815</i>	<i>1.20</i>	<i>0.553</i>	<i>0.031</i>	<i>1.14</i>	<i>14.8</i>	<i>14.0</i>	<i>62.3</i>
	3.05	0.088	0.001	0.003	285	0.003	0.400	0.860	0.028	0.769
Error	0.693	5.10	0.020	0.029	7228	0.468	4.91	0.814	0.012	0.074