Supplementary material#

Fig. 1. Adult *Retama sphaerocarpa* shrub (approximately 2 m tall) growing in a field site near Almería (Spain) (left) and a 3-year-old shrub growing in an experimental split-pot in the greenhouse (right).

Table 1. Photosynthetic efficiency of photosystem II (F_v/F_m), net photosynthetic rate (A) and stomatal conductance to water vapor (g_s) measured in green mature cladodes from *Retama sphaerocarpa* shrubs growing under 12 h of light (HL, plants performing hydraulic lift) and 22 h of light (I-HL, plants with impaired HL)

Data are mean ± 1 s.e. ($n = 3$ for HL and $n = 4$ for I-HL). Different letters in a row indicate significant differences between treatments for each variable (one-way ANOVA, $P < 0.05$).

	Treatment	
	HL	**I-HL**
F_v/F_m	0.84 ± 0.004^a	0.82 ± 0.01^b
A (μmol m^{-2} s^{-1})	2.71 ± 0.28^a	2.37 ± 0.74^a
g_s (mol m^{-2} s^{-1})	0.027 ± 0.01^a	0.051 ± 0.01^a

Table 2. Split-plot ANOVA results for gravimetric water content (%) in ^{15}N-enriched OM and control soil patches (*Patch*) collected in un-watered upper compartments in split-pots with *Retama sphaerocarpa* shrubs under two different treatments (HL, mesocosm with plants performing hydraulic lift; I-HL, mesocosm with plants with impaired HL) (*Treatment*)

	df	MS	F	*P*-value
Model	6	0.432	8.928	**0.005**
Treatment	1	0.299	6.176	**0.042**
Patch	1	1.798	37.199	**0.000**
Treatment × Patch	1	0.085	1.750	0.23
Block	3	0.109	2.250	0.17
Error	7	0.048		

Table 3. Split-plot ANOVA results for root density (mg_{roots}/g_{soil}^{-1}) in ^{15}N-enriched OM and control soil patches (*Patch*) placed in un-watered upper compartments in split-pots with *Retama sphaerocarpa* shrubs under two different treatments (HL, plants performing hydraulic lift; I-HL, plants with impaired HL) (*Treatment*)

	df	MS	F	*P*-value
Model	3	0.000	24.820	**0.000**
Treatment	1	0.00009	5.823	**0.047**
Patch	1	0.002	134.858	**0.000**
Treatment × Patch	1	0.000	5.867	**0.046**
Block	3	0.00002	1.361	0.331
Error	10	0.00001		

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