

Supplementary Tables with Captions

Table S1: Comparison of historical rainfall averages (2003-2008) with rainfall measured during this study. Values in parentheses are percentages of the historical annual amount.

Time period	Rainfall amount (mm)		
	Winter ¹	Summer ¹	Annual ¹
Historical			411
2012	176	90	293 (71 %)
2013	237	253	389 (95 %)

¹ Annual total is the total rainfall amount received in a calendar year (i.e., 1 January to 31 December). Winter represents total rainfall for the months from 1 April to 30 September; Summer represents total rainfall for the months from 1 October to 31 March the following year. Therefore, annual values do not equal the sum of the summer and winter values.

Table S2: The relationship between *in situ* midday transpiration of sunlit leaves/culms measured with a portable open gas exchange system (Li-Cor 6400, Li-Cor Biosciences) and sap flow of sunlit leaves/culms measured with miniature external sap flow gauges was strong and highly significant for individuals of all three sample species at the study site.

Species	Season	Individual	slope	r ²	p	F	d.f.
<i>Erica monsoniana</i>	2012/13	1	0.13	0.73	0.028	26.67	10
		2	0.09	0.71	0.0235	24.68	10
		3	0.11	0.69	0.0305	21.76	10
		4	0.24	0.78	0.0007	28.2	8
		5	0.26	0.92	0.0000	99.21	9
	2013/14	1	0.15	0.97	0.0004	113.46	4
		2	0.23	0.95	0.0009	76.68	4
		3	0.17	0.91	0.0034	38.96	4
		4	0.3	0.97	0.0025	90.18	3
		5	0.24	0.72	0.0019	20.44	8
		6	0.22	0.99	0.0000	359.96	5
<i>Cannomois congesta</i>	2012/13	1	0.15	0.64	0.0018	17.72	10
		2	0.12	0.57	0.0045	13.32	10
	2013/14	1	0.15	0.98	0.0000	250.69	5
		2	0.13	0.83	0.0003	38.53	8
<i>Protea repens</i>	2012/13	1	0.15	0.3	0.0529	4.7	11

	2	0.16	0.81	0.0001	43.72	10
	3	0.23	0.73	0.0009	23.9	9
	4	0.22	0.54	0.0104	10.42	9
	5	0.17	0.63	0.0034	15.57	9
2013/14	1	0.09	0.84	0.0014	31.31	6
	2	0.15	0.97	0.0001	155.27	5
	3	0.12	0.93	0.0004	70.5	5

Table S3: Summary statistics for the linear mixed effects models fitted to the total daily J_s observed as a function of soil moisture or VPD, species and season including a three way interaction.

Response	Fixed Effects	numDF	denDF	F-value	p-value
Variable					
Total daily J_s	soil moisture	1	2777	1357	< 0.0001
	species	2	152	91	< 0.0001
	season	1	153	10	0.002
	soil moisture:	2	2777	99	< 0.0001
	species				
	soil moisture:	1	2777	243	< 0.0001
	season				
	species: season	2	152	12	< 0.0001
	soil moisture:	2	2777	16	< 0.0001
	species: season				
Note: Full model: $\text{lmer}(J_s \sim \text{soil moisture} * \text{species} * \text{season} + (1 \text{species/season/individual}))$					

Total daily J_s	VPD	1	2756	174	< 0.0001
	species	2	166	5	0.005
	season	1	167	1	0.33
	VPD: species	2	2756	10	< 0.0001
	VPD: season	1	2756	10	0.001
	species: season	2	166	3	0.05
	VPD: species:	2	2756	1	0.41
	season				

Note: Full model: lmer(J_s ~ VPD*species*season + (1|species/season/individual))

numDF, numerator degrees of freedom; denDF, denominator degrees of freedom.

Individual was included as a random factor in both models. For the response to soil moisture, the standard deviation of random components were as follows: Individuals = 4.9; residual = 17.1.

For the response to VPD, the standard deviation of random components were as follows:

Individuals = 5.5; residual = 21.3

Statistically significant values are indicated in bold text.

Table S4: ANOVA results table showing main effects results of the linear models of Minimum midday and minimum predawn water potential (response variable) as a function of species and season including an interaction.

Response Variable	Factor	D.F.	Sum Sq.	F	P
Minimum midday water potential	Species	2	17.1	59.4	0.000
	Season	1	5.8	40.3	0.000
	Species:season	2	4.5	15.6	0.000
	Residuals	24	3.4		
Minimum predawn water potential	Species	2	30.5	47.5	0.000
	Season	1	9.0	28.0	0.000
	Species:season	2	4.6	7.2	0.004
	Residuals	24	7.7		

Supplementary Figures with Captions

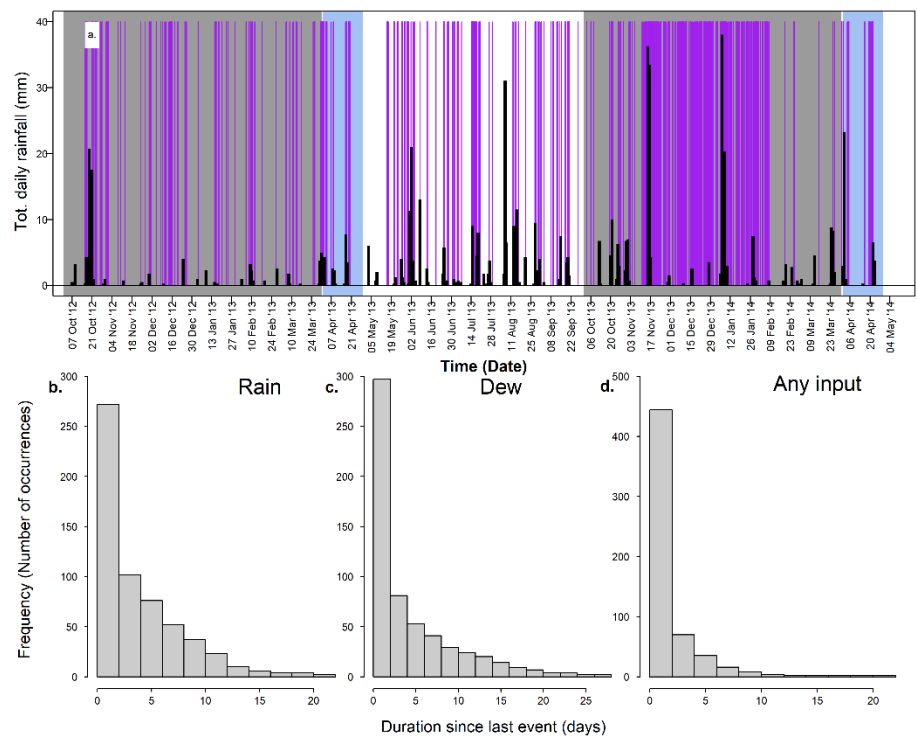


Figure S1: Frequency of rain, dew and all moisture inputs recorded at the study site for the duration of the study period.



Figure S2: Excavations of *Cannomois congesta* individuals showed that individuals are rooted in shallow soil layers (< 40 cm).