Supplementary Data

Table S1 Characteristics of tree species included in this study. DBH, Diameter in breast height; N_0, the number of alive individuals in 2012; *N*t, the number of alive individuals in 2017; *S*t, the number of alive individuals both in 2012 and 2017. *MR*, mortality rate; *RR*, recruitment rate.

Species	Family	Code	Mean DBH (cm)	Mean height (m)	N_0	*S*t	*N*t	*MR*	*RR*
Bauhinia brachycarpa	Leguminosae	Bb	2.3	2.5	270	93	247	21.3%	19.5%
Woodfordia fruticosa	Lythraceae	Wf	2.4	2.4	55	25	39	15.8%	8.9%
Campylotropis delavayi	Leguminosae	Cd	2.1	2.8	51	9	53	34.7%	35.5%
Polyalthia cerasoides	Annonaceae	Pc	5.1	3.8	283	252	287	2.3%	2.6%
Lannea coromandelica	Anacardiaceae	Lc	11.0	5.1	201	191	204	1.0%	1.3%
Diospyros yunnanensis	Ebenaceae	Dy	5.2	4.6	116	109	131	1.2%	3.7%

Table S2 Hydraulic and photosynthetic traits of the tree species in this study. The abbreviation of functional traits in Table 1. The codes of species as follow in Figure 1 and Table S1. *MVL*, maximum vessel length (cm); *SL*, stem length used for stem vulnerability curves (cm); ψ_{pd}, predawn leaf water potential (MPa).

VS groups	Code	*MVL*	*SL*	ψ_{pd}	P_{50stem}	P_{50leaf}	$P_{50leaf-stem}$	K_s	K_L	*HV*	$\rho_{sapwood}$	*LMA*	A_{max}	g_s
NS species	Bb	41.3±1.4	61.5±1.8	-0.72±0.07	-1.96±0.16	-2.98	-1.02±0.11	2.50±0.34	5.44±0.74	2.17±0.10	0.63±0.02	102.5±6.4	17.1±0.2	0.44±0.03
	Wf	41.4±2.6	62.2±3.4	-0.65±0.07	-3.00±0.27	-3.54	-0.54±0.13	4.43±0.76	10.78±1.43	2.43±0.35	0.56±0.01	123.0±5.2	20.0±1.3	0.43±0.05
	Cd	50.5±4.0	69.2±2.5	-0.83±0.09	-2.99±0.12	-3.71	-0.72±0.14	2.87±0.56	7.16±1.40	2.49±0.19	0.68±0.01	106.3±1.9	20.7±0.8	0.30±0.03
VS species	Pc	39.8±1.2	67.2±3.3	-0.38±0.03	-2.86±0.23	-1.65	1.21±0.15	3.91±0.76	2.39±0.46	0.61±0.06	0.51±0.01	70.8±2.7	11.2±0.6	0.14±0.02
	Lc	45.9±3.8	51.3±1.5	-0.43±0.02	-1.74±0.16	-1.05	0.69±0.07	6.92±0.74	9.06±0.97	1.31±0.10	0.34±0.01	66.5±1.8	15.2±0.2	0.25±0.01
	Dy	34.7±1.0	40.5±1.9	-0.40±0.02	-3.44±0.25	-2.68	0.76±0.08	1.08±0.12	1.33±0.15	1.23±0.15	0.60±0.01	110.4±2.2	7.6±0.7	0.13±0.01

Table S3 Factor loading, eigenvalues, the percentage of functional traits explained by the first two principal components.

Functional traits	PC 1	PC 2
HV	0.961	0.201
$P_{50leaf\text{-}stem}$	-0.952	-0.181
MR	0.928	0.026
P_{50leaf}	-0.917	0.351
RR	0.841	-0.079
A_{max}	0.791	0.560
g_s	0.776	0.477
LMA	0.762	-0.402
$\rho_{sapwood}$	0.737	-0.647
K_s	-0.321	0.906
P_{50stem}	-0.127	0.812
K_l	0.446	0.800
Eigenvalues	6.909	3.445
% of variance	57.6%	28.7%
Cumulative %	57.6%	86.3%

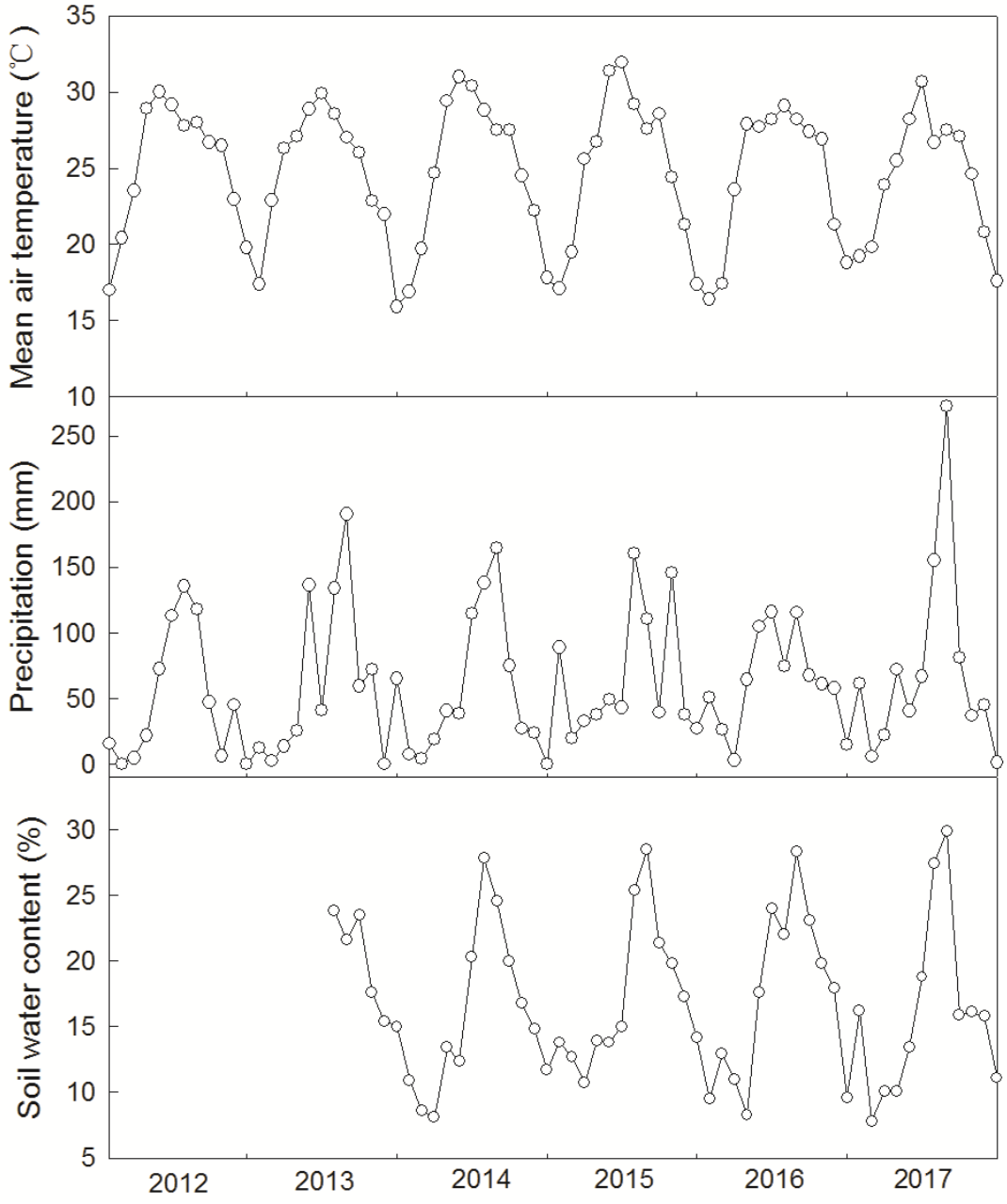

Figure. S1 The monthly air temperature (a), monthly precipitation (b) and soil water content (c) in our study from 2012-2017. The monitoring of soil water content was started from July, 2013.

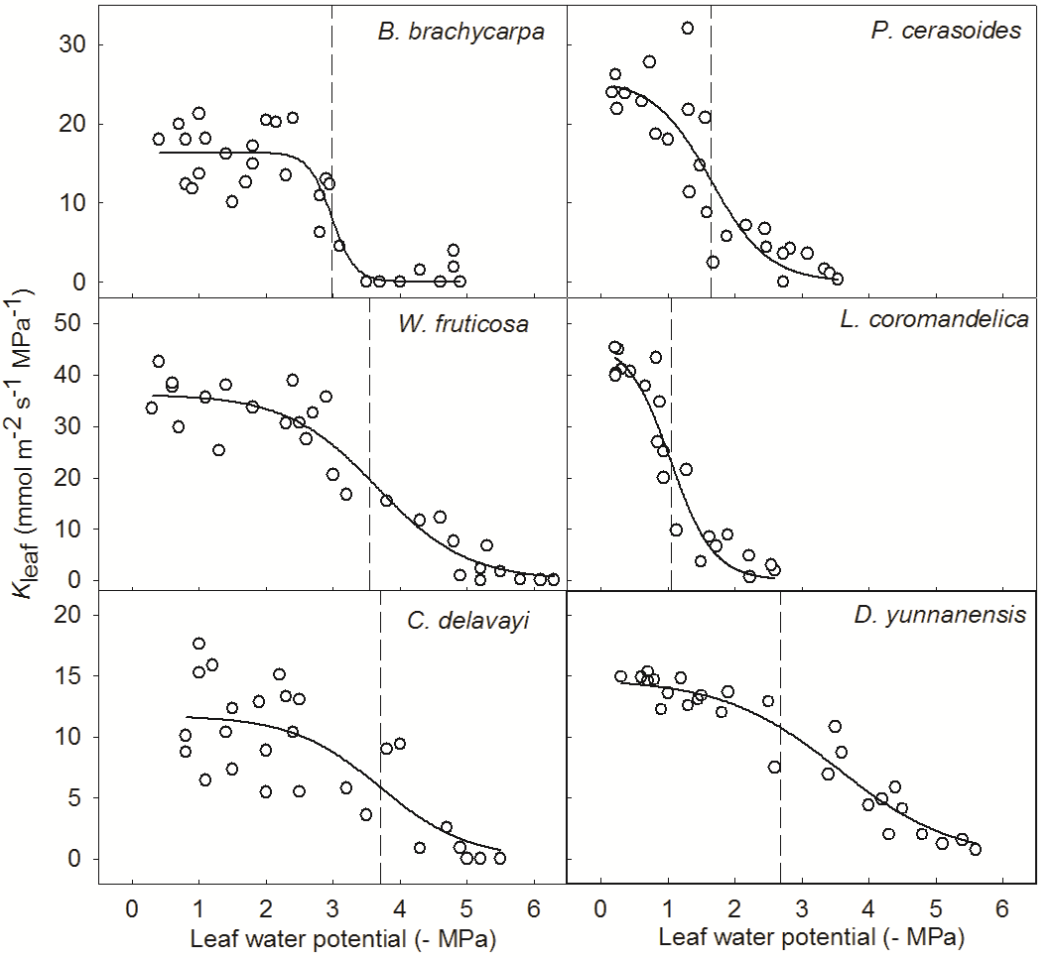

Figure. S2 Leaf vulnerability curves for the six tree species in this study. The dashed lines indicate the water potential at 50% loss of leaf hydraulic conductance.

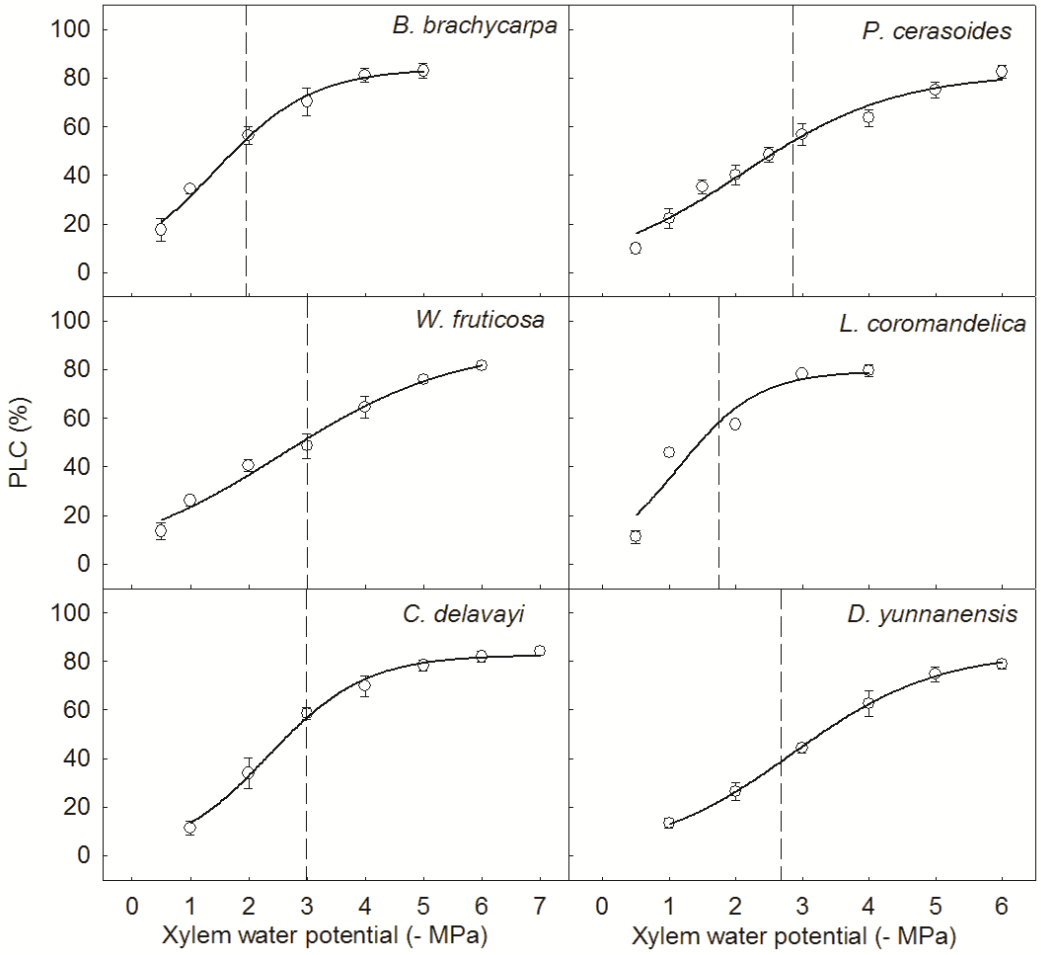

Figure. S3 Stem vulnerability curves for the six tree species in this study. The dashed lines indicate the water potential at 50% loss of xylem hydraulc conductivity. Error bars are standard errors (SE) (n = 5).