

Supporting Information

Table S1. An overview table of all measurements including the name, the unit, total number of measured leaves from each tree, and the number of final replicates.

Traits, abbreviations and its units	Total number of measured leaves from each tree	Final replicates
Stomatal density, <i>SD</i> , (no mm ⁻²)	10 leaves of long shoot	4
	10 leaves of short shoot	
Leaf thickness, <i>LT</i> , (μm)	9 leaves of long shoot	4
	9 leaves of short shoot	
Tracheid number, <i>TN</i>	9 leaves of long shoot	4
	9 leaves of short shoot	
Tracheid diameter, <i>TD</i> , (μm)	9 leaves of long shoot	4
	9 leaves of short shoot	
Vein density, <i>VD</i> , (mm mm ⁻²)	10 leaves of long shoot	4
	10 leaves of short shoot	
Leaf dissection index, <i>LDI</i>	18 leaves of long shoot	4
	18 leaves of short shoot	
Specific leaf area, <i>SLA</i> , (cm ² g ⁻¹)	18 leaves of long shoot	4
	18 leaves of short shoot	
Predawn leaf water potential, Ψ_{pd} , (MPa)	9 leaves of long shoot	4
	9 leaves of short shoot	
Midday leaf water potential, Ψ_{md} , (MPa)	9 leaves of long shoot	4
	9 leaves of short shoot	
Leaf hydraulic conductance, <i>K_{leaf}</i> , (mmol m ⁻² s ⁻¹ MPa ⁻¹)	9 leaves of long shoot	4
	9 leaves of short shoot	
Water potential of 50% loss in <i>K_{leaf}</i> , Leaf <i>P50</i> , (MPa)	3 leaves of long shoot	4
	3 leaves of short shoot	
Net photosynthesis rate, <i>A</i> , (μmol m ⁻² s ⁻¹)	9 leaves of long shoot	4
	9 leaves of short shoot	
Transpiration rate, <i>Tr</i> , (mmol m ⁻² s ⁻¹)	9 leaves of long shoot	4
	9 leaves of short shoot	
Instantaneous water use efficiency, <i>WUE_i</i> , (mmol mol ⁻¹)	9 leaves of long shoot	4
	9 leaves of short shoot	
Stomatal conductance, <i>g_s</i> , (mol m ⁻² s ⁻¹)	9 leaves of long shoot	4
	9 leaves of short shoot	

Note: The final data of used for analyses was the average value of all measured leaves from each shoot type of each tree individual, thus, there was only one data for long shoot leaves and one data for short shoot leaves on each tree. The final number of replicates of all traits was four.

Table S2. Results from independent-samples t-test for the difference between males and females *Ginkgo biloba* on leaf anatomical traits.

Traits	Males	Females	<i>t</i> value	<i>p</i> value
Stomatal density (no mm ⁻²)	97.33 ± 1.95	100.00 ± 1.95	-0.966	0.350
Leaf thickness (µm)	308.36 ± 1.78	286.60 ± 4.78	4.267	0.002
Tracheid number	10.50 ± 0.50	15.25 ± 0.53	-6.545	<0.001
Tracheid diameter (µm)	9.46 ± 0.16	9.43 ± 0.08	0.202	0.843
Vein density (mm mm ⁻²)	1.47 ± 0.17	1.34 ± 0.16	5.401	<0.001

Note: Values are the mean ± SE (n = 4). Bolded *p*-values indicate significant differences between males and females *G. biloba* within traits (*p*-value < 0.05).

Table S3. Information about the statistical output from two-way nested ANOVA.

Traits	df		Mean square		F value		P value	
	Sex	Type	Sex	Type	Sex	Type	Sex	Type
Stomatal density	1	2	28.44	64.00	1.14	2.57	0.306	0.118
Leaf thickness	1	2	1894.21	653.26	151.79	52.35	<0.001	<0.001
Tracheid number	1	2	90.25	12.50	240.67	33.33	<0.001	<0.001
Tracheid diameter	1	2	0.05	0.273	0.05	2.61	0.827	0.115
Vein density	1	2	0.06	0.01	42.61	4.23	<0.001	0.041
Leaf dissection index	1	2	0.32	0.24	10.10	7.78	0.008	0.007
Specific leaf area	1	2	322.56	325.73	19.32	19.51	0.001	<0.001
Predawn leaf water potential	1	2	0.09	0.02	19.78	3.22	0.001	0.076
Midday leaf water potential	1	2	0.28	0.19	28.93	19.01	<0.001	<0.001
Leaf hydraulic conductance	1	2	14.19	3.11	19.35	4.24	0.001	0.041
Water potential of 50% loss in K_{leaf}	1	2	0.07	1.81	0.40	10.14	0.540	0.003
Net photosynthesis rate	1	2	15.48	7.42	63.17	30.29	<0.001	<0.001
Transpiration rate	1	2	0.19	0.05	24.27	6.58	<0.001	0.012
Instantaneous water use efficiency	1	2	1.12	0.96	6.29	5.42	0.027	0.021
Stomatal conductance	1	2	0.001	0.001	15.05	5.98	0.002	0.016

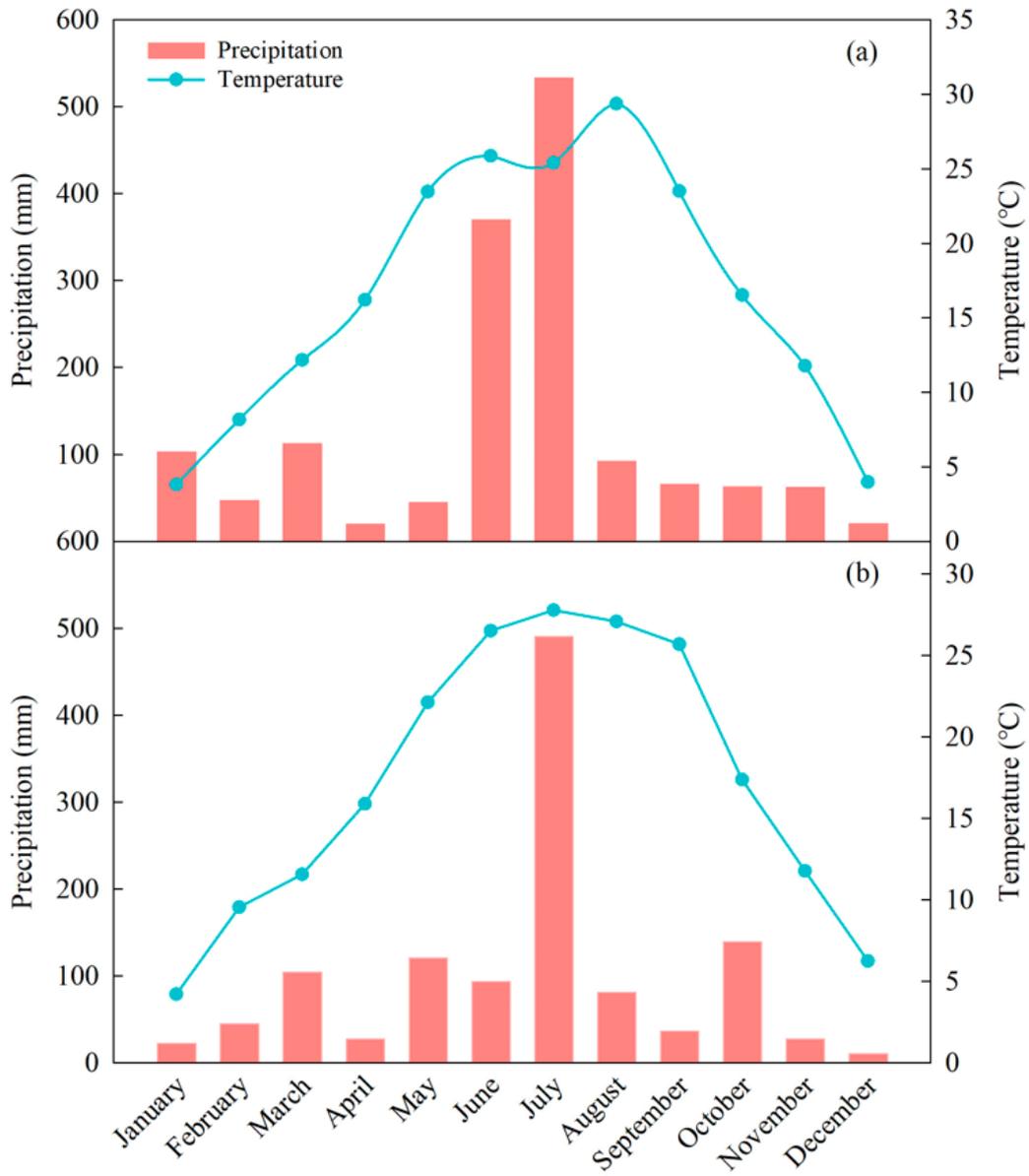


Figure S1. The climate conditions of study area in 2020 (a) and 2021 (b), respectively.

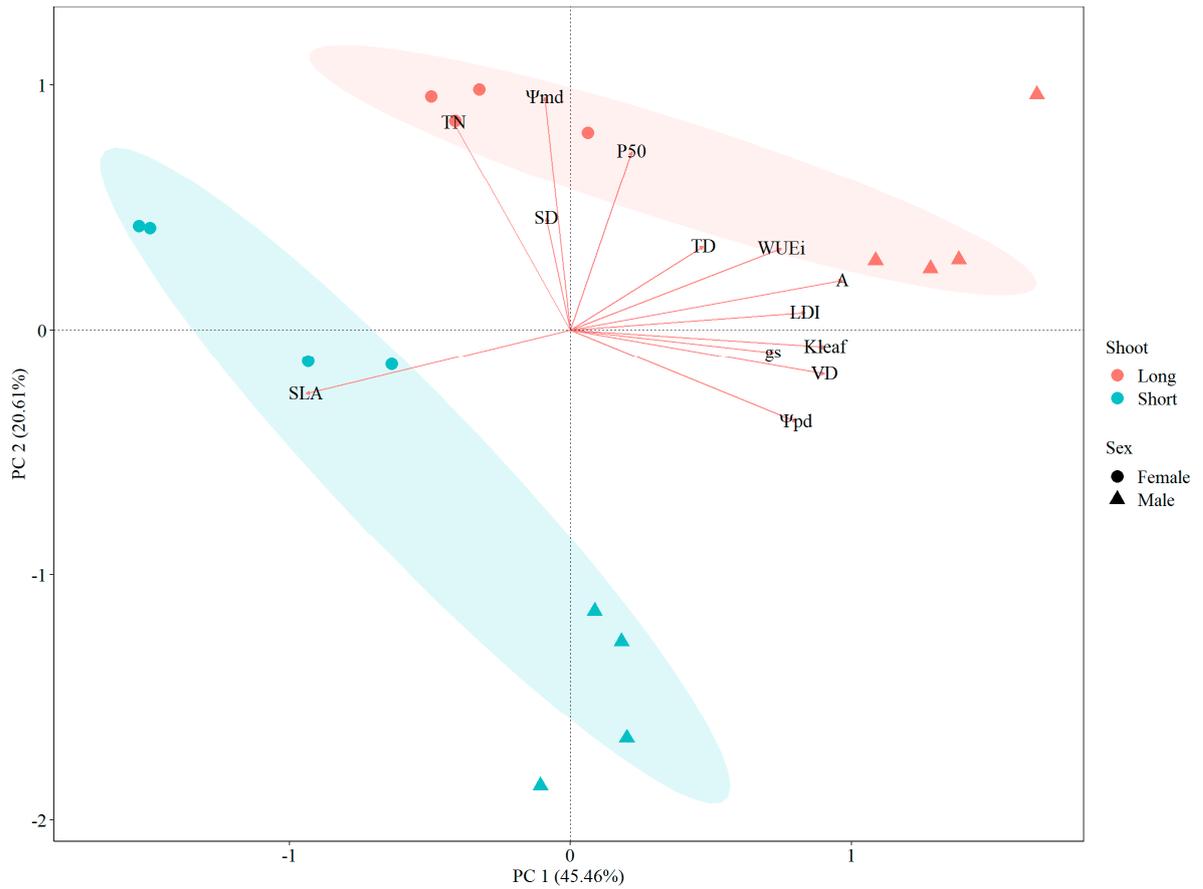


Figure S2. Principal component analyses on long shoot and short shoot leaves physiological and anatomical traits of males and females *Ginkgo biloba*. *SD*: stomatal density; *VD*: vein density; *gs*: stomatal conductance; *A*: net photosynthesis rate; *WUE_i*: instantaneous water use efficiency; *SLA*: specific leaf area; *LDI*: leaf dissection index; *K_{leaf}*: leaf hydraulic conductance; Ψ_{md} : midday leaf water potential; Ψ_{pd} : predawn leaf water potential; *P50*: water potential of 50% loss in leaf hydraulic conductance; *TN*: average tracheid number; *TD*: average tracheid diameter.