

Supplementary material

**Hydraulic and functional traits coordination in
ten species of trees of the Sonoran Desert.**

Trees structure and function.

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Table S1. Multiple correlation table of the 25 nominal traits studied. Abbreviations as in Table 2. Bold indicates $p < .05$, Bold and * $p < .01$, Bold and ** $p < .001$. Analyses were performed in JASP (JASP Team (2023). JASP (Version 0.17.3).

Variable	HA	SSD	FD	LL	LA	LMA	VAP	dhP	LSN	LSA	LTVN	LTAN	VA1	dh1	dhS	StoA	StoD	StoI	TV/A	A/A	a	dh2	VA2	VAT	dhT
HA	-																								
SSD	0.9**	-																							
FD	0.8	0.7*	-																						
LL	0.5	0.4	0.9**	-																					
LA	-0.4	-0.6	-0.1	0.01	-																				
LMA	0.4	0.2	0.7	0.8*	-0.1	-																			
VAP	-0.4	-0.5	-0.03	0.1	0.9**	-0.1	-																		
dhP	-0.7	-0.7	-0.4	-0.3	0.7	-0.3	0.7	-																	
LSN	-0.2	-0.1	0.3	0.4	0.7	-0.01	0.8*	0.4	-																
LSA	-0.4	-0.5	-0.06	0.1	0.9**	-0.04	0.9**	0.6	0.8*	-															
LTVN	-0.4	-0.6	-0.2	-0.05	0.9**	-0.2	0.9**	0.7	0.6	0.9**	-														
LTAN	-0.4	-0.6	-0.2	-0.1	0.9**	-0.2	0.8*	0.6	0.5	0.9**	0.9**	-													
VA1	-0.4	-0.4	-0.2	0.4	0.6	0.3	0.7	0.6	0.8*	0.7*	0.5	0.5	-												
dh1	-0.7*	-0.8*	-0.3	-0.03	-0.6	-0.1	0.6	0.8*	0.5	0.6	0.6	0.6	0.8*	-											
dhS	-0.5	-0.4	-0.2	-0.2	0.5	-0.5	0.4	0.4	0.4	0.4	0.5	0.6	0.3	0.6	-										
StoA	-0.4	-0.6	-0.3	-0.2	0.3	0.3	0.2	0.2	-0.2	0.3	0.3	0.3	0.2	0.3	-0.2	-									
StoD	0.3	0.5	0.5	0.4	0.1	-0.1	0.3	0.1	0.7	0.2	0.1	0.02	0.3	-0.1	0.1	-0.7	-								
StoI	0.2	0.3	-0.2	-0.4	-0.1	-0.4	-0.02	0.2	-0.2	-0.1	-0.05	-0.01	-0.4	-0.4	-0.2	-0.2	0.3	-							
TV/A	0.3	0.4	-0.1	-0.4	-0.1	-0.6	-0.02	0.1	-0.1	-0.1	-0.04	0.01	-0.4	-0.4	0.2	-0.5	0.4	0.8*	-						
A/A	0.4	0.5	-0.03	-0.3	-0.2	-0.4	-0.1	-0.03	-0.2	-0.2	-0.1	-0.03	-0.4	-0.4	0.1	-0.4	0.3	0.7	0.9**	-					
A	-0.2	-0.3	0.01	-0.06	0.2	-0.02	0.3	0.7	0.1	0.2	0.2	0.1	0.3	0.4	0.1	-0.06	0.13	0.3	0.3	0.02	-				
dh2	-0.7	-0.8*	-0.4	-0.2	0.8*	-0.2	0.7	0.6	0.4	0.7	0.8*	0.7	0.5	0.7	0.5	0.4	-0.3	-0.5	-0.4	-0.5	0.01	-			
VA2	-0.5	-0.6	-0.04	0.1	0.9*	-0.1	0.8*	0.6	0.7	0.8*	0.8*	0.8*	0.7	0.8*	0.6*	0.3	0.001	-0.4	-0.2	-0.2	0.2	0.9*	-		
VAT	0.03	-0.2	0.3	0.5	0.3	0.8*	0.2	-0.05	0.05	0.3	0.2	0.2	0.4	0.2	-0.5	0.7	-0.4	-0.5	-0.7	-0.6	-0.1	0.3	0.3	-	
dhT	-0.1	-0.3	0.2	0.4	0.4	0.6	0.3	0.02	0.2	0.4	0.3	0.3	0.5	0.4	-0.1	0.7	-0.4	-0.7	-0.7	-0.6	-0.2	0.6	0.5	0.9*	

Table S2 Pearson’s correlations of the principal component 1 (PC1) and 2 (PC2) with the traits used to calculate the Principal Component Analysis. Abbreviations as in table 2. * p < .05, ** p < .01, *** p < .001 (Modified from JASP team, 2023)

Variable		PC1	PC2
1. PC1	Pearson's r	—	
2. PC2	Pearson's r	-4.130e -5	—
3. HA	Pearson's r	-0.821 **	0.140
4. LL	Pearson's r	-0.234	0.814 **
5. VA1	Pearson's r	0.698 *	0.531
6. dh1	Pearson's r	0.914 ***	0.198
7. VAP	Pearson's r	0.800 **	0.089
8. dhP	Pearson's r	0.875 ***	-0.227
9. STOI	Pearson's r	-0.228	-0.699 *
10. TV/A	Pearson's r	-0.230	-0.815 **
11. LA	Pearson's r	0.814 **	0.090
12. SSD	Pearson's r	-0.881 ***	-0.003
13. LMA	Pearson's r	-0.688 *	0.652 *
14. VAT	Pearson's r	0.144	0.818 **
15. VI	Pearson's r	-0.279	0.758 *

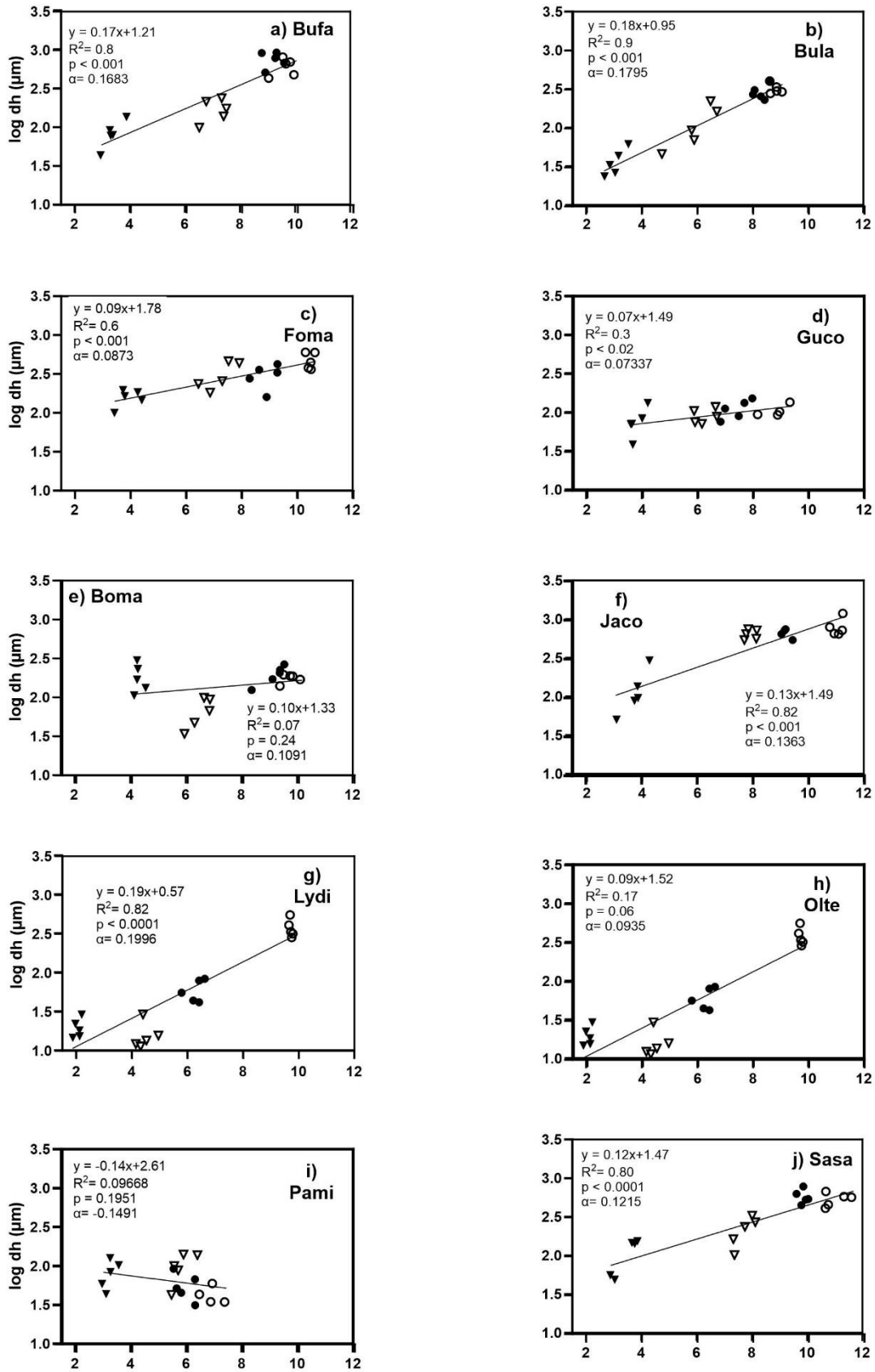


Figure S1. Scaling of the hydraulically weighted vessel diameter (dh) with the vascular bundle area (VA) of ten trees of the Sonoran Desert scrub; with standardized mayor axis regressions. Symbology: open circles correspond to petiole; closed circles to midrib vein, open triangles to secondary vein and closed triangles to terminal vein. Species: (a) *Bursera fagaroides*, (b) *Bursera laxiflora*, (c) *Fouquieria macdougalii*, (d) *Guaiaacum coulteri*, (e) *Bonellia macrocarpa*, (f) *Jatropha cordata*, (g) *Lysiloma divaricatum*, (h) *Olneya tesota*, (i) *Parkinsonia microphylla*, (j) *Sapindus saponaria*.

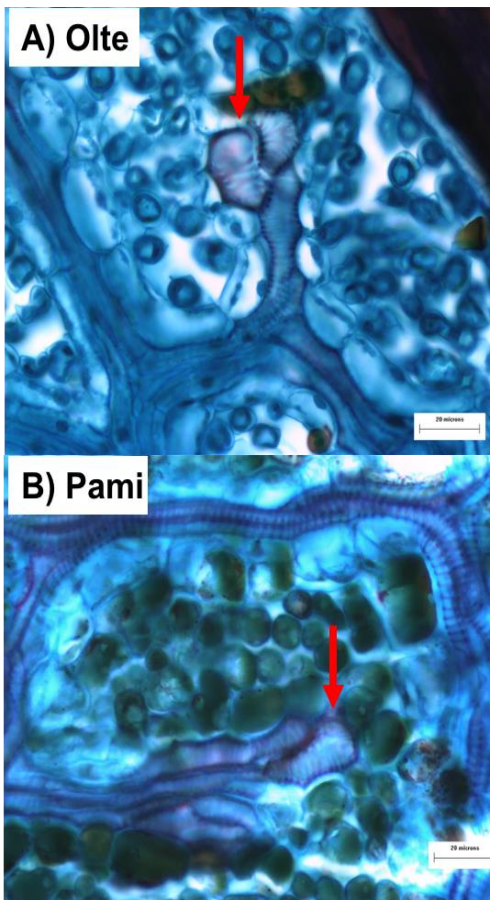


Figure S2 Microscopic photographs of the veins distributions of a) *Olneya tesota* (Olte) and b) *Parkinsonia microphylla* (Pami). The red arrows in a) Olte and b) Pami show the large storage tracheid at the terminal vessels that serve as storage reservoir