Supplementary Information

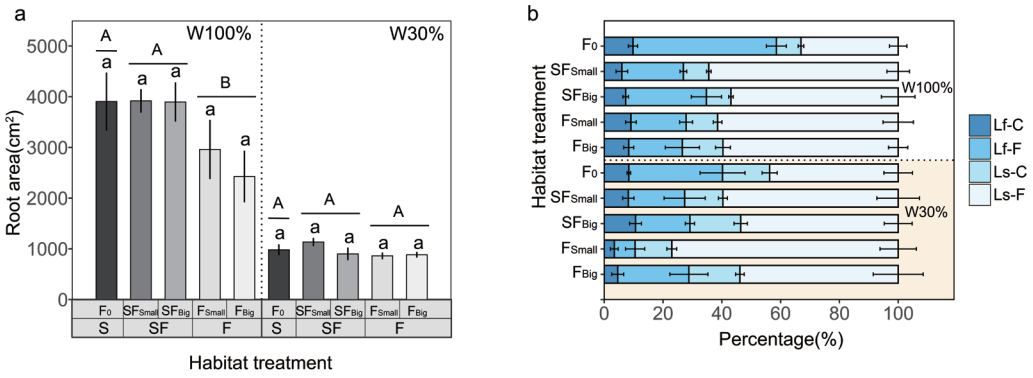
Table. S1 Two-way ANOVA of different index of *P. zhennan* under different karst fissures and water treatment.

Index	Water treatment (df = 1)	Habit treatment (df = 4)	W*H (df = 4)
Total biomass	97.119***	3.888*	0.690ns
Leaves biomass	73.417***	6.005**	1.051 ns
Branches biomass	31.847***	6.005*	0.7554 ns
Stems biomass	80.125***	1.260 ns	0.301 ns
Underground biomass	85.127***	3.006*	0.987ns
Ground biomass	83.008***	3.751*	0.6534 ns
Root biomass	85.127***	3.006*	0.987 ns
Coarse root biomass of soil	68.049***	2.322 ns	0.534 ns
Fine root biomass of soil	91.836***	5.128**	1.895 ns
Coarse root biomass of fissure	25.040***	3.656*	1.592 ns
Fine root biomass of fissure	25.751***	4.441**	2.339 ns
Coarse root length of soil	38.122***	0.409 ns	0.194 ns
Fine root length of soil	76.057***	3.370*	1.975 ns
Coarse root length of fissure	48.190***	1.803ns	0.826 ns
Fine root length of fissure	33.057***	6.387**	3.667*
Coarse root surface area of soil	69.566***	0.378 ns	0.182 ns
Fine root surface area of soil	104.344***	4.633**	2.248 ns

Coarse root surface area of fissure	59.624***	2.238 ns	0.922 ns
Fine root surface area of fissure	39.401***	5.138**	3.038*
Coarse root volume of soil	77.729***	1.704 ns	0.264 ns
Fine root volume of soil	114.417***	5.245**	2.048 ns
Coarse root volume of fissure	59.427***	2.326 ns	0.854 ns
Fine root volume of fissure	41.995***	3.649*	2.135 ns
Net photosynthetic rate (*Pn*)	34.070***	0.844	3.444*
Water use efficiency (*WUE*)	0.051 ns	0.712ns	1.987ns

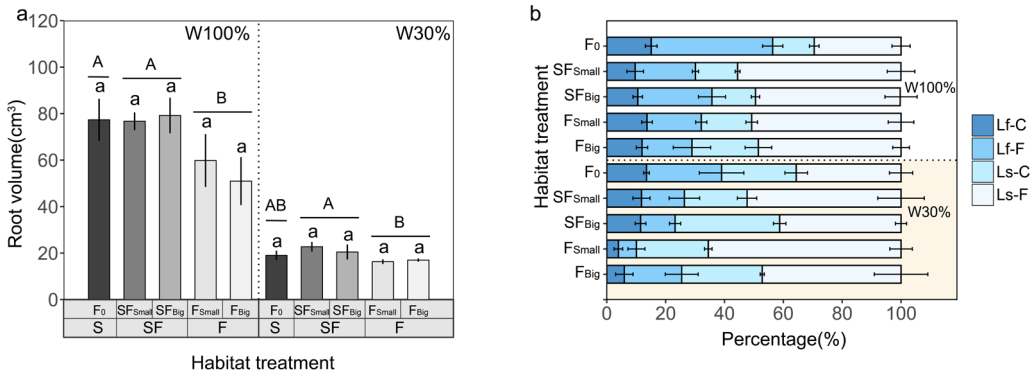
Note: * indicates $P < 0.05$, ** indicates $P < 0.01$, *** indicates $P < 0.001$; ns indicates that there is no significant difference at the level of 0.05.

Fig. S1 Root area (a) and root area allocation in different soil layers (b) of *P. zhennan* in different habitat and water treatments.



Data are mean ± standard error. Lf-C: coarse root of fissure layer; Lf-F: fine root of fissure layer; Ls-C: coarse root of soil layer; Ls-F: fine root of soil layer. Different capital letters indicate significant differences among three habitat groups at $p < 0.05$. Different lowercase letters indicate significant differences among five habitat types at $p < 0.05$.

Fig. S2 Root volume (a) and root volume allocation in different soil layers (b) of *P. zhennan* in different habitat and water treatments.



Data are mean ± standard error. Lf-C: coarse root of fissure layer; Lf-F: fine root of fissure layer; Ls-C: coarse root of soil layer; Ls-F: fine root of soil layer. Different capital letters indicate significant differences among three habitat groups at $p < 0.05$. Different lowercase letters indicate significant differences among five habitat types at $p < 0.05$.