

Supplementary Materials

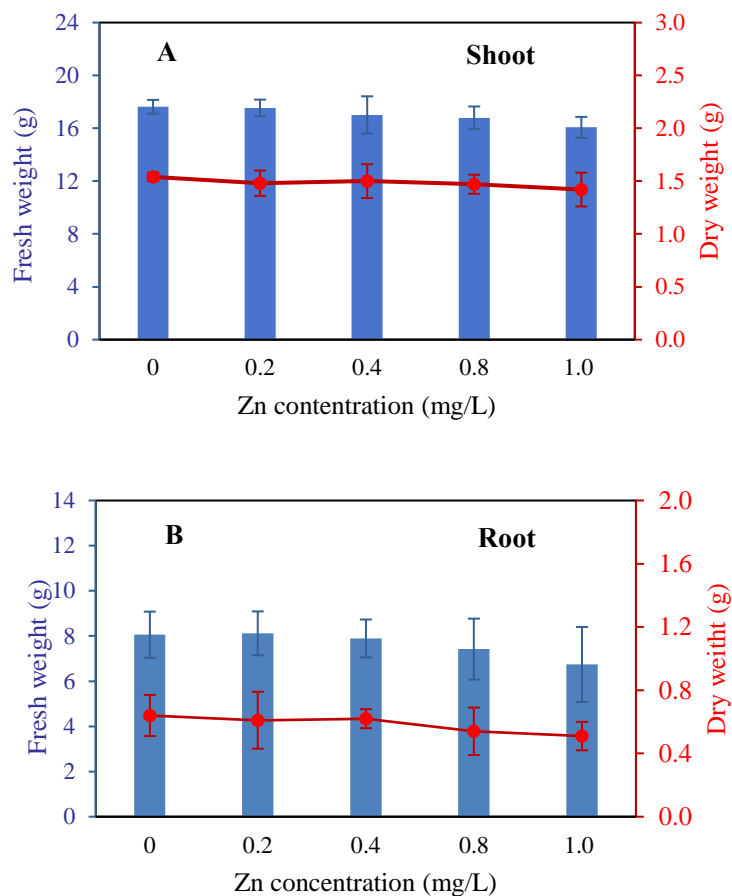


Figure S1. (A,B) The growth of *P. stratiotes* after exposure to the low concentrations of Zn (0, 0.2, 0.4, 0.8, 1.0 mg/L) for 20 days.

Table S1. Root exudate compounds and relative amount of *P. stratiotes*.

Compounds	Formula	Relative Amount (%)		
		CK	Zn	Cu
2-Phenylethanethiol, TMS derivative	C ₁₁ H ₁₈ SSi	0.2	—	—
3-Propylnorleucine	C ₉ H ₁₉ NO ₂	0.6	—	—
2,4-Di-tert-butylphenol	C ₁₄ H ₂₂ O	1.75	1.8	1.35
1-Heptatriacotanol	C ₃₇ H ₇₆ O	0.25	—	0.8
1-Pentanol, 2-ethyl-4-methyl-	C ₈ H ₁₈ O	3.45	4.3	4.25
E,E,Z-1,3,12-Nonadecatriene-5,14-diol	C ₁₉ H ₃₄ O ₂	0.2	—	0.2
1,4-Methanoazulen-3-ol, decahydro-1,5,5,8a-tetramethyl-, [1S-(1à,3á,3aá,4à,8aá)]-	C ₁₅ H ₂₆ O	—	0.25	—

1-Decanol, 2-hexyl-	C16H34O	—	0.25	0.6
1-Eicosanol	C20H42O	—	0.25	—
1-Hexadecanol	C16H34O	—	0.8	0.4
2-Hexyl-1-octanol	C14H30O	—	0.4	—
Azulene	C10H8	—	0.6	0.6
p-Xylene	C8H10	0.5	0.35	0.35
Benzene, 1,3-dimethyl-	C8H10	—	0.25	—
Phenol,				
2,2'-methylenebis[6-(1,1-dimethylethyl)-4-methyl-	C23H32O2	20.45	14.35	14.2
17-Pentatriacontene	C35H70	1.7	1.2	0.8
7,9-Di-tert-butyl-1-oxaspiro(4,5)deca-6,9-diene-2,8-di one	C17H24O3	1.15	4.5	0.5
2,4-Dimethyl-5,6-dimethoxy-8-aminoquinoline	C13H16N2O2	—	0.25	—
tert-Hexadecanethiol	C16H34S	0.4	0.65	0.3
10-Octadecenal	C18H34O	0.25	—	—
Benzaldehyde, 2,4-dimethyl-	C9H10O	0.45	—	—
Hexanal, 2-ethyl-	C8H16O	0.85	—	—
5-Octadecenal	C18H34O	—	0.45	—
Benzaldehyde, 3,4-dimethyl-	C9H10O	—	0.55	0.45
Octadecanal, 2-bromo-	C18H35BrO	—	0.2	—
Eicosanal-	C20H40O	—	—	0.25
3-Hydroxypropyl palmitate, TMS derivative	C22H46O3Si	0.2	0.35	0.3
Fumaric acid, hexadecyl propargyl ester	C23H38O4	—	—	0.2
Carbonic acid, tetradecyl 2,2,2-trichloroethyl ester	C17H31Cl3O3	—	—	0.35
Bicyclo[4.4.1]undeca-1,3,5,7,9-pentaene	C11H10	0.5	0.45	—
Cyclopentane, 1-methyl-2-(4-methylpentyl)-, trans-	C12H24	—	0.2	0.2
Ethylbenzene	C8H10	—	—	0.25
Heptasiloxane, hexadecamethyl-	C16H48O6Si7	—	—	0.25
Hexadecane, 1-iodo-	C16H33I	—	—	0.4
Heptacosane, 1-chloro-	C27H55Cl	—	—	0.35
1-Cyclopentyleicosane	C25H50	0.2	—	—
1-Iodo-2-methylundecane	C12H25I	0.5	—	—
2-Methylhexacosane	C27H56	0.7	—	—
5,5-Diethylheptadecane	C21H44	0.2	—	—
Dodecane, 2,7,10-trimethyl-	C15H32	0.3	—	—
Eicosane, 2,4-dimethyl-	C22H46	0.2	—	—
Heneicosane, 11-(1-ethylpropyl)-	C26H54	0.35	—	—
Hexadecane, 1,1-bis(dodecyloxy)-	C40H82O2	0.8	0.5	0.65
Hexadecane, 2,6,11,15-tetramethyl-	C20H42	9.9	7.05	3.45
Nonadecane, 2-methyl-	C20H42	0.2	—	—
Octadecane, 3-ethyl-5-(2-ethylbutyl)-	C26H54	1.1	1.4	0.6
Pentadecane, 2,6,10,14-tetramethyl-	C19H40	0.25	—	—

Tetradecane, 2,6,10-trimethyl-	C17H36	0.4	0.6	0.8
Tetrapentacontane, 1,54-dibromo-	C54H108Br2	0.35	—	0.45
2,6,10-Trimethyltridecane	C16H34	—	1	0.35
2-Methylpentacosane	C26H54	—	0.2	0.2
5-Butyl-5-ethylheptadecane	C23H48	—	0.2	0.2
Docosane, 11-decyl-	C32H66	—	0.2	—
Dodecane, 2,6,11-trimethyl-	C15H32	—	0.8	1.25
Eicosane, 2-methyl-	C21H44	—	0.2	0.2
Heptadecane, 2,3-dimethyl-	C19H40	—	0.45	—
Hexadecane, 2,6,10,14-tetramethyl-	C20H42	—	0.3	0.3
Pentadecane, 2,6,10-trimethyl-	C18H38	—	0.2	0.2
Tetracosane, 11-decyl-	C34H70	—	0.2	—
Tetradecane, 2-methyl-	C15H32	—	0.25	—
Heptadecane, 9-octyl-	C25H52	—	—	0.25
N,N-Dimethyldodecanamide	C14H29NO	—	0.4	—
Arachidamide, N-ethyl-	C22H45NO	—	—	0.6
Deoxyspergualin	C17H37N7O3	—	—	0.5
Naphthalene, 2-methyl-	C11H10	—	—	1.35
Oleic acid, 3-(octadecyloxy)propyl ester	C39H76O3	0.8	—	—
Phthalic acid, di(2-propylpentyl) ester	C24H38O4	0.9	1.05	0.95
Digitoxin	C41H64O13	—	0.25	—
9-Octadecenamide, (Z)-	C18H35NO	—	1.25	1.05
Cyclopentane, undecyl-	C16H32	0.4	0.45	0.45
Dodecane	C12H26	2.1	2.05	1.5
Eicosane	C20H42	2.6	2	1.2
Heneicosane	C21H44	1.65	0.6	1.2
Heptadecane	C17H36	2.6	1.9	1.5
Hexadecane	C16H34	0.8	1.35	0.9
Pentacosane	C25H52	4.3	2.6	2.85
Pentadecane	C15H32	4.15	0.8	0.55
Tetracosane	C24H50	0.3	—	—
Tetradecane	C14H30	2.25	2.7	3.15
Nonadecane	C19H40	—	—	0.7
Acetic acid n-octadecyl ester	C20H40O2	0.7	0.85	0.65
Carbonic acid, eicosyl vinyl ester	C23H44O3	0.2	—	—
Dichloroacetic acid, tetradecyl ester	C16H30Cl2O2	0.45	—	—
Phthalic acid, hept-4-yl isobutyl ester	C19H28O4	0.5	0.6	0.6
Toluene-4-sulfonic acid, 2,7-dioxatricyclo[4.3.1.0(3,8)]dec-10-yl ester	C15H18O5S	—	0.2	—
1,3-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester	C24H38O4	—	—	0.2
Didecan-2-yl phthalate	C28H46O4	—	—	0.2
Eicosyl heptafluorobutyrate	C24H41F7O2	—	—	0.25

Octatriacontyl pentafluoropropionate	C41H77F5O2	—	—	0.25
Dibutyl phthalate	C16H22O4	0.85	0.75	0.85
1b,4a-Epoxy-2H-cyclopenta[3,4]cyclopropa[8,9]cycloun dec[1,2-b]oxiren-5(1aH)-one,	C28H38O11	0.3	—	—
2,7,9,10-tetrakis(acetyloxy)decahydro-3,6,8,8,10a-penta methyl-				
Octasiloxane,	C16H50O7Si8	—	0.4	—
1,1,3,3,5,5,7,7,9,9,11,11,13,13,15,15-hexadecamethyl-				
Triacetyl acetate	C32H64O2	—	0.2	—
à-L-Fucopyranose 1,2:3,4-bis(benzeneboronate)	C18H18B2O5	—	0.3	—
9-Octadecenenitrile, (Z)-	C18H33N	—	—	0.2
2,6,10-trimethylundecanoic Acid, 2,2,2- trifluoroethyl ester	C16H29F3O2	—	—	0.2