Table S1. Composition of simulated wastewater.

Macroelement	Concentration(mg/L)	Microelement	Concentration(mg/L)
$C_{12}H_{22}O_{11}$	51.3	H_3BO_3	0.572
$(NH_4)_2SO_4$	52.8	$MnCl_2.4H_2O$	0.362
KH_2PO_4	6.58	$ZnSO_4.7H_2O$	0.044
KNO_3	80.9	$CuSO_4.5H_2O$	0.016
$MgSO_4.7H_2O$	98.6	$H_2MoO_4.4H_2O$	0.018
$CaCl_2$	111	$FeSO_4.7H_2O$	1.110
KCl	89.4	Na_2EDTA	1.490

Table S2. Effect of aquatic plant diversity and *C. chinensis* on effluent N concentration.

Source of variation	TIN	NO_3^--N	NH_4^+-N
(a)			
Species richness	0.772	0.406	0.309
C. chinensis	0.709	0.463	0.319
SR* *C. chinensis*	0.426	0.591	0.540
(b)			
Species composition	0.165	0.011*	0.019*
C. chinensis	0.700	0.398	0.255
SC* *C. chinensis*	0.809	0.766	0.432

Note: (a) systems without *C. chinensis*, SR represents plant species richness; (b) systems with *C. chinensis*, SC represents plant species composition; values are expressed as mean, significant differences among species composition and richness are indicated in bold; *P<0.05.

Table S3. Effects of aquatic plant diversity and *C. chinensis* on the coefficient of variation of effluent N concentration.

Source of variation	TIN	NO_3^--N	NH_4^+-N
(A)			
Species richness	0.079	0.006**	1.000
C. chinensis	0.116	0.227	0.525
SR* *C. chinensis*	0.316	0.397	0.286
(B)			
Species composition	0.005**	0.009**	0.757
C. chinensis	0.063†	0.197	0.537
SC* *C. chinensis*	0.098	0.280	0.523

Note: (a) systems without *C. chinensis*, SR represents plant species richness; (b) systems with *C. chinensis*, SC represents plant species composition; values are expressed as mean, significant differences among species composition and richness are indicated in bold; †P<0.1**P<0.01.

Table S4. Effect of plant diversity and *C. chinensis* on substrate N concentration.

Source of variation	TIN	NO_3^--N	NH_4^+-N
(a)			
Species richness	0.832	0.945	0.904
C. chinensis	0.341	0.915	<0.001**
SR* *C. chinensis*	0.968	0.238	0.171
(b)			
Species composition	0.836	0.942	0.909
C. chinensis	0.362	0.377	0.022*
SC* *C. chinensis*	0.940	0.234	0.451

Note: (a) systems without *C. chinensis*, SR represents plant species richness; (b) systems with *C. chinensis*, SC represents plant species composition; values are expressed as mean, significant differences among species composition and richness are indicated in bold; †P<0.1**P<0.01.