

Table. 1. Ion composition of water from different locations and conditions. Values presented in mean  $\pm$  S.D.

Shijaolin, water from Shijaolin; Wushikeng, water from wushiken; Tunghai, water from the tank; DW, deionized water. Crabs were transfer to deionized water for 1 (DW 1 day), 4 (DW 4 day), and 7 (DW 7 day) days.

Water source	Na <sup>+</sup> (mM)	K <sup>+</sup> (mM)	Ca <sup>2+</sup> (mM)	Mg <sup>2+</sup> (mM)	Cl <sup>-</sup> (mM)	pH
Shijaolin	0.490 $\pm$ 0.250	0.051 $\pm$ 0.005	0.864 $\pm$ 0.155	0.395 $\pm$ 0.107	0.032 $\pm$ 0.011	8.17 $\pm$ 0.01
Wushikeng	0.554 $\pm$ 0.031	0.115 $\pm$ 0.004	0.906 $\pm$ 0.037	0.241 $\pm$ 0.015	0.026 $\pm$ 0.002	7.99 $\pm$ 0.01
Tunghai	0.790 $\pm$ 0.02	0.095 $\pm$ 0.006	0.309 $\pm$ 0.010	0.263 $\pm$ 0.000	0.968 $\pm$ 0.088	7.50 $\pm$ 0.09
DW 1day	0.032 $\pm$ 0.006	0.005 $\pm$ 0.001	0.005 $\pm$ 0.003	0.001 $\pm$ 0.001	0.039 $\pm$ 0.005	6.37 $\pm$ 0.56
DW 4day	0.028 $\pm$ 0.007	0.006 $\pm$ 0.001	0.009 $\pm$ 0.004	0.002 $\pm$ 0.000	0.035 $\pm$ 0.006	6.24 $\pm$ 0.54
DW 7day	0.005 $\pm$ 0.009	0.008 $\pm$ 0.003	0.008 $\pm$ 0.002	0.002 $\pm$ 0.001	0.033 $\pm$ 0.010	6.39 $\pm$ 0.29

Table 2. Ion concentrations for *Candidiopotamon rathbunae* acclimated for 96 hr to artificial water (AF), water with artificially low Na<sup>+</sup> (LNW), and water with artificially low Cl<sup>-</sup> (LCW). Values are mean ± S.D.

Condition	Nominal value (mM)					Measured value (mM)				
	[Na <sup>+</sup> ]	[K <sup>+</sup> ]	[Ca <sup>2+</sup> ]	[Mg <sup>2+</sup> ]	[Cl <sup>-</sup> ]	[Na <sup>+</sup> ]	[K <sup>+</sup> ]	[Ca <sup>2+</sup> ]	[Mg <sup>2+</sup> ]	[Cl <sup>-</sup> ]
AF	1	0.1	0.5	0.4	1	0.922±0.142	0.123±0.018	0.494±0.017	0.344±0.067	1.270±0.073
LNW	0.01	0.1	0.5	0.4	1	0.045±0.029	0.125±0.031	0.503±0.066	0.327±0.071	1.281±0.240
LCW	1	0.1	0.5	0.4	0.01	0.900±0.107	0.111±0.013	0.508±0.055	0.340±0.055	0.023±0.008

Table 3. Osmolality (mean  $\pm$  S.D.) of hemolymph, urine, their ratios (U/H), and muscle water content in crabs acclimated in fresh water for 14 days and in crabs transferred to deionized water for 1 day (DW 1 day), for 4 days (DW 4 day), and for 7 days (DW 7day), respectively.

Treatments	Osmolality (mosm/kg)			Muscle water content (%)
	Hemolymph	Urine	U/H	
FW	560 $\pm$ 24 <sup>A</sup>	562 $\pm$ 25 <sup>A</sup>	1.02 $\pm$ 0.03 <sup>N.S</sup>	81.8 $\pm$ 9.7 <sup>N.S</sup>
DW 1 day	501 $\pm$ 21 <sup>B</sup>	511 $\pm$ 20 <sup>B</sup>	1.02 $\pm$ 0.04 <sup>N.S</sup>	82.3 $\pm$ 2.0 <sup>N.S</sup>
DW 4 day	487 $\pm$ 28 <sup>B</sup>	481 $\pm$ 21 <sup>C</sup>	0.99 $\pm$ 0.01 <sup>N.S</sup>	80.9 $\pm$ 2.5 <sup>N.S</sup>
DW 7 day	492 $\pm$ 28 <sup>B</sup>	471 $\pm$ 38 <sup>C</sup>	0.98 $\pm$ 0.03 <sup>N.S</sup>	81.7 $\pm$ 4.7 <sup>N.S</sup>

Table 4. Ion concentrations (mM) in hemolymph (H), urine (U), and their ratio (U/H) were measured during DW acclimation. Crabs acclimated in fresh water for 14 days (FW). Crabs were transferred to DW for 1 day (DW 1 day), for 4 days (DW 4 day), for 7 days (DW 7 day).

Treatments	Na <sup>+</sup>			K <sup>+</sup>			Ca <sup>2+</sup>			Mg <sup>2+</sup>			Cl <sup>-</sup>		
	H	U	U/H	H	U	U/H	H	U	U/H	H	U	U/H	H	U	U/H
<b>FW</b>	189.55	234.81	1.25	5.87	4.38	0.75	15.28	7.68	0.53	3.28	6.00	1.91	332.38	291.44	0.90
	± 32.34 <sup>N.S</sup>	± 34.15 <sup>N.S</sup>	± 0.15 <sup>N.S</sup>	± 1.08 <sup>N.S</sup>	± 1.54 <sup>N.S</sup>	± 0.29 <sup>N.S</sup>	± 1.17 <sup>N.S</sup>	± 3.38 <sup>AB</sup>	± 0.26 <sup>AB</sup>	± 0.74 <sup>A</sup>	± 3.29 <sup>N.S</sup>	± 0.92 <sup>A</sup>	± 27.36 <sup>A</sup>	± 37.06 <sup>A</sup>	± 0.10 <sup>A</sup>
<b>DW 1 day</b>	171.47	214.80	1.30	6.12	4.16	0.66	13.74	5.98	0.39	3.13	10.56	3.60	323.04	212.86	0.65
	± 20.27 <sup>N.S</sup>	± 19.48 <sup>N.S</sup>	± 0.14 <sup>N.S</sup>	± 0.89 <sup>N.S</sup>	± 1.27 <sup>N.S</sup>	± 0.19 <sup>N.S</sup>	± 2.00 <sup>N.S</sup>	± 2.26 <sup>B</sup>	± 0.07 <sup>B</sup>	± 0.21 <sup>A</sup>	± 6.41 <sup>N.S</sup>	± 1.81 <sup>AB</sup>	± 44.03 <sup>A</sup>	± 41.89 <sup>B</sup>	± 0.18 <sup>B</sup>
<b>DW 4 day</b>	180.82	217.59	1.23	5.13	4.21	0.85	13.97	10.05	0.64	2.88	8.70	4.24	299.85	213.92	0.65
	± 25.83 <sup>N.S</sup>	± 44.66 <sup>N.S</sup>	± 0.15 <sup>N.S</sup>	± 1.59 <sup>N.S</sup>	± 1.10 <sup>N.S</sup>	± 0.20 <sup>N.S</sup>	± 3.27 <sup>N.S</sup>	± 3.46 <sup>A</sup>	± 0.25 <sup>A</sup>	± 1.38 <sup>AB</sup>	± 2.42 <sup>N.S</sup>	± 1.24 <sup>B</sup>	± 33.27 <sup>AB</sup>	± 53.88 <sup>B</sup>	± 0.15 <sup>B</sup>
<b>DW 7 day</b>	191.84	212.42	1.18	5.14	3.66	0.69	12.94	9.20	0.72	2.13	8.80	4.68	263.67	191.63	0.71
	± 14.97 <sup>N.S</sup>	± 28.25 <sup>N.S</sup>	± 0.12 <sup>N.S</sup>	± 1.23 <sup>N.S</sup>	± 0.53 <sup>N.S</sup>	± 0.20 <sup>N.S</sup>	± 1.87 <sup>N.S</sup>	± 1.88 <sup>A</sup>	± 0.24 <sup>A</sup>	± 0.71 <sup>AB</sup>	± 4.29 <sup>N.S</sup>	± 2.19 <sup>B</sup>	± 51.24 <sup>B</sup>	± 39.26 <sup>B</sup>	± 0.18 <sup>B</sup>