

Table S1. General biological indicators for each crab sample.

S. No.	Sample ID	Weight (g)	Carapace width (cm)	Carapace length (cm)	Sample site
1	GD1	176.08	70.95	67.1	Geum river (GD)
2	GD2	126.8	63.7	59	
3	GD3	142.21	67.3	62.2	
4	GD4	93.47	59.1	55.5	
5	GD5	131.27	63.95	60.2	
6	GD6	83.76	59.95	51.95	
7	GD7	71.15	52.85	50.25	
8	GD8	134.12	65.85	60.7	
9	GD9	115.75	61.5	56.9	
10	GD10	152.93	67.8	63.35	
11	GD11	156.2	66.3	61.7	
12	GD12	150.37	67	63.1	
13	GD13	161.73	68.05	63.7	
14	GD14	111.54	62.35	56.9	
15	GD15	150.66	68.8	64.95	
16	GD16	105.52	60.75	55.6	
17	GD17	120.89	61.45	56.8	
18	GD18	162.75	70.2	63.95	
19	HD1	58.27	51.2	47.15	Han river (HD)
20	HD2	61.74	53.2	49.1	
21	HD3	55.95	50.9	46.7	
22	HD4	57.23	51.45	47.2	
23	HD5	50.37	49.25	44.75	
24	HD6	54.41	50.35	46.45	
25	HD7	59.35	48.75	46	
26	HD8	61.26	50.55	46.65	
27	HD9	54.21	49.3	44.95	
28	HD10	86.87	58.5	52.2	
29	HD11	52.25	49.25	44.7	
30	HD12	51.75	48.8	45.4	
31	HD13	59.35	52.2	47.8	
32	HD14	58.3	50.35	46.65	
33	HD15	63.93	53.75	48.6	
34	HD16	79.97	57.4	52.55	
35	HD17	63.83	53.3	50.2	
36	HD18	64.15	53.25	48.65	
37	TD1	49.58	47.7	42.85	Tamjin river (TD)
38	TD2	50.31	48.1	44	
39	TD3	48.76	47	42.95	
40	TD4	38.44	43	40	
41	TD5	37.55	40.55	46.55	
42	TD6	33.56	41.1	37.9	
43	TD7	49.28	48.85	41.8	
44	TD8	32.94	41.85	37.9	

45	TD9	35.15	41.95	38.1
46	TD10	77.97	56.5	52.9
47	TD11	53.81	52.8	49.85
48	TD12	65.08	58.9	48.6
49	TD13	50.88	47.9	45.25
50	TD14	50.92	48.9	45.55
51	TD15	44.98	47.05	44.25
52	TD16	43.67	46.45	43.3
53	TD17	39.83	44.45	41.75
54	TD18	41.79	45.65	42.15

Table S2: Summary of environmental parameters for each sampling site.

Site	River	Latitude	Longitude	Temperature (°C)	pH	CDS (mS)	DO (mg/L)	Salt (ppm)	Date
HD	Han river	37°34'28.4"N	126°51'36.7"E	16.3°C	7.18	0.268	21.6	146	10/21/2021
GD	Geum river	36°04'50.8"N	126°37'48.7"E	17.3°C	9.73	9.57	10.2	0.0	11/1/2021
SD	Tamjin river	34°58'00.4"N	127°35'16.1"E	19.2°C	7.00	0.456	12.7	233	11/3/2021

Table S3: Gradient elution of HPLC in determination of free amino acids.

Min.	A%	B%
0.0	88.0	12.0
8.0	88.0	12.0
12.0	84.0	16.0
20.0	70.0	30.0
20.5	65.0	35.0
25.0	55.0	45.0
40.0	49.0	51.0
45.0	0.0	100.0
62.0	0.0	100.0
62.1	88.0	12.0
70.0	88.0	12.0

Table S4: Summary of alpha-diversity metrics at three sampling sites.

Sample	Chao1	Shannon	Evenness
HD	570	4.14	0.653
SD	566	4.70	0.742
GD	305	4.01	0.70