Genetic Diversity and Population Structure of the Chinese Mitten Crab (*Eriocheir sinensis)* from Six Different Lakes Using Microsatellites

Shengyan Su [1,2]**, Jean Damascene Nsekanabo** [1]**, Brian Pelekelo Munganga** [1,3]**, Xinjin He** [2]**, Jianlin Li** [2]**, Fan Yu** [2]**, Meiyao Wang** [2] **and Yongkai Tang** [1,2,*]

[1] Wuxi Fisheries College, Nanjing Agricultural University, Wuxi 214081, China; brijelimunga@gmail.com (B.P.M.)

[2] Key Laboratory of Integrated Rice-Fish Farming Ecology, Ministry of Agriculture and Rural Affairs, Freshwater Fisheries Research Center, Chinese Academy of Fishery Sciences, Wuxi 214081, China;

[3] Centre for Innovative Approach Zambia, Lusaka 00000, Zambia

* Correspondence: tangyk@ffrc.cn

Table S1. 13 pairs of microsatellite primers used to detect the genetic diversity of Chinese mittens crabs.

Name	Forward ()	Backward ()	Size	Temperature(°C)	Label
crab1	CCGAACAGTGACGGTTACCA	TAGCCCTAATCCCGGGATCC	180	56	FAM
crab20	CTGGCCAGTCCGTAAGTCAG	TTGACTGACCGTTGGACTGG	278	56	VIC
crab2	GGGTACTCATCCAGGAAGGTG	ACAGTCTGTCGGGAAGCTTC	180	56	FAM
crab11	AAGATCCTCGTGCACGTCTG	AACACAACGTATGCATCTGAGA	279	56	FAM
crab18	CTCGTGCACGTCTGGGATT	TGGCAATAACACAACGTATGCA	280	56	VIC
crab15	TCTGTCAGTCAGTCAATCATTCA	CAAAGCCCTCGTGAACCAGA	280	56	VIC
crab6	TGGGAGTCCCTCAGTCACTT	AGTAGTACTTCTGCCTGCTGC	179	56	FAM
crab17	GGAAAGGTGATCGGCCCTAC	CCTCCCTGTCCTCACTCACT	280	56	VIC
crab8	CCCACAGGTGTTCACGCG	CTGTTGGTCTGTTTTCTGCCTC	179	56	FAM
crab12	TGGACGTGCTTTCATCTCTCT	TTTTCGGCAACACCAGCAAC	279	56	VIC
Esin42	GCACCGCAGTGATAATGTAGTGG	GATCCTCGTGTGGGCGTGCTTAC	215-281	56	FAM
HLJEsa42	ACCCTCAGCAGTTATCGTG	CGCTACAACAAAGGCAAG	300-366	56	VIC
crab21	CCACCAGGATGTCAACTCGT	GGAAGAGGAGGAGGAGAGGT	280	56	VIC

Table S2. Genotypic linkage disequilibrium for each locus pair across all populations.

Locus1	Locus2	Chi2	df	*p*-Value
crab1	crab20	16.540	12	0.168
crab1	crab2	2.915	4	0.572
crab20	crab2	1.470	4	0.832
crab1	crab11	13.912	12	0.306
crab20	crab11	7.695	12	0.808
crab2	crab11	3.142	4	0.534
crab1	crab18	13.671	12	0.322
crab20	crab18	13.960	12	0.303
crab2	crab18	2.903	4	0.574
crab11	crab18	>191.308	1712	0.001
crab1	crab15	5.809	12	0.925
crab20	crab15	22.563	12	0.031
crab2	crab15	4.411	4	0.353
crab11	crab15	8.325	12	0.759

crab18	crab15	11.067	12	0.523
crab1	crab6	9.175	12	0.688
crab20	crab6	9.509	12	0.659
crab2	crab6	2.336	4	0.674
crab11	crab6	14.209	12	0.287
crab18	crab6	16.437	12	0.172
crab15	crab6	22.426	12	0.033
crab1	crab17	16.462	12	0.171
crab20	crab17	16.422	12	0.173
crab2	crab17	1.622	4	0.805
crab11	crab17	6.483	12	0.890
crab18	crab17	10.522	12	0.570
crab15	crab17	10.393	12	0.581
crab6	crab17	9.781	12	0.635
crab1	crab8	12.835	12	0.381
crab20	crab8	18.715	12	0.095
crab2	crab8	3.935	4	0.415
crab11	crab8	7.443	12	0.827
crab18	crab8	8.635	12	0.733
crab15	crab8	19.852	12	0.069
crab6	crab8	11.049	12	0.524
crab17	crab8	10.289	12	0.590
crab1	crab12	14.595	12	0.264
crab20	crab12	24.476	12	0.017
crab2	crab12	5.756	4	0.218
crab11	crab12	9.495	12	0.660
crab18	crab12	15.548	12	0.212
crab15	crab12	15.104	12	0.235
crab6	crab12	11.772	12	0.464
crab17	crab12	10.154	12	0.602
crab8	crab12	20.802	12	0.053
crab1	Esin42	5.111	12	0.954
crab20	Esin42	>41.487	112	0.001
crab2	Esin42	2.701	4	0.608
crab11	Esin42	17.117	12	0.145
crab18	Esin42	13.942	12	0.304
crab15	Esin42	15.775	12	0.201
crab6	Esin42	16.619	12	0.164
crab17	Esin42	7.482	12	0.824
crab8	Esin42	26.501	12	0.001
crab12	Esin42	>51.132	912	0.001
crab1	HLJEsa42	9.744	12	0.638
crab20	HLJEsa42	17.398	12	0.135
crab2	HLJEsa42	4.603	4	0.330
crab11	HLJEsa42	9.837	12	0.630
crab18	HLJEsa42	20.404	12	0.059
crab15	HLJEsa42	14.648	12	0.261
crab6	HLJEsa42	5.098	12	0.954
crab17	HLJEsa42	10.841	12	0.542
crab8	HLJEsa42	18.346	12	0.105
crab12	HLJEsa42	31.806	12	0.001

Esin42	HLJEsa42	>66.932	112	0.001
crab1	crab21	19.426	12	0.078
crab20	crab21	15.397	12	0.220
crab2	crab21	4.964	4	0.290
crab11	crab21	9.925	12	0.622
crab18	crab21	13.512	12	0.332
crab15	crab21	14.306	12	0.281
crab6	crab21	11.831	12	0.459
crab17	crab21	7.672	12	0.810
crab8	crab21	6.420	12	0.893
crab12	crab21	21.342	12	0.045
Esin42	crab21	12.618	12	0.397
HLJEsa42	crab21	11.658	12	0.473