

Michael John Mendiola, Rachel Ravago-Gotanco. Genetic differentiation and signatures of local adaptation revealed by RADseq for a highly-dispersive mud crab *Scylla olivacea* (Herbst, 1786) in the Sulu Sea.

Table 1. Summary information of *S. olivacea* sample location and genetic diversity estimates.

Sampling Location	Site Code	Group	N	Sampling Coordinates Lat, Long	Adjusted Coordinates Lat, Long	H_O	H_E	F_{IS}
Coron, Palawan	CRN	West	14	12.156, 120.094	-, -	0.276	0.275	-0.001
Roxas, Palawan	ROX	West	13	10.364, 119.389	10.296, 119.416	0.242	0.269	0.098
Puerto Princesa, Palawan	PPC	West	15	9.7384, 118.687	9.700, 118.783	0.231	0.282	0.181
Bataraza, Palawan	BAT	West	12	8.650, 117.520	8.628, 117.557	0.240	0.266	0.096
San Jose, Occidental Mindoro	MSJ	East	22	12.346, 121.063	12.307, 121.012	0.250	0.275	0.094
Hamtic, Antique	ANT	East	13	10.719, 121.964	10.690, 121.925	0.263	0.277	0.050
Siaton, Negros Oriental	NEG	East	15	9.048, 123.002	9.026, 122.997	0.256	0.273	0.062
Languyan, Tawi-Tawi	TWI	East	12	5.215, 119.955	5.252, 119.862	0.245	0.267	0.080
Sta. Ana, Cagayan	CGY	Outgroup	15	18.480, 122.150		0.246	0.273	0.098
General Santos City	GSC	Outgroup	15	6.105, 125.167		0.223	0.278	0.197

N = Number of individuals; H_O = observed heterozygosity; H_E = expected heterozygosity; F_{IS} = inbreeding coefficient

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Table 2. Filtering processes and specific parameters used to filter the final SNP panel of *S. olivacea*. Each filtering step indicates the number of SNPs that were removed and retained. Filtering tools and programs are indicated in the methods section.

Filtering steps	No. of removed loci	No. of retained loci
STACKs (<i>denovo_map.pl</i>)		
-m 5		
-M 4		
-n 4	-	777,762
STACKs (<i>populations</i>)		
-r 0.50		
-p 10	762,394	15,368
Loci with >30% missing data	513	14,855
MAF < 0.05, informative loci	12,211	2644
HWE per population	9	2635
LD ($r^2 > 0.8$)	970	1665
Observed heterozygosity (>0.6)	10	1655
Final SNP panel		1655

Table 3. Summary of the redundancy analysis (RDA) of genetic data (neutral and outlier loci-only) and environmental variables including the asymmetric eigenvector maps (AEMs), sea surface temperature (SST), and rainfall. Only those variables retained by backward selection and were significant ($p < 0.05$) are included in the final model. R^2_{adj} represents the adjusted coefficient of determination with p -values calculated using the analysis of variance (*anova*; permutations = 999). The proportion of constrained RDA axes were presented in columns and values in bold and with asterisk (*) indicate significant axes at 5% and 10% level, respectively.

	Significant variables	R^2_{adj}	p	RDA1	RDA2
AEM	<i>AEM6</i>	0.133	0.035	0.609*	0.391
	<i>AEM7</i>				
SST	<i>JUN</i>	0.763	0.041	0.880	0.102
	<i>AUG</i>				
	<i>SEP</i>				
	<i>DEC</i>				
Rainfall	<i>MAR</i>	0.656	0.089	0.870	0.104
	<i>JUN</i>				
	<i>SEP</i>				
	<i>NOV</i>				