

## Microsatellite variation in Australian and Indonesian pearl oyster *Pinctada maxima* populations

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**Appendix 1.** *Pinctada maxima*. Population genetic statistics describing the variability of microsatellites in adults ( $N$ : number of individual oysters sampled;  $k$ : number of alleles observed in the population;  $H_o$ : observed heterozygosity;  $H_e$ : expected heterozygosity).  $H_o/H_e < 1$  indicate heterozygote deficits and ratio  $> 1$  indicates heterozygote excess.  $p$  is the probability that the allele frequencies deviate from those expected under conditions of Hardy–Weinberg equilibrium, with those in bold indicating significance after Bonferroni correction (Rice 1989)

Locus	Madura	Sumbawa	Darwin	Lacepedes	80 Mile Deep	80 Mile Shallow	Port Hedland	Exmouth
<b>Pmx +008</b>								
$N$	48	50	99	100	87	100	72	100
$k$	33	35	46	52	42	44	41	54
$H_o$	0.938	0.880	0.909	0.920	0.828	0.870	0.889	0.920
$H_e$	0.965	0.964	0.970	0.974	0.973	0.969	0.968	0.977
$H_o/H_e$	0.971	0.913	0.937	0.945	0.851	0.897	0.918	0.942
$p$	0.359	0.020	0.015	<b>0.000</b>	0.007	0.002	0.001	0.011
<b>Pmx +014</b>								
$N$	50	50	100	100	87	100	73	99
$k$	23	24	23	26	24	25	24	23
$H_o$	0.580	0.540	0.520	0.450	0.506	0.480	0.356	0.535
$H_e$	0.953	0.953	0.935	0.946	0.945	0.948	0.939	0.935
$H_o/H_e$	0.608	0.567	0.556	0.476	0.535	0.506	0.379	0.573
$p$	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>Pmx 18_21</b>								
$N$	49	50	100	100	87	100	73	100
$k$	13	10	11	12	14	13	13	13
$H_o$	0.735	0.780	0.810	0.730	0.759	0.620	0.836	0.740
$H_e$	0.830	0.790	0.826	0.796	0.813	0.800	0.826	0.770
$H_o/H_e$	0.885	0.988	0.981	0.917	0.934	0.775	1.012	0.961
$p$	0.083	0.711	0.075	0.043	0.146	<b>0.000</b>	0.674	0.516
<b>Pmx +020</b>								
$N$	49	49	100	100	87	100	73	100
$k$	15	14	18	20	19	17	17	18
$H_o$	0.429	0.367	0.490	0.480	0.471	0.510	0.438	0.440
$H_e$	0.903	0.901	0.925	0.924	0.929	0.926	0.930	0.916
$H_o/H_e$	0.474	0.408	0.530	0.519	0.507	0.551	0.471	0.480
$p$	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>Pmx +022</b>								
$N$	49	50	100	100	87	99	73	100
$k$	14	17	17	16	14	14	18	14
$H_o$	0.939	0.800	0.890	0.850	0.862	0.859	0.890	0.880
$H_e$	0.910	0.886	0.888	0.876	0.886	0.892	0.906	0.886
$H_o/H_e$	1.032	0.903	1.003	0.970	0.973	0.962	0.983	0.994
$p$	0.417	0.059	0.107	0.012	0.537	0.729	0.620	0.511

Appendix 1 (continued)

Locus	Madura	Sumbawa	Darwin	Lacepedes	80 Mile Deep	80 Mile Shallow	Port Hedland	Exmouth
<b>Pmx 16_05</b>								
<i>N</i>	50	50	100	100	87	100	73	100
<i>k</i>	14	16	18	16	17	16	16	17
$H_o$	0.760	0.860	0.780	0.790	0.759	0.780	0.767	0.770
$H_e$	0.911	0.911	0.912	0.894	0.898	0.902	0.904	0.899
$H_o/H_e$	0.834	0.944	0.856	0.884	0.845	0.865	0.849	0.857
<i>p</i>	0.148	0.262	0.001	0.011	0.093	0.059	0.032	0.023
<b>Pmx 16_23</b>								
<i>N</i>	49	50	100	100	87	100	73	100
<i>k</i>	16	15	18	18	12	15	18	16
$H_o$	0.898	0.900	0.840	0.830	0.506	0.450	0.247	0.470
$H_e$	0.914	0.875	0.895	0.831	0.735	0.677	0.810	0.607
$H_o/H_e$	0.982	1.029	0.939	0.999	0.688	0.665	0.304	0.774
<i>p</i>	0.287	0.538	0.739	0.452	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	0.002
<b>Pmx 16_41</b>								
<i>N</i>	49	49	100	100	87	100	73	100
<i>k</i>	14	14	14	13	12	13	13	13
$H_o$	0.857	0.816	0.820	0.790	0.828	0.820	0.822	0.750
$H_e$	0.888	0.867	0.879	0.877	0.884	0.885	0.885	0.877
$H_o/H_e$	0.965	0.942	0.933	0.901	0.936	0.926	0.929	0.856
<i>p</i>	0.681	0.127	0.022	0.114	0.266	0.267	0.367	0.053

**Appendix 2.** *Pinctada maxima*. Population genetic statistics describing the variability of microsatellites in 1+ spat collected in 1998 and 1999. Symbols and details as in Appendix 1

Locus	1998						1999			
	Darwin	Lacepedes	80 Mile Deep	80 Mile Shallow	Port Hedland	Exmouth	Lacepedes	80 Mile Shallow	Port Hedland	Exmouth
<b>Pmx +008</b>										
<i>N</i>	59	87	81	100	50	99	46	96	78	113
<i>k</i>	38	47	49	52	40	52	42	46	53	48
$H_o$	0.864	0.851	0.951	0.880	0.860	0.859	0.870	0.729	1.205	0.717
$H_e$	0.974	0.973	0.973	0.969	0.970	0.970	0.974	0.966	0.974	0.966
$H_o/H_e$	0.888	0.874	0.977	0.908	0.886	0.885	0.893	0.755	1.237	0.742
<i>p</i>	0.010	0.003	0.323	0.006	0.010	0.002	<b>0.001</b>	<b>0.000</b>	0.016	0.000
<b>Pmx +014</b>										
<i>N</i>	60	85	80	99	50	98	49	95	84	112
<i>k</i>	24	26	21	23	25	26	23	24	22	26
$H_o$	0.533	0.518	0.588	0.576	0.460	0.439	0.633	0.495	0.786	0.500
$H_e$	0.945	0.950	0.933	0.941	0.954	0.941	0.942	0.946	0.943	0.937
$H_o/H_e$	0.564	0.545	0.630	0.612	0.482	0.466	0.672	0.523	0.834	0.533
<i>p</i>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>Pmx 18_21</b>										
<i>N</i>	60	88	81	100	50	100	50	98	87	116
<i>k</i>	13	13	13	12	13	12	11	12	14	13
$H_o$	0.717	0.761	0.802	0.700	0.780	0.820	0.620	0.622	1.011	0.586
$H_e$	0.798	0.803	0.800	0.791	0.826	0.792	0.725	0.783	0.789	0.810
$H_o/H_e$	0.899	0.948	1.004	0.885	0.944	1.035	0.855	0.795	1.282	0.724
<i>p</i>	0.286	0.054	0.845	0.399	0.021	0.748	0.226	0.307	0.242	0.100
<b>Pmx +020</b>										
<i>N</i>	60	87	81	100	50	100	50	95	84	117
<i>k</i>	17	22	18	20	17	20	17	17	15	19
$H_o$	0.417	0.460	0.506	0.510	0.500	0.490	0.500	0.379	0.726	0.359
$H_e$	0.929	0.926	0.916	0.934	0.930	0.930	0.926	0.927	0.919	0.930
$H_o/H_e$	0.449	0.496	0.553	0.546	0.538	0.527	0.540	0.409	0.790	0.386
<i>p</i>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>Pmx +022</b>										
<i>N</i>	60	88	81	100	50	100	49	96	87	116
<i>k</i>	13	16	15	17	12	16	14	16	17	17
$H_o$	0.900	0.909	0.877	0.870	0.900	0.890	0.898	0.781	1.218	0.690
$H_e$	0.869	0.885	0.895	0.885	0.843	0.882	0.893	0.881	0.895	0.898
$H_o/H_e$	1.035	1.027	0.979	0.983	1.067	1.009	1.006	0.886	1.361	0.768
<i>p</i>	0.505	0.727	0.185	0.499	0.999	0.691	0.661	0.728	0.430	0.277
<b>Pmx 16_05</b>										
<i>N</i>	60	88	81	100	50	100	50	98	87	117
<i>k</i>	14	15	15	16	12	14	14	17	16	15
$H_o$	0.800	0.727	0.778	0.770	0.640	0.800	0.800	0.643	1.011	0.684
$H_e$	0.913	0.903	0.889	0.889	0.883	0.903	0.893	0.905	0.900	0.902
$H_o/H_e$	0.876	0.805	0.874	0.867	0.724	0.886	0.896	0.710	1.124	0.758
<i>p</i>	0.086	0.002	0.010	0.029	0.002	0.080	0.008	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>
<b>Pmx 16_23</b>										
<i>N</i>	60	87	81	100	50	100	50	97	87	117
<i>k</i>	15	18	14	13	14	16	16	17	14	14
$H_o$	0.883	0.747	0.630	0.550	0.660	0.440	0.620	0.443	0.655	0.530
$H_e$	0.875	0.751	0.690	0.629	0.727	0.507	0.795	0.672	0.558	0.557
$H_o/H_e$	1.009	0.995	0.913	0.874	0.907	0.867	0.780	0.659	1.175	0.951
<i>p</i>	0.488	0.931	0.112	0.071	0.567	0.358	0.010	0.512	0.451	0.044
<b>Pmx 16_41</b>										
<i>N</i>	60	86	81	100	50	99	48	97	85	116
<i>k</i>	16	12	13	14	12	13	12	12	11	13
$H_o$	0.783	0.756	0.815	0.720	0.760	0.808	0.833	0.680	0.894	0.690
$H_e$	0.898	0.876	0.882	0.884	0.882	0.875	0.888	0.880	0.878	0.869
$H_o/H_e$	0.872	0.863	0.923	0.814	0.862	0.923	0.939	0.773	1.018	0.793
<i>p</i>	0.024	0.002	0.104	0.020	0.238	0.200	0.202	0.260	<b>0.001</b>	<b>0.000</b>

**Appendix 3.** *Pinctada maxima*. Population genetic statistics describing the variability of microsatellites in 0+ spat collected in 1998 and 1999. Symbols and details as in Appendix 1

Locus	1998				1999
	Lacepedes	80 Mile Shallow	Port Hedland	Exmouth	80 Mile Shallow
<b>Pmx + 008</b>					
<i>N</i>	18	31	3	49	31
<i>k</i>	24	29	5	40	24
<i>H<sub>o</sub></i>	0.889	0.774	0.667	0.837	0.806
<i>H<sub>e</sub></i>	0.973	0.972	0.933	0.972	0.953
<i>H<sub>o</sub>/H<sub>e</sub></i>	0.914	0.797	0.714	0.861	0.846
<i>p</i>	0.134	<b>0.000</b>	0.196	0.014	0.027
<b>Pmx + 014</b>					
<i>N</i>	18	51	13	47	31
<i>k</i>	15	20	12	20	22
<i>H<sub>o</sub></i>	0.556	0.451	0.462	0.532	0.742
<i>H<sub>e</sub></i>	0.946	0.938	0.938	0.935	0.946
<i>H<sub>o</sub>/H<sub>e</sub></i>	0.587	0.481	0.492	0.569	0.784
<i>p</i>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	<b>0.000</b>	0.004
<b>Pmx 18_21</b>					
<i>N</i>	19	66	18	48	32
<i>k</i>	8	8	6	12	9
<i>H<sub>o</sub></i>	0.789	0.864	0.333	0.688	0.750
<i>H<sub>e</sub></i>	0.236	0.652	0.784	0.802	0.812
<i>H<sub>o</sub>/H<sub>e</sub></i>	3.343	1.325	0.425	0.857	0.924
<i>p</i>	0.585	<b>0.000</b>	<b>0.000</b>	0.164	0.066
<b>Pmx + 020</b>					
<i>N</i>	17	49	11	48	31
<i>k</i>	13	17	8	19	15
<i>H<sub>o</sub></i>	0.412	0.469	0.455	0.479	0.387
<i>H<sub>e</sub></i>	0.929	0.895	0.853	0.931	0.932
<i>H<sub>o</sub>/H<sub>e</sub></i>	0.443	0.524	0.533	0.515	0.415
<i>p</i>	<b>0.000</b>	<b>0.000</b>	0.012	<b>0.000</b>	<b>0.000</b>
<b>Pmx + 022</b>					
<i>N</i>	18	66	12	48	31
<i>k</i>	12	10	8	15	11
<i>H<sub>o</sub></i>	0.833	0.758	0.333	0.917	0.839
<i>H<sub>e</sub></i>	0.903	0.839	0.797	0.874	0.897
<i>H<sub>o</sub>/H<sub>e</sub></i>	0.923	0.903	0.418	1.049	0.935
<i>p</i>	0.217	<b>0.000</b>	<b>0.000</b>	0.581	0.670
<b>Pmx 16_05</b>					
<i>N</i>	18	58	11	48	32
<i>k</i>	13	15	7	13	13
<i>H<sub>o</sub></i>	0.833	0.690	0.364	0.792	0.781
<i>H<sub>e</sub></i>	0.895	0.830	0.597	0.898	0.895
<i>H<sub>o</sub>/H<sub>e</sub></i>	0.931	0.831	0.609	0.882	0.873
<i>p</i>	0.087	<b>0.000</b>	0.001	0.004	0.027
<b>Pmx 16_23</b>					
<i>N</i>	18	43	9	48	30
<i>k</i>	10	12	4	10	7
<i>H<sub>o</sub></i>	0.667	0.419	0.111	0.333	0.667
<i>H<sub>e</sub></i>	0.794	0.790	0.739	0.500	0.645
<i>H<sub>o</sub>/H<sub>e</sub></i>	0.840	0.530	0.150	0.666	1.033
<i>p</i>	0.087	<b>0.000</b>	<b>0.000</b>	0.003	0.361
<b>Pmx 16_41</b>					
<i>N</i>	19	54	19	49	32
<i>k</i>	10	10	8	13	11
<i>H<sub>o</sub></i>	0.632	0.648	0.526	0.796	0.938
<i>H<sub>e</sub></i>	0.844	0.846	0.825	0.887	0.877
<i>H<sub>o</sub>/H<sub>e</sub></i>	0.749	0.766	0.638	0.898	1.068
<i>p</i>	0.026	0.001	0.006	0.107	0.814