Unexpected patterns of global population structure in melon-headed whales *Peponocephala electra*

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Table S1. Locus-specific estimates of genetic diversity for microsatellite loci. Columns show fluorescent tag (*Tag*) and annealing temperature (T_A) used for the locus, number of alleles detected (# alleles), number of samples with missing genotypes (# missing), allelic richness (A_R), expected heterozygosity (H_e), and observed heterozygosity (H_o). Allelic richness was based on a minimum sample size of 185.

Locus	Tag	T_A (°C)	# alleles	# missing	A_R	H_e	H_o
D17t	FAM	55	12	0	0.064	0.840	0.802
EV14t	HEX	56	12	6	0.067	0.657	0.656
EV1t	HEX	55	7	3	0.038	0.556	0.554
EV94t	FAM	55	10	1	0.054	0.815	0.790
GATA53	HEX	58.4	7	4	0.039	0.655	0.613
KWM12at	FAM	52	13	7	0.072	0.813	0.833
KWM2at	HEX	45	13	2	0.070	0.878	0.870
SAM25t	FAM	55	9	7	0.050	0.815	0.806
SL125t	FAM	55	9	7	0.050	0.688	0.672
SL849t	FAM	55	8	0	0.043	0.576	0.610
SW19t	FAM	55	7	8	0.039	0.683	0.659
Ttr11	FAM	55	12	1	0.064	0.850	0.850
Ttr58	FAM	60	6	2	0.032	0.600	0.600
TtrRC11	FAM	55	10	1	0.054	0.801	0.801

Table S2. Published values of Φ_{ST} for fish-eating killer whales (KW), false killer whales (FKW), short-finned pilot whales (SFPW), and long-finned pilot whales (LFPW) used to generate Figure 3. Strata are defined in source material. Abbreviations: ETP = Eastern Tropical Pacific; HI = Hawaiian Islands; MHI = main Hawaiian Islands; NWHI = Northwest Hawaiian Islands.

Taxon	Strata	Comparison type	Φ_{st}	Source
SFPW	South Pacific vs Atlantic	between	0.589	Oremus et al. 2009
SFPW	N. Japan vs Atlantic	between	0.741	Oremus et al. 2009
SFPW	S. Japan vs Atlantic	between	0.619	Oremus et al. 2009
LFPW	N. Atlantic vs New Zealand	between	0.648	Oremus et al. 2009
LFPW	N. Atlantic vs Tasmania	between	0.265	Oremus et al. 2009
SFPW	Indian Ocean vs California Current	between	0.549	Van Cise et al. in press
SFPW	Indian Ocean vs ETP	between	0.47	Van Cise et al. in press
SFPW	Indian Ocean vs S. Japan	between	0.534	Van Cise et al. in press
SFPW	Indian Ocean vs Hawai'i	between	0.738	Van Cise et al. in press
SFPW	Indian Ocean vs South Pacific	between	0.202	Van Cise et al. in press
SFPW	Indian Ocean vs SE Asia	between	0.157	Van Cise et al. in press

Taxon	Strata	Comparison type	Φ_{st}	Source
SFPW	N. Atlantic vs California Current	between	0.78	Van Cise et al. in press
SFPW	N. Atlantic vs ETP	between	0.712	Van Cise et al. in press
SFPW	N. Atlantic vs S. Japan	between	0.851	Van Cise et al. in press
SFPW	N. Atlantic vs HI	between	0.882	Van Cise et al. in press
SFPW	N. Atlantic vs South Pacific	between	0.58	Van Cise et al. in press
SFPW	N. Atlantic vs SE Asia	between	0.816	Van Cise et al. in press
SFPW	N. Atlantic vs Indian Ocean	between	0.674	Van Cise et al. in press
FKW	MHI vs NWHI	within	0.131	Martien et al. 2014
FKW	MHI vs Central N. Pacific	within	0.658	Martien et al. 2014
FKW	MHI vs ETP	within	0.709	Martien et al. 2014
FKW	NWHI vs Central N. Pacific	within	0.618	Martien et al. 2014
FKW	NWHI vs ETP	within	0.695	Martien et al. 2014
FKW	ETP vs Central N. Pacific	within	0.091	Martien et al. 2014
SFPW	N. Japan vs South Pacific	within	0.545	Oremus et al. 2009
SFPW	S. Japan vs South Pacific	within	0.58	Oremus et al. 2009
SFPW	S. Japan vs N. Japan	within	0.566	Oremus et al. 2009
LFPW	Tasmania vs New Zealand	within	0.423	Oremus et al. 2009
KW	Gulf of Alaska vs E. Aleutians-Trinity	within	0.18	Parsons et al. 2013
KW	Gulf of Alaska vs C. Aleutians	within	0.783	Parsons et al. 2013
KW	E. Aleutians-Trinity Islands vs C. Aleutians	within	0.915	Parsons et al. 2013
KW	Gulf of Alaska vs W. Aleutians-Russia	within	0.962	Parsons et al. 2013
KW	E. Aleutians-Trinity Islands vs WAL-RUS	within	1	Parsons et al. 2013
KW	C. Aleutians vs W. Aleutians-Russia	within	0.131	Parsons et al. 2013
SFPW	S. Japan vs California Current	within	0.809	Van Cise et al. in press
SFPW	Hawai'i vs California Current	within	0.852	Van Cise et al. in press
SFPW	South Pacific vs California Current	within	0.521	Van Cise et al. in press
SFPW	SE Asia vs California Current	within	0.736	Van Cise et al. in press
SFPW	S. Japan vs ETP	within	0.777	Van Cise et al. in press
SFPW	Hawai'i vs ETP	within	0.823	Van Cise et al. in press
SFPW	South Pacific vs ETP	within	0.479	Van Cise et al. in press
SFPW	SE Asia vs ETP	within	0.685	Van Cise et al. in press
SFPW	HI vs S. Japan	within	0.574	Van Cise et al. in press
SFPW	Spac vs S. Japan	within	0.655	Van Cise et al. in press
SFPW	SE Asia vs S. Japan	within	0.105	Van Cise et al. in press
SFPW	HI vs Spac	within	0.744	Van Cise et al. in press
SFPW	HI vs SE Asia	within	0.639	Van Cise et al. in press
SFPW	SE Asia vs Spac	within	0.48	Van Cise et al. in press

Table S3. Mean log-likelihood and ΔK for STRUCTURE models.

Sample Set	Model	Likelihood	
		Mean ln(K)	ΔK
Hawaiian samples only LOCPRIOR = F	$K = 1$	**-5226.30**	NA
	$K = 2$	-5406.54	NA
	$K = 3$	-6289.48	NA
Hawaiian samples only LOCPRIOR = T	$K = 1$	**-5226.00**	NA
	$K = 2$	-5249.20	NA
	$K = 3$	-5516.94	NA
All Samples LOCPRIOR = F	$K = 1$	**-8716.44**	NA
	$K = 2$	-9138.90	-422.46
	$K = 3$	-8923.58	215.32
	$K = 4$	-9017.96	-94.38
	$K = 5$	-8899.84	118.12
	$K = 6$	-9209.82	-309.98
All Samples LOCPRIOR = T	$K = 1$	-8716.70	NA
	$K = 2$	**-8669.76**	9.014
	$K = 3$	-8701.46	0.815
	$K = 4$	-8725.28	12.45
	$K = 5$	-9034.68	0.939
	$K = 6$	-9240.90	NA