

**Conserving Nemo: Genomic insights into the history and status of the
endangered anemonefish *Amphiprion mccullochi* and its sister species
*Amphiprion akindynos***

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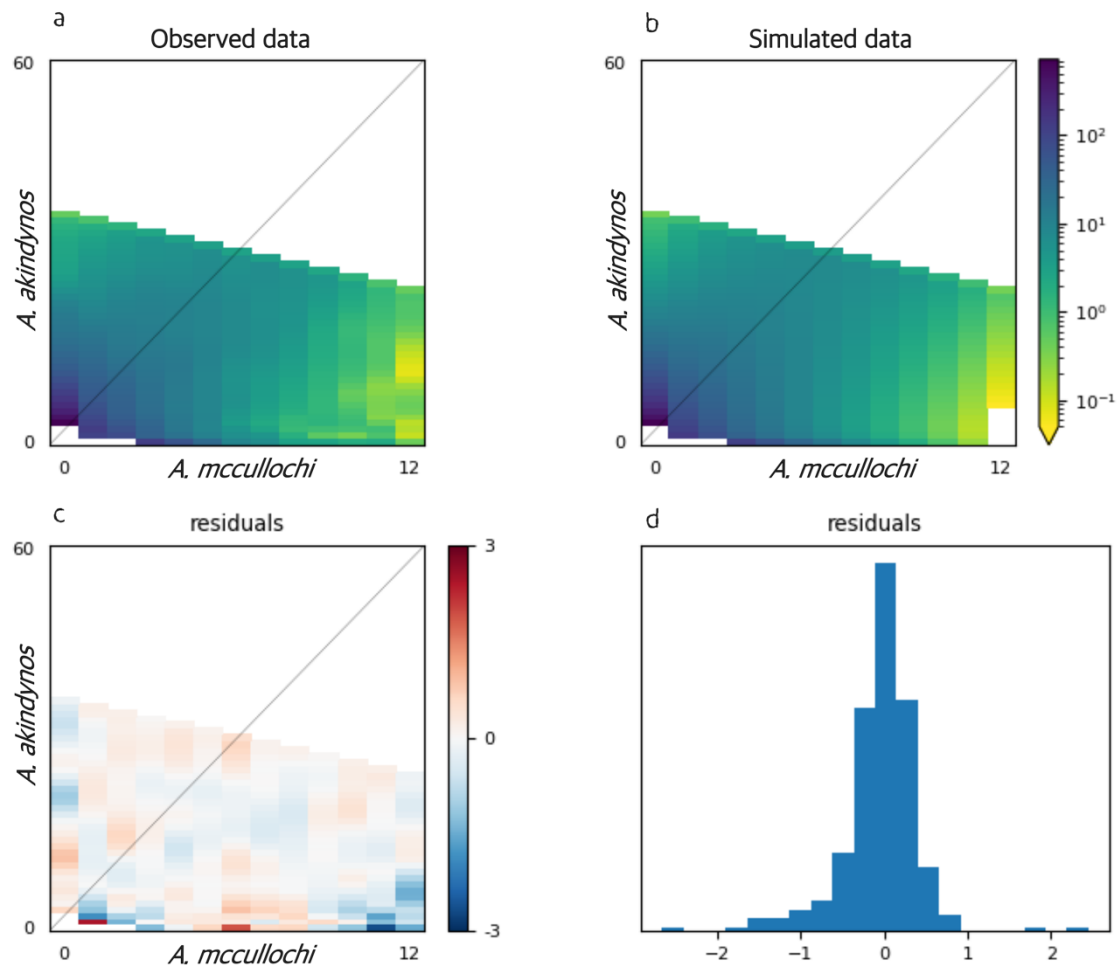
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Supplementary Information



Supplementary Fig. 1 Comparison of the observed and simulated joint allele frequency spectrum (JAFS) patterns between *A. mccullochi* and *A. akindynos*. a) the folded JAFS of two focal species, b) the simulated JAFS of two species under the scenario ancient asymmetric migration (*anc_asym_mig*), c) the standardised residuals between observed data and simulated data which are mostly randomly distributed with underestimation at low frequency vs. high frequency bins, d) the distribution of residuals, which appear normally distributed around 0

51 **Supplementary Table 1** Summary of results and estimated parameters after conversion from models of various demographic scenarios using dadi
52 to examine divergence and gene flow between *A. mccullochi* and *A. akindynos*. *nu1* and *nu2* refer to population size of *A. akindynos* and *A.*
53 *mccullochi* after split; *m*, *m12* and *m21* are symmetric migration rate, migration rate from *A. mccullochi* to *A. akindynos*, and migration rate from
54 *A. akindynos* to *A. mccullochi*; *T*, *T1* and *T2* represent the scaled time between the split and present, the split and ancient migration, and the ancient
55 migration and present

Models	Likeli- hoods	AIC	Chi- square	Theta	Estimated parameters							
					<i>nu1</i>	<i>nu2</i>	<i>m</i>	<i>m12</i>	<i>m21</i>	<i>T</i>	<i>T1</i>	<i>T2</i>
<i>no_mig</i>	-968	1941	1042	1566	733527	607123	-	-	-	582914	-	-
<i>sym_mig</i>	-821	1651	731	1147	370029	284282	4.3E-06	-	-	1214043	-	-
<i>asym_mig</i>	-746	1502	127	1014	524883	69035	-	6.5E-07	1.8E-05	1567994	-	-
<i>anc_sym_mig</i>	-786	1582	512	1042	359034	246042	7.7E-06	-	-	-	1425507	82285
<i>anc_asym_mig</i>	-744	1499	129	1013	531905	70236	-	6.7E-07	2.0E-05	-	1556593	13058

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Supplementary Table 2 Confidence intervals for parameters from the best fit demographic scenario: the divergence with ancient asymmetric migration scenario (anc_asym_mig)

Parameters	<i>nu1</i>	<i>nu2</i>	<i>m12</i>	<i>m21</i>	<i>T1</i>	<i>T2</i>	Theta
Estimated values	3.0959	0.4088	0.2302	6.9306	0.906	0.0076	1013.34
Lower bound	-1.9761	-1.0631	-1.4226	-28.9452	-11.2333	-0.0478	-3488.544
Lower bound (adjusted)	0	0	0	0	0	0	0
Upper bound	8.1678	1.8807	1.883	42.8064	13.0453	0.063	5512.885