SUPPLEMENTARY INFORMATION

SUPPLEMENTARY TABLES

Table S1 - Analysis of variance comparing isotopes [carbon ($\delta^{13}C$) and oxygen ($\delta^{18}O$)], metabolic rates [standard metabolic rates (SMR), maximum metabolic rates (MMR) and absolute aerobic scope (AAS)], proportion of metabolic carbon (M_{oto}), dissolved inorganic carbon in treatment tanks (DIC) and fish size (length and weight) and condition (Fulton's k) across temperature treatments. Significant values are bolded.

Source		Df	MS	*F*	*P*
$\delta^{13}C$	Temperature	2	6.31	67.1	**0.001**
	Tank (Temperature)	8	8.80E-02	0.69	0.709
	Residual	20	0.13		
$\delta^{18}O$	Temperature	2	5.32	10.53	**0.004**
	Tank (Temperature)	8	0.53	1.42	0.260
	Residual	20	0.37		
SMR	Temperature	2	4.9975	6.0099	**0.0287**
	Tank (Temperature)	8	0.91145	2.3902	0.0585
	Residual	20	0.38133		
MMR	Temperature	2	17.492	15.885	**0.0019**
	Tank (Temperature)	8	4.5397	1.2455	0.3232
	Residual	20	9.1119		
AAS	Temperature	2	5.9947	1.9226	0.1907
	Tank (Temperature)	8	13.699	2.4642	0.0532
	Residual	20	13.898		
Theoretical SMR	Temperature	2	24.44	151.17	**0.0001**
	Tank (Temperature)	8	0.70586	2.2546	0.0676
	Residual	20	0.7827		
M_{oto}	Temperature	2	70.13	0.53	0.633
	Tank (Temperature)	8	155.05	38.01	**0.001**
	Residual	20	4.078		
DIC	Temperature	2	1.32	0.62	0.540
	Residual	9	2.12		
Fish length (mm)	Temperature	2	182.08	1.82	0.228
	Tank (Temperature)	8	107.89	1.89	0.116
	Residual	20	57.03		
Fish weight (g)	Temperature	2	88.12	2.33	0.149
	Tank (Temperature)	8	39.22	1.32	0.270
	Residual	20	29.78		
Fulton's k	Temperature	2	5.65E-02	0.81	0.470
	Tank (Temperature)	8	7.37E-02	1.51	0.234
	Residual	20	4.87E-02		

SUPPLEMENTARY INFORMATION FIGURES

Fig. S1 - Schematic of intermittent-flow respirometry system. The respirometry system consisted of four chambers with a maximum of three chambers at a time used to measure fish oxygen consumption (mg/L [ppm]) and the fourth used to measure background respiration (BR). Each chamber was a closed system attached to a pump (approximately 250 ml/s), to continuously recirculate water through the system loop, and an oxygen meter. Each respirometry cycle consisted of three stages: a 3-min flush stage where the flush pump pushed oxygenated water through each system; a 30-sec wait stage where the system is closed awaiting oxygen measurement; and a 12-min measuring period where the flush pump was off, the loop was closed and oxygen was measured.

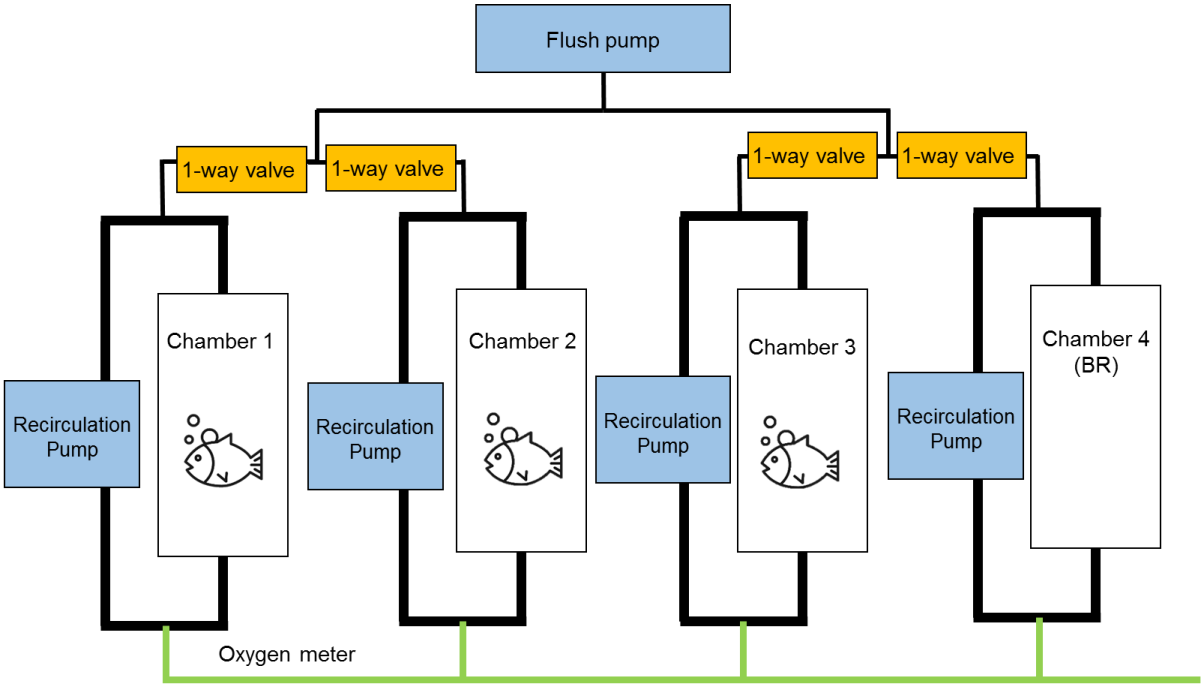

Fig. S2 – Strength and direction of linear relationships between physiological and chemical markers in juvenile Australasian snapper. Variables include somatic weight, length, Fulton's k, carbon isotopes in otoliths ($\delta^{13}C$), oxygen isotopes in otoliths ($\delta^{18}O$), standard metabolic rates (SMR), theoretical standard metabolic rates (T.SMR), maximum metabolic rates (MMR), absolute aerobic scope (AAS), and proportional contributions of metabolic carbon to otolith $\delta^{13}C$ (M_{oto}). Spread of data and best fit line are indicated by the bottom panel, with narrower ellipses indicating stronger relationships. The top panel provides Pearson correlation coefficients indicating the extent the strength of the linear relationship between variables. Correlation matrix was created using package *corrgram* in R.

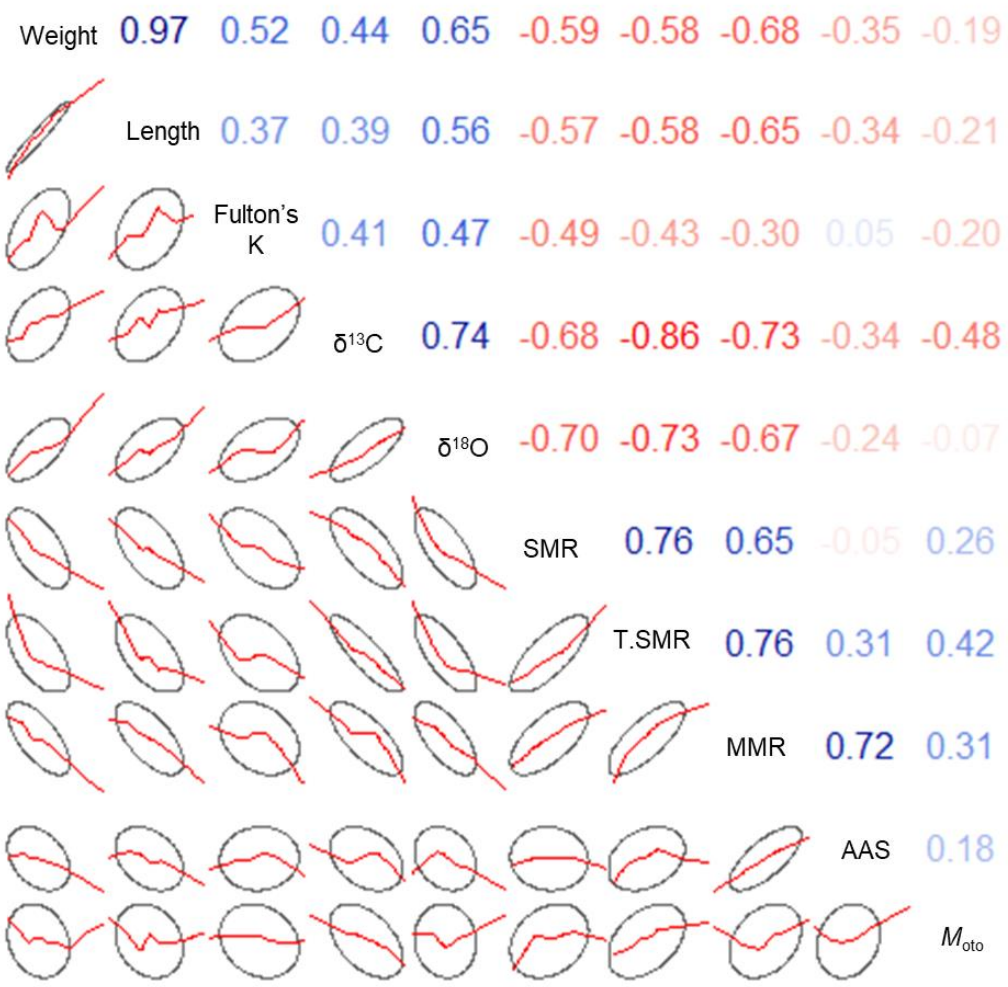

Fig. S3 - Proportional contributions of metabolically-sourced carbon (M_{oto}) to otolith $\delta^{13}C$ in snapper reared in different temperature treatments.

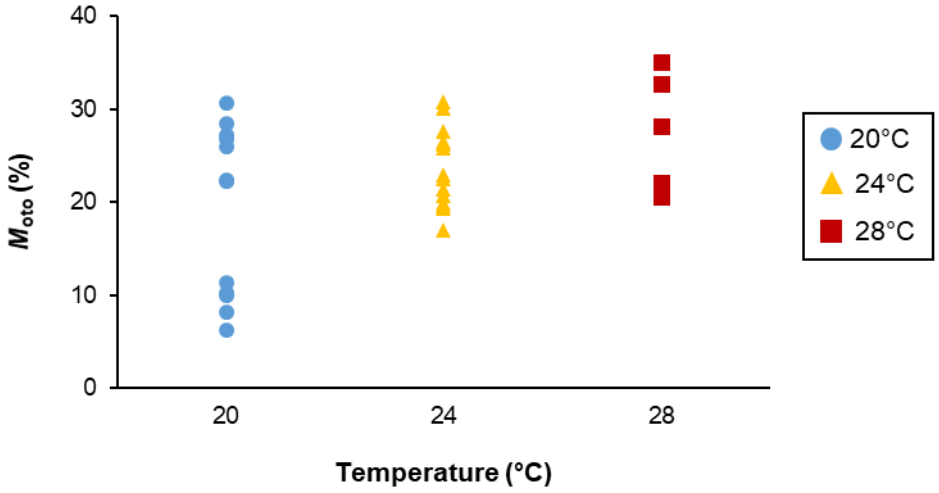

Fig. S4 – Mean (+ standard error) of theoretical standard metabolic rates (SMR) calculated from metabolic theory of ecology in snapper reared in different temperature treatments. Significant differences ($p < 0.05$) between temperatures are represented by different letters.