Table S1: Variables integrated, including their label (used in figures), their source, and their definition including units (and always using the natural logarithm). Note that Thorson et al. (2023) itself compiled traits from FishBase (Froese, 1990) and museum records (S A Price et al., 2019; Samantha A. Price et al., 2022). When visualizing variables (Fig. 2-5 (CHECK) in the PAPER (LINK)), we use black for Thorson et al. (2023), red for Killen et al. (2016), blue for Myers et al. (1995) as compiled by Thorson (2020), darkgreen for Katopodis and Gervais (2016) using data extracted from their Table A1, pink for Palomares and Pauly (1998) extracted from their Table 1, orange for Armstrong and Schindler (2011) extracted from their Table S1, brown for MacNeil et al. (2026), darkgrey for Lindmark et al. (2022), and purple for Hermann et al. (2025)

Variable	**Label**	**Source**	**Description**
log_SwimSpeed	*Speed*	Katopodis and Gervais (2016)	log-swim speed (U or Ucrit, meters per second)
log_Endurance	*Endurance*	Katopodis and Gervais (2016)	log-swim endurance (seconds)
log_QB	Q/B	Palomares and Pauly (1998)	log-ratio of consumed to population biomass (per year)
Omega_3	Ω_3	MacNeil et al. (2026)	Omega-3 fatty acid concentration
log_ED	ED	Hermann et al. (2025)	log-energy density, using adult and whole-body samples (excluding those stored in formalin) and wet-weight mass, with energy measured using bomb calorimetry or proximate composition, expressed as $\log(kJ/g)$
log_stomach	*Stomach*	Armstrong and Schindler (2011)	log of integrated load:capacity ratio for daily food consumption
log_consumption	*consumption*	Lindmark et al. (2022)	log-individual consumption (grams per day), while controlling for log-individual mass (slope: 0.63855) and Arrhenius temperature (slope: 0.59377)
trophic_level	TL	Killen et al. (2016)	Trophic level (dimensionless)

Variable	Label	Source	Description
log_RMR1kg15deg	RMR	Killen et al. (2016)	log of resting metabolic rate (standardized to 1 kg body size and 15 deg C)
log_MMR1kg15deg	MMR	Killen et al. (2016)	log of maximum metabolic rate (standardized to 1 kg body size and 15 deg C)
log_Gill_meanSA	$Gill\ SA$	Killen et al. (2016)	log of gill surface area (square centimeters)
log_Brain_percent	$Brain$	Killen et al. (2016)	log of brain mass as percent of total body mass
log_MuscleFatfreeProtein	$Muscle$	Killen et al. (2016)	log of muscle protein mass as percent of total body mass
log_LiverHSI	$LiverHSI$	Killen et al. (2016)	log of the heptosomatic index
log(age_max)	A_{max}	Thorson et al. (2023)	log of maximum age (years)
log(aspect_ratio)	$aspect\ ratio$	Thorson et al. (2023)	log of caudal fin height and length divided by area (dimensionless)
log(fecundity)	fec	Thorson et al. (2023)	Annual eggs produced (number/year)
log(growth_coefficient)	K	Thorson et al. (2023)	von Bertalanffy growth coefficient ($year^-1$)
temperature	$Temp$	Thorson et al. (2023)	average temperature from portion of population sampled (Celsius)
log(length_max)	L_{max}	Thorson et al. (2023)	log of maximum length (cm)
log(length_infinity)	L_∞	Thorson et al. (2023)	log of von Bertalanffy asymptotic maximum length (cm)
log(length_maturity)	L_{mat}	Thorson et al. (2023)	log length at 50% maturity (cm)
log(age_maturity)	A_{mat}	Thorson et al. (2023)	log age at 50% sexual maturity (years)
log(natural mortality)	M	Thorson et al. (2023)	log of natural mortality rate M (per year)
log(weight_infinity)	W_∞	Thorson et al. (2023)	log of asymptotic maximum weight (grams)

Variable	**Label**	**Source**	**Description**
log(offspring_size)	$offspring\ size$	Thorson et al. (2023)	log size of offspring (grams)
phi	ϕ	(Myers et al., 1995)	log of maximum lifetime reproductive rate in excess of replacement, i.e., compensation ratio $CR = 1+e^{\phi}$ where steepness $h = \frac{CR}{4+CR}$, as calculated by fitting Beverton-Holt curves to spawning biomass and recruitment records compiled from sequential population analysis models

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