Supplementary Table 1

Mathematical formulas and abbreviations of the individual growth models adjusted to the estimated age data for Panamic stingrays (*Urotrygon aspidura*). The parameter DW_∞ is the theoretical asymptotic size, representing the average disc width at age that individuals in a stock would attain if they grew indefinitely. The parameter k_1 is the relative annual growth rate, which is a curvature parameter determining the rate at which a stingray reaches the asymptotic size at age and which decreases linearly with DW, and t_1 is the theoretical age at zero, which defines the initial condition on the time axis when mean DW at age is zero. The parameter k_2 is the annual rate of exponential decrease of the relative growth rate (λ) with age, and t_2 is a parameter corresponding to $(\ln\lambda - \ln k_2)/k_2$. The parameter k_3 is the relative annual growth rate, and t_3 is the inflection point of the sigmoidal curve. The parameter t_h is the age at which the transition between the 2 phases occurs (inflection point), and h is the maximum difference in size at age between the von Bertalanffy and two-phase growth models at the t_h. The parameter DW_o is the mean DW at birth (fixed at 7.5 cm for models with 2 and 4 parameters).

Growth models	Abbreviation	Equation
von Bertalanffy (2-par)	VBGM-2	$DW_t = DW_\infty - (DW_\infty - DW_0) \times e^{-k_1 t_1}$
von Bertalanffy (3-par)	VBGM-3	$DW_t = DW_\infty \times \left\{1 - e^{[-k_1(t-t_1)]}\right\}$
Gompertz (2-par)	GGM-2	$DW_t = DW_o \times \left\{e^{\left[\ln\left(\frac{DW_\infty}{DW_0}\right)\times\left(1-e^{(-k_2 t_2)}\right)\right]}\right\}$
Gompertz (3-par)	GGM-3	$DW_t = DW_\infty \times e^{\left[-e^{(-k_2(t-t_2))}\right]}$
Logistic (2-par)	LGM-2	$DW_t = DW_\infty \times \left\{1 + \left[\frac{DW_\infty - DW_0}{DW_\infty}\right] \times (e^{-k_3 t_3})\right\}^{-1}$
Logistic (3-par)	LGM-3	$DW_t = \frac{DW_\infty}{\left(1 + e^{(-k_3(t-t_3))}\right)}$
Two-phase (4-par)	TPGM-4	$DW_t = DW_\infty - (DW_\infty - DW_0) \times \left\{e^{\left[-k_1\times t\times\left[1-\left(\frac{h}{(t-t_h)^2+1}\right)\right]\right]}\right\}$
Two-phase (5-par)	TPGM-5	$DW_t = DW_\infty \times \left\{1 - e^{\left[-k_1(t-t_0)\times\left[1-\left(\frac{h}{(t-t_h)^2+1}\right)\right]\right]}\right\}$