

## Errata to

Kooijman, S. A. L. M. 2000

*Dynamic Energy and Mass Budgets in Biological Systems.*  
(2nd edition) Cambridge University Press

- {iii} line 4: ‘Koojiman’ must be ‘Kooijman’
- {xii} line 2: ‘This of significance’ must be ‘This is of significance’. (Error spotted by Jacques Bedaux)
- {xvii} bottom: add ‘A glossary at 401 explains technical terms’ (Error spotted by Daan van Schalkwijk)
- {2} label of  $y$ -axis of second graph: ‘weight<sup>-1/3</sup>’ must be ‘weight<sup>1/3</sup>’
- {4} line 2 from bottom: ‘comp ’ must be ‘265’ (Error spotted by Frithjof Lutscher)
- {6} line 20: ‘use’ must be ‘use,’ (error spotted by Maaike Bruinsma)
- {13} line 24:  $\ln y(x) = \alpha + \beta \ln x$  must be  $\ln y(x) = \ln \alpha + \beta \ln x$  (Error spotted by Giannis Papadakis)
- {16} line 2 ‘then’ must be ‘than’ (Error spotted by Henrike Andresen)
- {16} line 6 in Special case for Monod degradation:  $K$  must be  $X_K$  (Error spotted by Dina Lika)
- {16} line 10 in Special case for Monod degradation: The ‘=’ signs must be ‘≡’ signs in the definitions of  $\tau$  and  $x$ . (Errors spotted by Dmitrii Logofet)
- {17} line 11 from bottom: ‘organsism’ must be ‘organism’. (Error spotted by Jacques Bedaux)
- {17} line 10 from bottom: ‘quantitive’ must be ‘quantitative’. (Error spotted by Jacques Bedaux)
- {20} line 18: ‘balance equations is most’ must be ‘.. balance equations is a most’. (Error spotted by Jacques Bedaux)

- {23} line 6: ‘For the purposes population dynamics’ must be ‘For the purposes of population dynamics’. (Error spotted by Jacques Bedaux)
- {27} line 3: ‘isomorphs’ must be ‘morphs’ (Error spotted by Giannis Papadakis)
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- {27} line 3: ‘isomorphs’ must be ‘morphs’ (Error spotted by Giannis Papadakis).
- {27} line 10: ‘it is be possible to the orient’ must be ‘it is possible to orient’ (Error spotted by Jacques Bedaux)
- {27} line 12: ‘multiplying of the  $x$ -axis’ must be ‘multiplying the  $x$ -axis’. (Error spotted by Dina Lika)
- {29} line 10: ‘is used as an argument the shape ...’ must be ‘is used as an argument, the shape ...’. (Error spotted by Dmitrii Logofet)
- {29} line 13: ‘This value is obtained by equating the volume of a cilinder to that of a sphere with the same diameter’ must be ‘This value is obtained by equating the volume of a cylinder to that of two spheres of the same diameter’. (Error spotted by Dina Lika, Dmitrii Logofet)
- {29} line 19: ‘blunt caps’ should better be replaced by ‘flat caps’. (Error spotted by Dmitrii Logofet)
- {30} line 2 from bottom: ‘a consequence of the choosing’ must be ‘a consequence of choosing. (Error spotted by Jacques Bedaux) ’
- {31} line 6: ‘The reserve dynamics which will be’ must be ‘The reserve dynamics will be’. (Error spotted by Anthony Verschoor)
- {34} (2.8) closing brackets are missing:  $n_{*W} = \frac{n_{*V}M_V + n_{*E}(M_E + M_{E_R})}{M_V + M_E + M_{E_R}} = \frac{n_{*V} + n_{*E}(m_E + m_{E_R})}{1 + m_E + m_{E_R}}$
- {34} under (2.8):  $M_E = \mu_E E$  must be  $M_E = \mu_E^{-1} E$

{35} (2.9) symbol  $d_E$  should be removed:

$$\begin{aligned}[W_H] &= d_V - d_{Vd} + (w_E - w_{Ed})([E] + [E_R])/\mu_E \\ &= d_V - d_{Vd} + (w_E - w_{Ed})(e + e_R)[M_{Em}]\end{aligned}$$

(Error in erratum spotted by Dina Lika)

{35} line 5:  $V_H = W_H/d_H \simeq (d_V - d_{Vd})/d_H$  must be  $V_H = W_H/d_H \simeq (d_V - d_{Vd})V/d_H$  (Error spotted by Giannis Papadakis).

{35} line 18: ‘one minus the number of chemical elements’ must be ‘the number of chemical elements minus one’ (Error spotted by Jacques Bedaux)

{35} line 5 from bottom: ‘energy-energy compounds’ must be ‘energy bearing compounds’

{35} bottom line: ‘measures enthalpy’ must be ‘measures change in enthalpy’ (Error spotted by Giannis Papadakis).

{36} line 3 ‘minus’ must be ‘plus’ (Error spotted by Laure Pecquerie )

{36} line 7: ‘but also their the spatial orientation’ must be ‘but also their spatial orientation’. (Error spotted by Dina Lika)

{36} line 8 from bottom: ‘The mean Gibbs energy’ must be ‘The mean specific Gibb energy’ (Error spotted by Giannis Papadakis)

{37} line 9 from bottom: ‘is’ must be ‘that is’ (Error spotted by Maike Bruisma)

{40} line 4: ‘animo acids’ must be ‘amino acids’. (Error spotted by Jacques Bedaux)

{42} line 7 from bottom: ‘then’ must be ‘than’ (Error spotted by Henrike Andresen)

{44} line 3 from bottom:  $\mathcal{E}t_p = n\dot{J}_x^{-1}$  must be  $\mathcal{E}t_b = n\dot{J}_x^{-1}$  (Error spotted by Jong-Hyeon Lee)

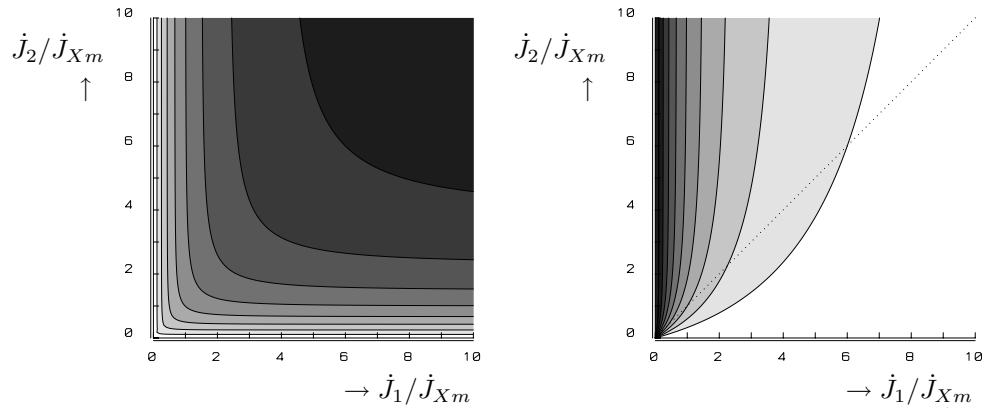
{46} line 2 from bottom of legends to Fig 2.9: ‘for the two substrates’ must be ‘for a substrate’ (Error spotted by Jaap van der Meer)

{46} line 8 under Figure 2.9:  $n$  must be replaced by  $t$  in the expression for the incomplete gamma function:  $P(n, t) = 1 - \exp\{-t\} \sum_{j=0}^{n-1} \frac{t^j}{j!}$ .

{47} line 8:  $\frac{\partial \ln \dot{J}_X}{\partial \dot{J}_i}$  must be  $\frac{\partial \ln \dot{J}_X}{\partial \ln \dot{J}_i}$  (Error spotted by Jong-Hyeon Lee)

{47} line 12: ‘An important implication SUs behaving...’, must be ‘An important implication of SUs behaving...’ (Error spotted by Tiago Domingos)

{47} Figures 2.10 and 2.11 have not enough grey levels



In the legend of Fig 2.10: ‘as functions of’ must be ‘as function of’;  $\dot{J}'_1$  must be  $\dot{J}'_1 = \dot{J}_1/\dot{J}_{Xm}$  and  $\dot{J}'_2$  must be  $\dot{J}'_2 = \dot{J}_2/\dot{J}_{Xm}$  (Error spotted by Jaap van der Meer)

{47} line 4: ‘Note that the first summation in the last (i.e. third) summation term ..’ must be ‘Note that the first summation in the last (i.e. third) summation term of (2.14) ..’ (Error spotted by João Rodrigues)

{47} line 13 from bottom:  $\dot{J}_X = (\dot{J}_{Xm}^{-1} + \dot{J}_1 + \dot{J}_2)^{-1}$  must be  $\dot{J}_X = (\dot{J}_{Xm}^{-1} + \dot{J}_1^{-1} + \dot{J}_2^{-1})^{-1}$  (Error spotted by Jaap van der Meer)

{47} line 12 from bottom: ‘An important implication SU’s’ must be ‘An important implication of SU’s’ (Error spotted by Jaap van der Meer)

{48} line 12 from bottom: catalise must be catalyze (Error spotted by Lee Segel)

{49} line 14: ‘the carrier only passes’ must be ‘the Carrier only passes’ (Error spotted by Jaap van der Meer)

- {49} line 15: ‘binding state’ can better be replaced by ‘free state’, to avoid confusion with ‘bounded state’. (Error spotted by Lee Segel)
- {51} line 2 (in figure caption): ‘givess’ must be ‘gives’ (Error spotted by Daan van Schalkwijk)
- {52} line 16: ‘and’ must be ‘an’ (Error spotted by Tim Hendrickx)
- {53} line 26: ‘accompony’ must be ‘accompany’. (Error spotted by Anthony Verschoor)
- {53} line 4 from bottom: “slope  $T_A$ ” must be “slope  $-T_A$  (Error spotted by Laure Pecquerie)
- {55} Figure 2.17: The symbols for the males are very hard to identify in the figure; they only appear in the aging data, where the 4 symbols are just above the 4 symbols for the females, except for the third data-point from left, where the male-symbol is on top of that of the female. (Error spotted by Anthony Verschoor)
- {55} line 9: ‘Without an adaptation period, the performance of enzymens adapted to one temperature is measured at another temperature, which usually results in lower Arrhenius temperatures.’ This depends on the temperature of the experimental units, relative to that of the culture, assuming that the unadapted rates are lower than the adapted ones at any temperature. Decreasing the temperature relative to that of the culture leads to over-estimations of the Arrhenius temperature, increasing the temerature leads to under-estimations. (Error spotted by Asta Audzijonyte)
- {55} line 2 from bottom: ‘based on of the idea’ must be ‘based on the idea’. (Error spotted by George van Voorn)
- {57} line 5: ‘This fraction turns is...’, must be ‘This fraction is  $s(T)/s(T_1)$  with  $s(T) =$ ’ (Error spotted by Tiago Domingos, Sofia Saraiva)
- {59} line 13 from bottom: ‘fishes’ must be ‘fish’ (Error spotted by Daan van Schalkwijk)
- {61} line 8 from bottom: ‘latter’ must be ‘former’ (Error spotted by Daan van Schalkwijk)

- {66} line 10: ‘Autrotroph’ must be ‘Autotrophs’ (Error spotted by Masahiro Doi, Tim Hendrickx)
- {75} line 5: The phrasing ‘hyperbolic function’ can be confusing for mathematicians, because this term has another meaning. A plot of the function  $X/(K + X)$ , is on a branch of a hyperbola, however. Dmitrii suggested the use of term ‘linear-fractional map’ (Error spotted by Dmitrii Logofet and Horst Thieme)
- {76} line 7,8: 0V must be V0; 1V must be V1
- {80} line 6:  $X_s$  should be replaced by  $M_s$ , so  $\frac{d}{dt}M_s = \dot{J}_X - t_s^{-1}M_s$  (Error spotted by Tania Sousa)
- {83} line 6: “and the use of reserves should not directly relate to food availability.” must be “and the use of reserves should not directly relate to food availability or details of allocation.” (Error spotted by Anne Willem Omta; the partitionability definition on {85} requires this restriction, but the less restrictive one as described in the comments does not)
- {84} line 1 ‘follows for’ must be ‘follows from’ (Error spotted by Dina Lika)
- {85} line 17: ‘give’ must be ‘gives’ (Error spotted by Tim Hendrickx)
- {85} line 18:  $V^{2/3}f\{\dot{p}_{Am}\}\dot{v}$  must be  $f\{\dot{p}_{Am}\}\dot{v}^{-1}$
- {86} line 12: ‘{29}’ must be ‘{27}’ (Error spotted by Yves Bourles)
- {86} line 17: ‘is will appear’ must be ‘it will appear’ (Error spotted by Daan van Schalkwijk)
- {87} line 13 from bottom: ‘so that  $\kappa$  may differ’ must be ‘so that  $1 - \kappa$  may differ’ (Error spotted by Masahiro Doi)
- {95} line 10 from bottom: ‘Galliucci’ must be ‘Gallucci’ (Error spotted by Tânia Sousa)
- {97} line 4 from bottum: ‘an excellent an opportunity’ must be ‘an excellent opportunity’ (Error spotted by Frithjof Lutscher)

{104} line 4 from bottom: Reference [1029] should be [1031] (error spotted by Tânia Sousa)

{107} line 10 from bottom: ‘threatful’ must be ‘dreadful’ (Error spotted by Daan van Schalkwijk)

{108} line 9:  $V_m$  must be  $V_m^{1/3}$  (Error spotted by Laure Pecquerie)

{117} Eq (3.53): a factor  $g(1 - \kappa)$  is missing, so

$$e_R(t_1, t_2) = \kappa_R(1 - \kappa)gk_M \int_{t_1}^{t_2} \left( \frac{g + l(t)}{g + e(t)} e(t)l^2(t) - l_p^3 \right) dt$$

(Error spotted by Daan van Schalkwijk)

{119} line 6 from bottom: ‘. The size at’ must be ‘, the size at’ (Error spotted by Frithjof Lutscher)

{120} line 7 from bottom:  $\{j_{XAm}\}$  must be  $\{\dot{J}_{XAm}\}$ , so  $j_{XAm} = \{\dot{J}_{XAm}\}M_V^{-1/3}[M_V]^{-2/3}$  (Error spotted by Dick van Oevelen)

{126} line 12: ‘indices ... equals’ must be ‘indices ... equal’ (Error spotted by Jacques Bedaux)

{127} line 2: ‘are studied’ must be ‘is studied’ (Error spotted by Jacques Bedaux)

{127} line 3: ‘are tudied first’ must be ‘is studied first’ (Error spotted by Frithjof Lutscher)

{128} line 19: ‘that formed’ must be ‘formed’ (Error spotted by Jacques Bedaux)

{128} line 21: ‘digeston’ must be ‘digestion’ (Error spotted by Jacques Bedaux)

{130} line 7 from bottom:  $y_{XE}$  must be replaced by  $y_{EX}$ :  $y_{EX} = \mu_{AX}/\mu_E$ , which stands for the C-moles of reserve formed per C-mol of food ingested (Error spotted by Jong-Hyeon Lee)

{130} line 5 from bottom: ‘amount of work that’ must be replace by ‘rate at which work’ (Error spotted by Laure Pecquerie)



{130} line 3 from bottom:  $y_{XP}$  must be replaced by  $y_{PX}$ :  $y_{PX} = \mu_{AX}\eta_{PA}$ , which stands for the C-moles of product produced, per C-mol of food ingested (Error spotted by Jong-Hyeon)

{131} line 2: ‘and’ must be ‘then’ (error spotted by Jaap van der Meer)

{131} line 2: ‘. Faeces production is then’ must be ‘, faeces production is’ (Error spotted by Frithjof Lutscher)

{131} line 12: ‘assumption 3 in Table 3.3’ must be ‘assumption 2 in Table 3.3’ (Error spotted by Tania Sousa)

{131} line 2 from bottom remove one ‘the’ (Error spotted by Dina Lika)

{133} last line, equation (4.9):

$$\begin{pmatrix} W_w(0) & W_w(a_b) \end{pmatrix} = V_m \begin{pmatrix} w_E & w_V \end{pmatrix} \begin{pmatrix} [M_{Em}]e_0 & [M_{Em}]e_b l_b^3 \\ 0 & [M_V]l_b^3 \end{pmatrix}$$

(Error spotted by Maria Veronia Simoy and Ana Maria Huarte)

{133} last line: element 2 and 3 of the vector in (4.10) should be interchanged to comply with the standard order that is used in this chapter: food, structure, reserve, product (Error spotted by Dina Lika)

{135} line 2: The notational definitions  $\dot{\mathbf{J}}_{\mathcal{M}+} = \dot{\mathbf{J}}_{\mathcal{M}*}\mathbf{1} = \dot{\mathbf{J}}_{\mathcal{M}}$  and  $\dot{\mathbf{p}}_+ = \mathbf{diag}(\dot{\mathbf{p}})\mathbf{1} = \dot{\mathbf{p}}$  are lacking (Error spotted by Bernd Brandt)

{136} line 8 of the caption of fig 4.3: ‘If you looking’ must be ‘If you look’ (Error spotted by Frithjof Lutscher)

{137} line 12 from bottom: indexed of  $Y$  should be separated from each other, as in (4.23) (Error spotted by Jaap van der Meer)

{138} Eq (4.18) must be:

$$\begin{aligned} \frac{\dot{j}_{OA}}{\dot{j}_X} &= (\mathbf{n}_{\mathcal{M}}^{-1})_{O*}\mathbf{n}_O \begin{pmatrix} 1 \\ 0 \\ -\mu_{AX}\mu_E^{-1} \\ -\mu_{AX}\eta_{PA} \end{pmatrix} \\ &= \begin{pmatrix} -1 & -\frac{1}{4} & \frac{1}{2} & \frac{n}{4n_{NN}} \end{pmatrix} \begin{pmatrix} n_{CX} & n_{CE} & n_{CP} \\ n_{HX} & n_{HE} & n_{HP} \\ n_{OX} & n_{OE} & n_{OP} \\ n_{NX} & n_{NE} & n_{NP} \end{pmatrix} \begin{pmatrix} 1 \\ -\frac{\mu_{AX}}{\mu_E} \\ -\frac{\mu_{AX}}{\mu_{AP}} \end{pmatrix} \end{aligned}$$

(Error spotted by Jaap van der Meer)

{138} line 1 from bottom:  $\mu_{XA}$  must be  $\mu_{AX}$  (Error spotted by Jaap van der Meer)

{141} line 4: ‘(3.12)’ must be ‘(3.16)’ (Error spotted by Frithjof Lutscher)

{141} line 5 eq (4.20):  $[\dot{p}_m]$  must be replaced by  $\dot{p}_M$ , or by  $[\dot{p}_m]V$ .

{141} lines 18, 20: “molar mass” should better be replaced by “mass in moles” to avoid confusion with molar weight.

{143} line 9 below legend of Figure 4.6: ‘{253}’ must be ‘{255}’. (Error spotted by Anthony Verschoor)

{145} line 6 from bottom: ‘... in food to arrive at metabolizable energy’ should it be ‘... in food to arrive as metabolizable energy ...’ (Error spotted by Tim Hendrickx)

{145} line 5 from bottom: ‘gut content’ should be ‘gut contents’ (Error spotted by Tim Hendrickx)

{146} Eq (4.28):  $n_{VN}$  must be  $n_{NV}$

{148} line 3 from below: ‘also the fact that oxygen is absent involves three constraints’ must be ‘; the absence of oxygen involves three constraints’. (Error spotted by Anthony Verschoor)

{150} line 5 in legends to Fig. 4.8: no standard deviations are given

{152} line 6: ‘see {152}’ must better be ‘see next subsection’ (Error spotted by Anthony Verschoor)

{153} line 1: ‘nutrient’ should be ‘nutrients’ (Error spotted by Tim Hendrickx)

{153} line 8:  $V_2^{2/3}$  must be  $V_s^{2/3}$  (Error spotted by Susana Barreiro)

{155} line 14: ‘Substitution of (4.38) into (4.36)’ must be ‘Substitution of (4.3) and (4.38) into (4.36)’ (Error spotted by Jaap van der Meer)

{155} line 14 from bottom: ‘can be easily be’ must be ‘can easily be’ (Error spotted by Jaap van der Meer)

- {155} line 8 from bottom:  $\mu'_{\mathcal{M}}$  must be  $\mu'^T_{\mathcal{M}}$  (Error spotted by Jaap van der Meer)
- {155} line 3 from bottom: ‘partial molar’ should be removed (error spotted by Rui Mota)
- {156} equation (4.41):  $\mathbf{u}_{\mathcal{O}}$  must be  $\boldsymbol{\eta}_{\mathcal{O}}$ . (Error spotted by Jong-Hyeon Lee)
- {160} line 21: ‘which be will briefly discussed’ must be ‘which will be briefly discussed’. (Error spotted by Jacques Bedaux)
- {160} line 2 from bottom:  $\dot{k}_X = \theta_1 \dot{k}_1 + (1 - \theta_1) \dot{k}_2$  must be  $\dot{k}_X = (\theta_1 \dot{k}_1^{-1} + (1 - \theta_1) \dot{k}_2^{-1})^{-1}$ . (Error spotted by Jaap van der Meer)
- {163} right upper panel of Figure 5.1: The curve bending upwards represents specific CO<sub>2</sub> production; the one bending downward specific O<sub>2</sub> consumption
- {163} Figure 5.1 (x-labels) ‘throughput’ must be ‘throughput’ (Error spotted by Dina Lika)
- {163} line 4 from bottom:  $w_V$  should be  $w_E$ , resulting in  $W = (w_V + e w_E y_{EV} / g) \frac{\dot{h}(X_r - X)}{j_{Xm1} f_1 + j_{Xm2} f_2}$ .
- {168} line 4 from bottom: ‘each reserve densities follow’ must be ‘both reserve densities follow’ (Error spotted by Jacques Bedaux)
- {173} line 5 of legends of Figure 5.5:  $y_{1,V}$  must be  $y_{E1,V}$  and  $y_{2,V}$  must be  $y_{E2,V}$  (Error spotted by Bernd Brandt). Moreover, a factor of  $10^{-21}$  is lacking in the untis of  $y_{E2,V}$  and the units of  $j_{E1,Am}$  and  $j_{E2,Am}$  are interchanged.
- {176} line 2: ‘it stored’ must be ‘it is stored’ (Error spotted by George van Voorn)
- {176} line 4 from bottom: ‘metablic’ must be ‘metabolic’ (Error found by Henrike Andresen)
- {177} line 1: ‘ammonia, is’ must be ‘ammonia is’ (Error spotted by George van Voorn)

{177} last line in eqn (5.28) and lines 10, 11 at {178}:  $\kappa_i$  should be replaced by  $\kappa$  (Error spotted by Ingeborg van Leeuwen)

{179} line 13 from bottom: ‘Bi-jlsma’ must be ‘Bijlsma’ (Error spotted by Anthony Verschoor)

{180} line 8 from bottom: ‘generalizied’ must be ‘generalized’ (Error spotted by Jacques Bedaux)

{181} Table 5.2: several typo’s crept into this table. The equations are coded in package DEBtool (function ‘flux.m’ in subdirectory ‘plant’)

$$\begin{aligned}
M_{ES} &\rightarrow M_{ECS}: \dot{J}'_{ECS,CS} = (\mathcal{A}_S \dot{k}_{ECS} - \dot{r}_S) M_{ECS} \\
M_{ES} &\rightarrow M_{ENS}: \dot{J}'_{ENS,CS} = (\mathcal{A}_S \dot{k}_{ENS} - \dot{r}_S) M_{ENS} \\
\dot{J}'_{ECS,C_2S} &\rightarrow \dot{J}'_{ECS,CS}: \dot{J}_{ECS,RS} = \dot{J}'_{ECS,CS} - y_{CH,ES}^{NO} \dot{J}_{ES,C_2S}; \\
J'_{NH,AR} &\rightarrow J'_{NH,AR}: \theta_{NH} = J'_{NH,AR} (J'_{NH,AR} + \rho_{NO} J_{NO,AR})^{-1} \\
M_{ER} &\rightarrow M_{ECR}: \dot{J}'_{ECR,CR} = (\mathcal{A}_R \dot{k}_{ECR} - \dot{r}_R) M_{ECR} \\
M_{ES} &\rightarrow M_{ENR}: \dot{J}'_{ENR,CR} = (\mathcal{A}_R \dot{k}_{ENR} - \dot{r}_R) M_{ENR} \\
\text{insert } \theta_{ER}: &\dot{J}_{ER,GR} = -y_{ER,VR} \dot{J}_{VR,GR} \theta_{ER} \\
\dot{J}_{ES,MR} &\rightarrow \dot{J}_{ER,MR}: \dot{J}_{ENR,DR} = y_{ENR,ER} (1 - \theta_{ER}) \dot{J}_{ER,MR}
\end{aligned}$$

{183} line 2: ‘ter time’ must be ‘per time’ (Error spotted by George van Voorn)

{197} Eq (6.15): The first equality sign for  $M_Q$  is wrong, but  $M_Q$  does equal the third and fourth quantities (Error spotted by Erik Noonburg)

{202} line 19: uptake rate  $\dot{k}_l c - \dot{k}_e c_M$  must be uptake rate  $\dot{k}_e c - \dot{k}_e c_M = \dot{k}_e (c - c_M)$ ; (6.23) must be (6.24) in line 20

{208} line 6: ‘converge’ must be ‘converging’ (Error spotted by George van Voorn)

{211} Eq (6.31) should be replaced by

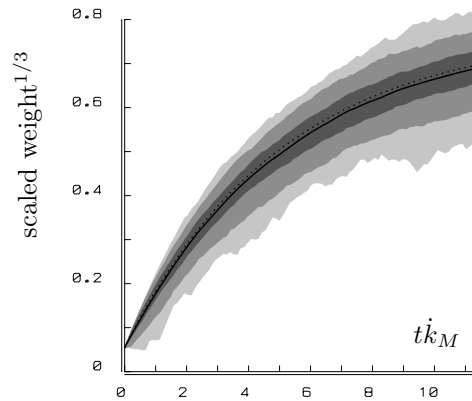
$$\dot{R}_s(l) = \frac{\dot{R}_{ms}}{1 - l_p^3} \left( \left( \frac{l_{m0}}{l_{ms}} \right)^3 \frac{el^2}{g + e} \left( \frac{\dot{v}_s \dot{k}_{M0}}{\dot{v}_0 \dot{k}_{Ms}} g_0 + l \right) - l_p^3 \right)_+$$

(Error spotted by Tjalling Jager)

{213} four coefficients in the table should be changed: For  $\dot{R}_{ms}/\dot{R}_{m0}$  with effect on maintenance 1 must be  $(1+s)\frac{1-l_p^3(1+s)^3}{1-l_p^3}$  and with effect on assim. 1 must be  $\frac{1-l_p^3(1-s)^{-3}}{1-l_p^3}$ . For  $\dot{v}_s/\dot{v}_0$  with effect on assim. 1-s must be 1. For  $g_s/g_0$  with effect on assim. 1 must be  $(1-s)^{-1}$ .

{219} line 6 from bottom remove one 'the'

{222} Figure 7.1, left panel is printed with too few levels of gray, which makes the dotted curve invisible. Here is a better figure (Error spotted by Frithjof Lutscher)



{222} line 9: the formula for change in scaled length applies to ectotherms only, which should have mentioned, or the formula should read  $\frac{d}{d\tau}l = \frac{g}{3} \frac{e-l-l_h}{e+g}$  (Error spotted by Frithjof Lutscher)

{226} line 94: 'peguin' must be 'penguin' (Error spotted by Maaike Bruinsma)

{227} Figure 7.6, left, in  $y$ -axis label:  $g^{-1/3}$  must be  $g^{1/3}$  (Error spotted by Hans Huisman)

{231} line 15 from bottom: The sentence must be 'During hibernation, not only is the body temperature lowered, but other maintenance costs are reduced as well' (Error spotted by Jacques Bedaux, Hans Huisman)

{236} line 1 for legend of Figure 7.10: 'function' must be 'functional'. (Error spotted by Anthony Verschoor)

- {239} line 16: ‘part of gut’ must be ‘part of the gut’ (Error spotted by Anthony Verschoor)
- {241} line 17: the flux across the anterior gut wall need not be larger than that across the posterior gut wall with zero-order kinetics. (Error spotted by Fleur Kelpin)
- {242} line 6:  $\boldsymbol{\eta}$  must be  $\boldsymbol{\eta}_{\mathcal{O}}$ :  $0 = \dot{p}_{T+} + (\boldsymbol{\mu}_{\mathcal{O}}^T - \boldsymbol{\mu}_{\mathcal{M}}^T \mathbf{n}_{\mathcal{M}}^{-1} \mathbf{n}_{\mathcal{O}}) \boldsymbol{\eta}_{\mathcal{O}} \dot{\mathbf{p}}(e, 1) M_{V+} / M_{V_m}$
- {245} line 6 from below: ‘ $\dot{\mu}$ ’ must be ‘ $\dot{r}$ ’
- {247} last line, eqn (7.14):  $\eta_{VG}$  must be  $\eta_{VC}$ . (Error spotted by Jong-Hyeon Lee)
- {248} line 24, eqn (7.19) must be  $\mu_C C V^{-1} \left( \frac{d}{dt} M_C + M_C \dot{k}_C \right)$ .
- {248} eqn (7.20), (7.21), (7.24) and (7.25):  $\eta_{VC}$  must be replaced by  $\frac{\eta_{VC}}{[M_V]}$ ; see comments (Error spotted by Jong-Hyeon Lee)
- {249} lines 11 and 12 from bottum: The maximum value given relates to  $\frac{d}{dt} V$  rather than to  $\frac{d}{dt} \ln V$ . The conclusion is correct, see comments. (Error spotted by Jong-Hyeon Lee)
- {250} line 23:  $A_{\epsilonpsilon}(t)$  must be  $A_{\epsilon}(t)$  (Error spotted by Frithjof Lutscher)
- {254} line 7 of caption of Figure 7.24: the number 0.104 should be in the numerator, not in the denominator
- {260} line 8: ‘shape parameter  $k = 0$ ’ must be ‘shape parameter  $\delta_l = 0$ ’. (Error spotted by Jacques Bedaux)
- {260} line 14 from bottom: ‘at food’ must be ‘at constant food’ (Error spotted by Tiago Domingos)
- {266} line 8 from botton: ‘maxium’ must be ‘maximum’. (Error spotted by Anthony Verschoor)
- {270} line 4 from bottom:  $[E_m]$  is missing in the expression for  $W_w$ , so  $W_w = (d_V + (1 + e_R)[E_m]w_E/\mu_E)V = (d_V + (1 + e_R)[M_{E_m}]w_E)V$ . (Error spotted by Ingeborg van Leeuwen)

- {271} line 5 from bottom: ‘which in fact it is’ must be ‘which is in fact’ (Error spotted by George van Voorn)
- {275} line 2: The maximum growth in cubed scaled length must be  $\frac{d}{dt}l^3 = \frac{4}{27} \frac{g\dot{k}_M}{1+g}(1 - l_h)^3$ . (Error spotted by Jong-Hyeon Lee)
- {278} line 16,17: ‘*Esox lusius*’ must be ‘*Esox lucius*’. (Error spotted by Anthony Verschoor)
- {278} line 21 from bottom: ‘*Pygosteus pungitius*’ is now called ‘*Pungitius pungitius*’. (Error spotted by Anthony Verschoor)
- {279} line 12: ‘l’ is missing from the first column, to indicate that the data refer to larvae, an explanation that is missing from the tables’ legends. (Error spotted by Hans Huisman)
- {281} line 30: the dot should be removed in 2.1000 for the maximum length of *Balaenoptera physalus*.
- {283} line 6:  $\dot{m}$  must be  $\dot{k}_M$ . (Error spotted by Jong-Hyeon Lee)
- {288} line 9:  $\dot{m}$  must be  $\dot{k}_M$ . (Error spotted by Jong-Hyeon Lee)
- {295} line 2 from bottom: ‘maintenance’ must be ‘maturity’. (Error spotted by Jong-Hyeon Lee)
- {296} line 11, eqn (8.8): the factor  $[\dot{p}_J]/[\dot{p}_M]$  should be removed. (Error spotted by Dina Lika)
- {298} line 17: ‘can summed’ must be ‘can be summed’ (error spotted by Rui Mota)
- {302} line 1:  $f$  must be  $f_i$  (Error spotted by Tim Hendrickx)
- {303} line 1 & 3: dioxygen (O<sub>2</sub>) has been ommitted as a substrate
- {306} line 6 from bottom ‘in’ must be ‘is’ (Error spotted by Dina Lika)
- {311} line 21: the feeding rate of the school is proportinal to number of individuals in the school to the power 2/3.
- {311} line 13 from bottom: ‘populations dynamics’ must be ‘population dynamics’. (Error spotted by Frithjof Lutscher)

- {315} line 19: ‘ $\frac{d}{dt}X_1 \propto \sum_i \frac{d}{dt}M_i \propto \sum_i M_i$ ’ must be ‘ $\frac{d}{dt}X_1 \propto \sum_i \frac{d}{dt}M_i \propto \frac{d}{dt} \sum_i M_i$ ’ (Error spotted by Frithjof Lutscher)
- {322} line 10: ‘to be counted in  $n$ ’ must be ‘to be counted in  $N$ ’ (Error spotted by Frithjof Lutscher)
- {329} line 1 from bottom: ‘hyperboles’ must be ‘hyperbolas’ (Error spotted by Frithjof Lutscher)
- {333} line 16: ‘satiation’ must be ‘saturation’ (Error spotted by George van Voorn)
- {338} line 2: index  $e$  should be deleted from  $\phi_e$
- {343} Figure 9.19: lower graph shows mean cell volumes of *E. coli*, rather than of *D. discoideum*
- {357} line 3: ‘This aim’ must be ‘the aim’ (Error spotted by George van Voorn)
- {361} line 4 from bottom: ‘been fitted’ must be ‘be fitted’ (Error spotted by Henrike Andresen)
- {364} line 13: “milk production’ must be “milk production” (Error spotted by Tim Hendrickx)
- {364} line 11 from bottom: ‘von’ must be ‘Von’ (Error spotted by Henrike Andresen)
- {366} Line 18 from bottom: ‘I expect that is difficult’ must be ‘I expect that it is difficult’ (Error spotted by Frithjof Lutscher)
- {377} In [334]: ‘*Abramus*’ must be ‘*Abramis*’. (Error spotted by Anthony Verschoor)
- {391} In [779] ‘Ecology’ must be ‘Journal of the marine biological association of the united kingdom’
- {398} In [1016]: ‘Colimate’ must be ‘Climate’ (Error spotted by Tiago Domingos)



- {403} Under ‘eigenvalue’ line 3: ‘This number equals the number of rows’ must be ‘This number is less than or equal to the number of rows’. Append ‘; eigenvectors cannot have elements that are all zero’ (Errors spotted by Dmitrii Logofet)
- {405} Under ‘Poisson distribution’: ‘A random variable’ must be replaced by ‘A random integer-valued variable’ (Error spotted by Dmitrii Logofet)
- {405} Under ‘polynomial’: ‘ $c_0, c_0, \dots, c_n$ ’ must be ‘ $c_0, c_1, \dots, c_n$ ’, and the phrase ‘with  $c_n \neq 0$ ’ should be appended (Errors spotted by Dmitrii Logofet)
- {407} line 10: ‘thosed’ must be ‘those’ (Error spotted by Jacques Bedaux)
- {408} line 25 (which explains index +): The phrase ‘or to a special meaning defined below’ should be appended as a third explanation (Error spotted by Dmitrii Logofet)
- {409} line 8: ‘ $x$ ’ must be replaced by ‘ $x_1$ ’, so  $\int_{x_1=-\infty}^x (x_1 \geq x_s) dx_1 = (x - x_s)_+$  (Error spotted by Jacques Bedaux)
- {410} line 12 from below: a better description of  $[E_G]$  is “volume-specific costs of structure” rather than of growth, because the dimension “per time” does not apply.
- {411} line 22:  $[M_{Em}] = [E_m]/\mu_E$  is the maximum reserve density in non-embryos in terms of C-moles per volume of structure