

Corrections to

MATHEMATICS IN POPULATION BIOLOGY

p.9, l.5-:  $p_j = p(t_j) - p(t_{j+1}) = \Pi(t_j, r) - \Pi(t_{j+1}, r)$

p.10, l.5: partition of  $[r, r + c]$

p.11: l.12: emigration rate  $\eta$ . By ...

p.16, l.7-:  $N(t_0 + mp) = N(t_0)e^{m\bar{r}p}$ ,  $m \in \mathbb{Z}$ ,

p.20, l.1-: Replace  $ds$  by  $dr$ .

p.26, l.6-,7-:

$$\begin{aligned} t_k &\rightarrow 0 && \text{as } \alpha \rightarrow \infty, \\ t_k &\rightarrow \pi/(2k) && \text{as } \alpha \rightarrow 0. \end{aligned}$$

p.41, l.6-,5-: ...  $z' = \mu z$  and  $x' = \mu x$ .

p.43, l.12,13: ...  $z' = \mu z$  and  $x' = \mu x$ .

p.43, l.11-: ...  $N' = \mu N(x - 1)$  ...

p.43, l.10-: ... with  $\alpha = \tilde{\alpha}/\mu$  and  $\beta = \beta_0$ .

p.66, l.16:  $K = \frac{\beta - \mu}{\nu}$ ,

p.67, l.3:  $\epsilon y = \dots$

p.68, l.4-: let  $x' = \phi x$  and  $y' = \phi y$  be

p.69, l.3:  $L$ , and ...

p.74, l.12: ... population will die ...

p.85, l.7-:  $f(x) > x \geq a$  ...

p.85, l.1-: ..., applied to  $f^2$  on  $[a, z]$ , ...

p.86, l.7:

... itself. Suppose there exist  $c < d$  such that  $[c, d] \subseteq [a_0, b_0] \cap f([c, d])$ .

p.87, l.3:  $\tilde{x} = \sup f((0, x^*])$ . Then  $b_0 > \tilde{x} \geq x^*$ .

p.87, l.14: then  $f(x) > a_0$  ...

p.87, l.15: So,  $f([a_0, b_0]) \subseteq [a_0, \infty)$ , ...

p.110, l.18: ... number,  $[r]_+ = \max\{0, r\}$ .

p.112, l.8:  $z' = \mu z$  and  $x' = \mu \dot{x}$ .

p.155, l.7:  $\dots - \frac{\alpha(0,0)}{\xi} V$ .

p. 163, l.-13 (Theorem 11.8):  
that is a source and unstable.

p.163, l.-5: ... first coordinate of an (unstable) source

p.189, l.10-:  $\mathcal{F}(a) = 0$

p.257, l.1:  $s \approx \ln \mathcal{R}_0 / E_{\mathcal{R}}$

p. 302, l.6-:  $1 = x_0 e^{z_0 - z(t_{\max})}$ ,  $x_{\infty} = e^{z(t_{\max}) - z_{\infty}}$ .

p.302, l.3-, Cor. 18.10:  $z_{\infty} - z(t_{\max}) \geq z(t_{\max}) - z_0$ .

p.323, formula (21.17):  $\eta$  instead of  $\gamma$

p. 342, (22.1) equation for  $R$ ,

$$= -\mu(a)R(t, x) + v(a)S(t, a) + \gamma(a)I(t, a)$$

p.350, l.6-: There should be a “-” in front of the integral

p.351, l.3: There should be a “-” in front of the integral

p.354, l.7: replace  $\bar{\phi}$  by  $\bar{\psi}$

p.423, l.12: ...  $[0, b], b \in (0, \infty]$ .

p.431, l.6-: sufficiently large  $t$  by the intermediate value theorem for derivatives (Kirkwood, 1989, 1995, Exercise 18 in Section 5-2). Further  $f'$  must be bounded away from 0. ...

p.440, l.4- (Theorem A.34): ... total orbit  $w : \mathbb{R} \rightarrow B$  ...

p.441, l.7:  $\rho$ -persistent

p. 445, l.11:  
..., assume that  $\alpha'(\mu_0) \neq 0$ .

p.446, l.12-1.16:

If  $a < 0$ , the bifurcating periodic orbits are locally asymptotically stable; this case is called *supercritical bifurcation*. If  $a > 0$ , the bifurcating periodic orbits are unstable; this case is called *subcritical bifurcation*.

One can ...

p.477, l.7-: replace  $dt$  by  $dr$

p.477, l.6-: replace  $dt$  by  $dr$ .

p.531: Mollison, D. (ed.), 1995, *Epidemic models: their structure and relation to data*, Cambridge University Press, Cambridge