*Correction list for***Mechanics of Swimming and Flying**

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Corrections refer to location, followed by “:”, followed by corrected text.

1. p. 8, line 2 up from eq.(1.11): balance.

1.1 p. 15: Expression for the spherical-coord Laplacian should read $r^{-2}d/dr(r^2 d/dr\phi) = 0$.

1.2 p. 16, middle: $B = -1/4$ and $A = -3/4$.

2. p. 33, exercise 3.1: Using (3.21) with $\frac{bk}{2\pi}$, show that the predicted swimming speed corresponds to about 13 oscillations . . .
3. p. 43, eq.(5.3b): $\mathbf{r} = \mathbf{R}(s - Qt)$.
4. p. 44, first line: . . . equals $K_T \mathbf{w} \cdot \mathbf{tt} + K_N \mathbf{w} \cdot \mathbf{nn}$.
5. p. 44, eq.(5.5): $\mathbf{F} = \int_0^L \mathbf{w} \cdot \mathbf{M} ds$.
6. p. 45, line 8 dn: . . . and (5.8) uniquely. . .
7. p. 45, line 11 dn: $U - U_0$.
8. p. 46, eq.(5.11): $(s - Qt)$, three times.
9. p. 46, unnumbered equation following eq.(5.11):

$$(x + V, \dot{y}, \dot{z}) = (0, +bkQ \sin k(2 - Qt), -bkQ \cos k(s - Qt).$$

10. p. 50, line 6 dn:

$$[\alpha^2(\mathbf{K_N} - \mathbf{K_T}) + \mathbf{K_T} - \mathbf{K_N}] - UL[\alpha(\mathbf{K_T} - \mathbf{K_N})].$$

11. p. 53, lines 12 and 14 dn: $\ln(\frac{2}{ka}) - \gamma$ and $q = \frac{\lambda}{2\pi e}$.
12. p. 70, eq. at bottom: $(\sin^2\theta\sigma_t + \sin\theta\cos\theta\sigma_n)$.
13. p. 71, eq.(7.11): $\mathbf{F} = -\frac{8}{3}\pi\mu\omega k r_0 a_0 b_0 \cos\phi$.
14. p. 71, unnumbered equation following eq.(7.13b): $U_0 = \frac{1}{2}\omega k(b_0^2 + 2a_0 b_0 \cos\phi - a_0^2)$.
15. Page 80, figure 8.2(b). The arrows refer to an average orientation over a small patch of fluid, and can be realized experimentally by a rigid arrangement of two perpendicular planes projected into the fluid and floating on a free surface. The patch is actually distorted as it flows around the vortex. Problem: Determine this distortion using Lagrangian variables. (Thanks to M. D. Van Dyke.)
16. p. 83, first line: . . . where $\mathbf{F}$ is the force exerted by the body on the fluid.
17. p. 96, line 11 dn:. . . flat plate of chord. . .
18. p. 97, second equation: $\Gamma = -4\pi aU \sin\lambda$.
19. p. 101:

$$W_L = UT + \frac{\partial}{\partial t}\int_0^l \frac{1}{2} m w^2 dx + \frac{1}{2}[Umw^2]_{x=l}.$$

20. p. 101: integrand in last term of eq.(10.9) should be $mw\frac{\partial h}{\partial x}$.
21. p. 103, first equation: $-\rho^{-1}\frac{\partial}{\partial x}(mw)$.
22. p. 107, in first term on right of eq.(10.20):$\frac{p}{\rho}$.
23. p. 107, figure 10.5: dotted line should be labeled S_w.
24. p. 109, line 9 dn: $\cos(s - Qt)$.
25. p. 109, eq.(10.26): $+(\alpha^2 - 1)$.
26. p. 1109:. eq. preceding (10.28): $-m(l)$.
27. p.p. 109, eq. (19.28):

$$\eta = \frac{2\theta - \alpha^2(1-\theta)\theta}{(1+\theta) - \alpha^2(1-\theta)}$$

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28. p. 113, middle: The three-dimensional, small-amplitude theory of the lunate tail has been discussed by Chopra (1974); he has also…
29. p. 115, first line: …will swim according to slender-body theory provided that the frequency is less than U/L. Show also that, if instead the rear edge of the fin remains parallel to the swimming direction ($x_s = 1$ at $s = l$) as in (b) and the rear edge moves laterally as $\sin \omega t$, the fish will always develop thrust according to slender-body theory.
30. p. 118, middle:

$$\frac{(0, -z, y-\eta)}{2\pi[(y-\eta)^2 + z^2]},$$

which reduces to $[0, 0, 2\pi(y-\eta)^{-1}]$ at $z = 0$.

31. p. 118, lines 2 and 3 up: $y = b\cos\theta, \eta = b\cos\theta'$.
32. p. 119, second equation:

$$I_n = \int_0^\pi \frac{\cos n\theta'}{\cos\theta - \cos\theta'} d\theta'.$$

33. p. 123, next to last equation: $\gamma(\xi, t) = -\frac{\partial c}{\partial x}(a + \xi, t)$.
34. p. 150, bottom (twice): Lighthill, M.J.
35. p. 10, middle: $W_\Sigma =$ rate of working of forces at Σ on the fluid in V.
36. p. 25, lines 9 and 10 dn:

$$\ldots + \frac{1}{2}\psi_{\eta\xi\xi}(\xi, 0)(bk\cos\xi + \gamma k \sin\xi)^2 + \psi_{\eta\eta\xi}(bk\sin\xi)(\beta k\cos\xi + \gamma k\sin\xi)\ldots$$

37. p. 29, lines 8 and 9 dn:

$$\lambda = \sqrt{1 - iR}, A = \frac{\lambda + 1}{R}(\lambda b + \beta - i\gamma)k, B = -\frac{\lambda + 1}{R}(b + \beta - i\gamma)k.$$

38. p. 29, eq.(3.24),

$$U^{(2)} = \Re\{\frac{1}{2}[\lambda b + (\lambda + 1)(\beta - i\gamma)]b - \frac{1}{2}a^2 + \frac{R^2}{2}[AB^*(1 + \lambda^*)^{-2} + (\lambda + \lambda^*)^{-2}|B|^2]\}.$$

39. p. 30, middle:$\frac{U}{V} = -\frac{a^2k^2}{2}\frac{3F-1}{2F}$.
40. p. 67, figure 7.5: In the rows marked $\pm\pi/2$, the figures in columns marked $b > a$ and $b < a$ should be exchanged.

41 pp.126-127, replace m_{12} by M_{12} in eqn. (11.18) and the line following, and twice in (11.21).

42 p. 127, a'should be a in (11.22).

43 p. 105, equation after (10.15), $+\frac{1}{2}(\mathbf{u}_+ - \mathbf{u}_-)$ should be $-\frac{1}{2}(\mathbf{u}_+ - \mathbf{u}_-)$.