On Value Distribution Theory of Second Order Periodic ODEs, Special Functions and Orthogonal Polynomials (Errata)

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Erratum to: On Value Distribution Theory of Second Order Periodic ODEs, Special Functions and Orthogonal Polynomials

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The authors noticed the following typing errors in the proof of Theorem 1.6 in [1]. On page 752, below equation (8.8), change "Hence $c \neq 0$" to "Hence $C \neq 0$".

On page 754, the constants in the argument of the Whittaker functions on the fourth and fifth lines in equation (8.22) should be as follows (where the changed lines are labelled with "changed"):

$$
\begin{aligned}
f_+(z) &= e^{z/2}\big[AG_L(\eta_+, \alpha_+ e^{-z}) + BF_L(\eta_+, \alpha_+ e^{-z})\big] \\
&= -iBe^{z/2}\big[G_L(\eta_+, \alpha_+ e^{-z}) + iF_L(\eta_+, \alpha_+ e^{-z})\big] \\
&= -iB \cdot e^{z/2}\psi_+(L, \eta_+, \alpha_+ e^{-z}) \\
&\overset{\text{change}}{=} \hat{B} \cdot e^{z/2}W_{-i\eta_+, L+1/2}(2\alpha_+ e^{-z} \cdot e^{-i\pi/2}) \qquad \text{(changed)} \\
&\overset{\text{change}}{=} \hat{B} \cdot e^{z/2}W_{1-\frac{a_+}{2}, \frac{a_+-1}{2}+n_+}(-2i\alpha_+ e^{-z}) \qquad \text{(changed)} \\
&= \hat{B} \cdot e^{z/2}W_{1-\frac{a_+}{2}, \frac{a_+-1}{2}+n_+}(b_+ e^{-z}) \\
&= \hat{B} \cdot e^{z/2}y_{n_+}(e^z; a_+, b_+)(b_+ e^{-z})^{1-a_+/2}\exp\big(-b_+ e^{-z}/2\big) \\
&= \hat{B} \cdot e^{z/2}e^{-(1-a_+/2)z}y_{n_+}(e^z; a_+, b_+)\exp\big(-b_+ e^{-z}/2\big).
\end{aligned}
\tag{8.22}
$$

And finally, an m^2 factor is missing in equation (3.5).[1] It should read

$$
f'' + 2\gamma m f' + m^2\Big(\gamma^2 + \beta^2 \sum_{j=-n'}^{n} \alpha^j k_j e^{\beta m j z}\Big)f = 0.
\tag{3.5}
$$

References

[1]   Y. M. Chiang and M. E. H. Ismail *On value distribution theory of second order periodic ODEs, special functions and orthogonal polynomials.* Canad. J. Math. **58**(2006), no. 4, 726–767.

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