PROCEEDINGS A

rspa.royalsocietypublishing.org

Correction

Cite this article: Shearer T, Vitali C, Parnell WJ, Abrahams ID. 2018 Correction to 'Antiplane wave scattering from a cylindrical cavity in pre-stressed nonlinear elastic media'. *Proc. R. Soc. A* **474**: 20180268.
http://dx.doi.org/10.1098/rspa.2018.0268

Correction to 'Antiplane wave scattering from a cylindrical cavity in pre-stressed nonlinear elastic media'

Tom Shearer, Camille Vitali, William J. Parnell and I. David Abrahams

TS, 0000-0001-7536-5547; WJP, 0000-0002-3676-9466

Proc. R. Soc. A **471**, 20150450. (Published online 8 October 2015) (doi:10.1098/rspa.2015.0450)

Eqn (2.20) in [1] should have read as

$$\frac{p_\infty - p_0}{\mu} = \frac{1}{4(3+5N)\zeta^4}\left(1-\frac{\zeta a^2}{A^2}\right) \times \left(\frac{A^4}{a^4} + 2\zeta^2 + \frac{A^2}{a^2}\zeta(3+10N\zeta+2\zeta^3)\right) + \frac{1+5N\zeta+\zeta^3}{2(3+5N)\zeta^2}\log\left(\frac{A^2}{\zeta a^2}\right).$$

The omission of the factor of ζ^{-2} multiplying the log term led to errors in figure 2, which are corrected in the figure below and in the final two rows of table 2, which are corrected in the table below. Figure 6 is also affected, theoretically, but the change to that figure is so small that it is imperceptible by visual inspection. All other results and the conclusions drawn are unaffected.

THE ROYAL SOCIETY PUBLISHING

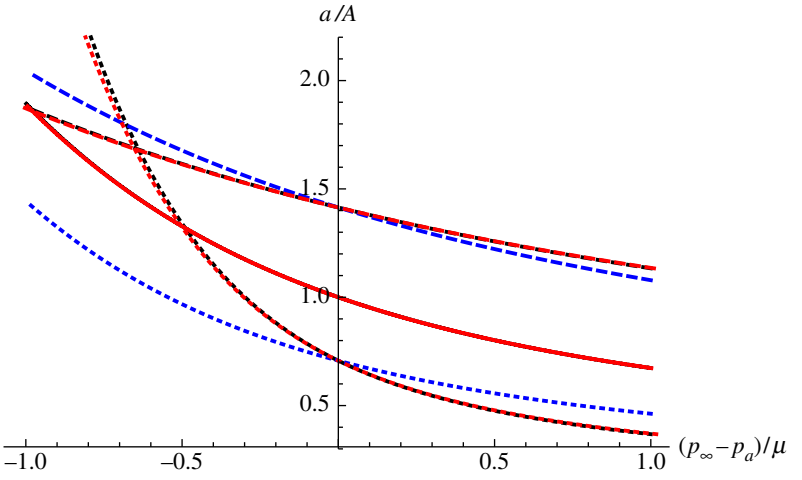

Figure 2. a/A as a function of $(p_\infty - p_a)/\mu$. The black curves represent the neo-Hookean strain energy function; the blue curves represent the Mooney–Rivlin strain energy function and the red curves represent the Arruda–Boyce strain energy function. The solid lines correspond to $\zeta = 1$; the dashed to $\zeta = \frac{1}{2}$ and the dotted to $\zeta = 2$. The values chosen for the constants in the Mooney–Rivlin strain energy function were $C_1 = 0.724$, $C_2 = 0.276$, and the value chosen for N in the Arruda–Boyce strain energy function was $N = 26.5$.

Table 2. The effect of the applied pressure differences on the deformed radius a for the Arruda–Boyce strain energy function, given a non-dimensionalized pressure difference $(p_\infty - p_a)/\mu = 1$ and undeformed radius $A = 1$.

strain energy function	applied longitudinal stretch	deformed radius a
Arruda–Boyce	$\zeta = \frac{1}{2}$	1.13557
Arruda–Boyce	$\zeta = 2$	0.370655

Reference

1. Shearer T, Parnell WJ, Abrahams ID. 2015 Antiplane wave scattering from a cylindrical cavity in pre-stressed nonlinear elastic media. *Proc. R. Soc. A* **471**, 20150450. (doi:10.1098/rspa.2015.0450)