

CORRECTION

Correction: Bounds on Transient Instability for Complex Ecosystems

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The following information is missing from the funding statement: PPAS was supported by an AXA Research Fellowship, British Ecological Society grant 4785/5824 and the National Socio-Environmental Synthesis Center (SESYNC)—NSF award DBI-1052875.

The ϵ labeling the key for Fig 1 should be replaced with the symbol r. The authors have provided a corrected Figure here.



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Citation: Caravelli F, Staniczenko PPA (2016) Correction: Bounds on Transient Instability for Complex Ecosystems. PLoS ONE 11(9): e0162430. doi:10.1371/journal.pone.0162430

Published: September 1, 2016

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Fig 1. Top: Pseudospectrum of a random community matrix with S = 50, C = 0.1, $\mu = 1$ and $\sigma = 0.3$, which is asymptotically stable. Contours in the complex plane illustrate the effect on eigenvalues of the community matrix M for noise of magnitude $\epsilon = 10r$ [31]. The contour for $\epsilon = 0.1$ (i.e., r = -1) crosses the imaginary axis, implying that the pseudospectral abscissa is positive and so transient instability is observable. Bottom: Dynamics of || eMt|| (arbitrary units of time, see Eq (9)). The dashed curve represents dynamics from eigenvalue analysis, whereas the solid curve represents dynamics predicted by positive ϵ -pseudospectral abscissa for $\epsilon \approx 0.1$.

doi:10.1371/journal.pone.0162430.g001

Reference

1. Caravelli F, Staniczenko PPA (2016) Bounds on Transient Instability for Complex Ecosystems. PLoS ONE 11(6): e0157876. doi:10.1371/journal.pone.0157876 PMID: 27327511