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Journal Name:	British Journal of Mathematics & Computer Science
Manuscript Number:	2014_BJMCS_14280
Title of the Manuscript:	Relaxing the Hypotheses of Symmetry and Time-Reversibility in Genome Evolutionary Models
Type of the Article	Original research article

General guideline for Peer Review process:

This journal's peer review policy states that **NO** manuscript should be rejected only on the basis of '**lack of Novelty**', provided the manuscript is scientifically robust and technically sound.

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PART 1: Review Comments

	Reviewer's comment	Author's comment (if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)
Compulsory REVISION comments	In order to predict the evolution of DNA, various types of mutations were considered by assuming symmetricity or time-reversibility of mutation matrices. However, all these assumption were made because of computational perspectives of the power mutation matrices. The recent study shows that there are some genes in which the mutation matrices might be non-symmetric or time-irreversible. In this manuscript, authors have considered, in some sense, a general linear (time-invariant) mutation by allowing non-symmetricity or time-irreversibility of mutation matrices which encompassed previous models. It is worth of mentioning that in the following papers, a general mathematical model of mutation was presented 1. D. Knopoff, "On a mathematical theory of complex systems on networks with application to opinion formation," Mathematical Models and Methods in Applied Sciences, vol. 24, no. 2, pp. 405-426, 2014. 2. N. Bellomo, D. Knopoff, and J. Soler, "On the difficult interplay between life, "complexity", and mathematical sciences," Mathematical Models and Methods in Applied Sciences, vol. 23, no. 10, pp. 1861-1913, 2013. Moreover, a nonlinear mutation was studied in the following paper. 3. N. Ganikhodjaev, M. Saburov, and A. M. Nawi, "Mutation and Chaos in Nonlinear Models of Heredity," The Scientific World Journal, vol. 2014, Article ID 835069, 11 pages, 2014. doi:10.1155/2014/835069	



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	It is worth of pointing out that in nonlinear case, a mutation can exhibit a chaos. I would like to request from Authors to cite those papers mentioned above so readers can get a general clue about mathematical models of mutation as well as non-linear mutation.	
<u>Minor</u> REVISION comments	Usually, when we calculate the power of a matrix, we split into two cases: real roots and complex roots cases of the characteristic polynomial. In this sense, (i) Can Authors explain why their study can also cover the case $\Delta = s^2 - 4p < 0$? (ii) Can Authors provide an example from a real experiment in which $\Delta < 0$	
<u>Optional/General</u> comments	Could you kindly re-check the language of the manuscript?	

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