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| Book Name: | [**Mathematics and Computer Science: Research Updates**](https://www.bookpi.org/bookstore/product/mathematics-and-computer-science-research-updates-vol-1/) |
| Manuscript Number: | **Ms\_BPR\_4897** |
| Title of the Manuscript:  | **The Dynamics of an Eco-Epidemiological Model of three species with Holling type-II and Type-IV functional responses** |
| Type of the Article | **Book Chapter** |

**Special note:**

**A research paper already published in a journal can be published as a Book Chapter in an expanded form with proper copyright approval.**

**Source Article:**

**This chapter is an extended version of the article published by the same author(s) in the following journal.**

**Journal of Physics: Conference Series, 1850 (2021) 012003.**

**Doi:10.1088/1742-6596/1850/1/012003**

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| PART 1: Comments |
|  | Reviewer’s comment**Artificial Intelligence (AI) generated or assisted review comments are strictly prohibited during peer review.** | Author’s Feedback *(Please correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Please write a few sentences regarding the importance of this manuscript for the scientific community. A minimum of 3-4 sentences may be required for this part.** | This study is significant as it examines a predator and two prey species, with one being susceptible to infection and the other considered infected. Sections 2 and 3 establish the boundedness of the solutions and the existence of steady states. Additionally, the local and global stability of the proposed model around its steady states has been analyzed. |  |
| **Is the title of the article suitable?****(If not please suggest an alternative title)** | Yes, the title of the article is suitable |  |
| Is the abstract of the article comprehensive? Do you suggest the addition (or deletion) of some points in this section? Please write your suggestions here. | Yes, but the abstract does not provide enough background information to introduce the topic effectively. Additionally, the authors failed to specify the method used for the simulation; this detail should be included. I recommend that the authors revise it by these observations.  |  |
| **Is the manuscript scientifically, correct? Please write here.**  | Yes, the manuscript is scientifically correct.  |  |
| **Are the references sufficient and recent? If you have suggestions of additional references, please mention them in the review form.****-** | The authors do not include recent literature on the applications and methods used for simulations in mathematical ecology and mathematical epidemiology. The authors are encouraged to incorporate a discussion of this literature in the introduction.For the references to be more sufficient, I suggest the author add the following references.* + - 1. Abiodun Ezekiel Owoyemi, Ibrahim Mohammed Sulaiman, Pushpendra Kumar, Venkatesan Govindaraj and Mustafa Mamat. (2023). Some novel mathematical analysis on the fractional-order 2019-nCoV dynamical model. Journal of Mathematics Methods in Applied Sciences. 2022. [doi.org/10.1002/mma.8772](https://doi.org/10.1002/mma.8772).
			2. Owoyemi, Abiodun Ezekiel, Ibrahim Mohammed Sulaiman, Mustafa Mamat, and Sunday Ezekiel Olowo. "Stability and Bifurcation Analysis in a Fractional-order Epidemic Model with Sub-Optimal Immunity, Nonlinear Incidence and Saturated Recovery Rate." *IAENG International Journal of Applied Mathematics* 51, no. 3 (2021).
			3. Abiodun Ezekiel Owoyemi,Ibrahim Mohammed Sulaiman,Mustafa Mamat Sunday Ezekiel Olowo (2021), Stability and Bifurcation Analysis in a Fractional-order Epidemic Model with Sub-Optimal Immunity, Nonlinear Incidence and Saturated Recovery Rate. *IAENG International Journal of Applied Mathematics* (Accepted Journal - Ref no. - IJAM\_2020\_06\_07a).
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| Is the language/English quality of the article suitable for scholarly communications? | The English language is clear and suitable; however, I recommend that the authors check for further grammatical or typographical errors. |  |
| Optional/General comments | 1. The introduction started on a positive note; however, it does not include recent literature on the applications and methods used for simulations in mathematical ecology and mathematical epidemiology. The authors are encouraged to incorporate a discussion of this literature in the introduction.
2. The authors should include the real-world applications of this problem and explain why this study is essential.
3. **Finally, I recommend that the authors address all the points above (items 1-2) before the paper can be accepted for publication**.
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| **PART 2:**  |
|  | Reviewer’s comment | Author’s comment *(if agreed with the reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)* |
| **Are there ethical issues in this manuscript?**  | *(If yes, Kindly please write down the ethical issues here in detail)*No |  |

**Reviewer details:**

**Abiodun Ezekiel Owoyemi, Federal College of Agricultural Produce Technology, Nigeria**