



UNIVERSITA' DEGLI STUDI DI PADOVA
DIPARTIMENTO DI FISICA E ASTRONOMIA "GALILEO GALILEI"

Padova 28/12/2018

Dear Editor and dear referees

we are very grateful for your comments. All of them have been taken into account in the present revised manuscript. The text has been modified accordingly where we agree with editor's and/or reviewers' suggestions. In this regard, we disagree with the following comment by the first referee:

Even more important is to mention the link between this approach and the theoretical work on the Neutral Theory of Biogeography (by these authors and others). [...] the authors should rather remind the reader that this approach is limited to systems for which the neutral theory is deemed valid.

This is a common misunderstanding. We propose a parametric statistical model and an estimator from a frequentist point of view. Within this theoretical framework we are making some starting hypothesis on the data - that's the meaning of 'statistical model' - but, once such hypothesis are satisfied, like every statistical algorithm, our estimates work regardless of the process that generated the data. One may say that our estimator has been inspired by neutral theory, but once settled down, it is completely independent of it. Thus, our approach is not limited to forests, nor to ecology.

Moreover, our estimator may be good even when the hypothesis that allow for a rigorous derivation, are not satisfied. This is illustrated in Table 1, where we tested it on generated forests with a non NB RSA and/or with individuals distributed according to a Thomas process. The clustering coefficient that we chose for the Thomas process is higher than those empirically measured for BCI and PASOH forests.

Finally, we added a term by term explanation for the RSO hypergeometric distribution.

We hope this fully answer to the concerns on these points raised by the first referee.

We thank you in advance for your consideration, looking forward to hearing from you.

Sincerely,
Samir Suweis (on the behalf of all authors)

A handwritten signature in blue ink, reading "Samir Suweis".