Round #2

Decision

by Guillaume Achaz, 2018-11-23 17:54

Manuscript: https://doi.org/10.1101/306456

Recommendation, pending very minor revisions

Dear authors,

Please first apologize for the delay in responding to your submission. My agenda has been sadly very compact. I think your revised version is even better than the first one. I will be happy to recommend your preprint for PCI Evol Biol, provided that you can fix few minor details listed below. I believe this would not you very take long. I shall then quickly post my recommendation.

- Gene diversity, although now defined, is used in your ms. Please replace all its occurrences by expected heterozygosisty that is a much more explicit wording.

Done

- Table 3: MAF<1% actually means MA Counts<4 for most sites, unless there are too many missing data. In this last case, could you provide some extra information on missing genotypes ? (maybe mean and 95% of the distribution)

Done, we added this sentence in the results : "The mean proportion of missing data per locus before filtering for MAF 0.01 was 4.22 % (standard error : 2.78%)."

- Table 2, 4 : could you add one letter for the region in parenthesis after the name. This will considerably ease the reading.

Done

- Table 4: remove Tajima's D from the legend. Fourth column head is "number of private alleles" and non integers are reported. Is this a mean. If yes, please use "average number of private alleles". Otherwise please explain.

Yes this is the average of the number of private alleles, we modified the table accordingly.

- Table 5 : disturbing to read that Fst of 0.01 is "highly significant". I guess this is only due to the size of the dataset in terms of loci, that are assumed to be independent.

The p-value presented here corresponds to the combination of all test results with the Fisher's method as implemented in the Genepop's software. We think that this significance despite low

average Fst, which has been observed in other studies, is the combination of the number of tests and of the wide range of differentiation levels : for all comparisons there will be enough significant and high Fst to drive this signal (see the distribution of Fst values in Figure S4). We added a sentence in the discussion : "Here the differentiation was significant for all comparisons, even with low average F_{ST} in some cases (0.01 or 0.02 between depths in Banyuls). Such low but significant F_{ST} can be explained by the high number of loci used here, and by the high variance in F_{ST} values. Indeed for all comparisons some important F_{ST} were observed in the dataset (see below)."

May I suggest (but feel free to refuse) to change the title from "Separate the wheat from the chaff: genomic analysis of local adaptation in the red coral Corallium rubrum" to "Separate the wheat from the chaff: genomic scan for local adaptation in the red coral Corallium rubrum"

as the ms is not really an "analysis" of local adaptation but rather a quest for it.

We agree and we changed the title.

Other recommendations :

1. les modifications demandées par Thomas Guillemaud dans son message du 18 octobre (sauf erreur ces données/liens, ne sont pas présents dans la version actuelle). Pour mémoire:
-Data must be available to readers after recommendation, either in the text or through an open data repository such as Zenodo, Dryad or some other institutional repository. Data must be reusable, thus metadata or accompanying text must carefully describe the data.
-Details on quantitative analyses (e.g., data treatment and statistical scripts in R, bioinformatic pipeline scripts, etc.) and details concerning simulations (scripts, codes) must be available to readers in the text, as appendices, or through an open data repository, such as Zenodo, Dryad or some other institutional repository. The scripts or codes must be carefully described so that they can be reused.
-Details on experimental procedures must be available to readers in the text or as appendices.
-Authors must have no financial conflict of interest relating to the article. The article must contain a "Conflict of interest disclosure" paragraph before the reference section containing this sentence: "The authors of this preprint declare that they have no financial conflict of interest with the content of this article." This disclosure may be completed by a sentence indicating that some of the authors are PCI recommenders: "XY is one of the PCI Evol Biol recommenders."

Done : we added the sections on data availability and conflict of interest (none).

2. la page de garde que tu trouvera en attaché. *ATTENTION : le titre de ton preprint dans cette page de garde est celui suggéré par Guillaume Achaz (en partant du principe que vous accepterez sa proposition de modification). Si vous souhaitez conserver votre titre, dites-le moi et je vous enverrai alors une autre page de garde avec le bon titre.*

Done, we kept the new title

3. cette phrase dans les remerciements : "*This preprint has been reviewed and recommended by Peer Community In Evolutionary Biology (https://dx.doi.org/10.24072/pci.evolbiol.100061) »*

Done (not yet on the BioRXiv version, but we have a version

4. Supprimer la numérotation des lignes et inclure les tableaux et les figures dans le texte principal et non à la fin du manuscrit.

Done

As this article was prepared with LibreOffice we couldn't directly use the word or latex models proposed for PCI, but we tried to use a style similar to these ones.

The final version, including all formatting for PCI is available here :

https://amubox.univ-amu.fr/s/rRjj7YXiC4JZRAL