

Reviewer Report

Title: A high-quality chromosomal genome assembly of *Diospyros oleifera*

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Reviewer name: Manuel Spannagl

Reviewer Comments to Author:

This manuscript describes the assembly of the first chromosome-level genome sequence of an Ebenaceae, *Diospyros oleifera*. The newly generated genome sequence was analysed for TE and gene content as well as for tannin synthase and sex determination genes. A phlogenetic tree was constructed for divergence time estimation.

Data preparation as well as the construction of the pseudomolecules follows established and proven protocols and the results look good to me. Same is true for the gene model prediction and TE detection. My main issue with this study is that it is almost exclusively a description of a newly established genomic resources, with very little to no new biological insights included in this manuscript. There is a little bit on tannin synthase and sex determination but this is all based on existing knowledge and little more than a homolog search. I appreciate the generation of these novel and helpful resources but these data could/should have been used to gain more biological insights.

More specific issues:

- a.) Transcriptome data: I could not find a proper description of the transcriptome data that was obviously generated with this study and used for gene prediction. This could e.g. also be used to establish transcription levels for gene or gene families of interest.
- b.) Functional annotation: I would recommend to use more specialized tools such as AHRD or BLAST2GO instead of simple best Blast hit for the human readable descriptions.
- c.) Phylogeny: I would recommend to use OrthoFinder instead of the older OrthoMCL version for determining the orthologous groups. Also, I'm not sure about the bias possibly introduced by just picking the single copy orthologs for the construction of the phylogenetic tree.
- d.) I could not access any data under the NCBI accession number given.
- e.) Language and grammar needs improvement.

Level of Interest

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Quality of Written English

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