Reviewer Report

Title: Genome of an allotetraploid wild peanut Arachis monticola: a de novo assembly

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Reviewer name: Steven Cannon

Reviewer Comments to Author:

This paper reports what appears to be a high-quality genome assembly of the wild tetraploid peanut relative, Arachis monticola. The paper primarily reports the assembly methods and statistics. As far as I am able to tell, the assembly appears to have been made using state-of-the-art methods. The main weakness (and a very large one) is that the assembly is not accessible. I assume it will be made available after embargo, but as this paper primarily describes the assembly resource, I don’t feel that I can adequately assess the resource if it is not available. It appears that the accession IDs provided for GigaDB and GenBank are placeholders. I believe the standard practice is instead to provide actual identifiers provided by those databases - which may be held pending embargo release, depending on release conditions. It would also have been nice for the authors to have provided some scientific analysis of the assembly, beyond a simple description of the resource. For example, no report is provided regarding sequence interactions (exchanges) between the subgenomes, or evidence about rearrangements in the progenitor species - or sequence similarity with the diploid progenitors.

Specific comments:

Introduction
60: "has a key role on food security within the global society" -- better as "has a key role in food security globally" (on -> in and global society -> globally)
62: "The genus Arachis is unique of subterranean fruit originated" --> The genus Arachis is unique for its subterranean fruit, which originates from
82: "billion basesand" --> : billion bases and
84: occupying --> spanning

Availability of supporting data:
354: At http://gigadb.org, I find no record for RRID:SCR00000 or for SCR00000. This seems to be a placeholder. The correct accession will be needed.
355: "Raw data were deposited in the Sequence Read Archive (SRA00000) for the Arachis monticola genome." -- the accession SRA00000 seems to be a placeholder. At GenBank, I see biosample SAMN05572396 and bioproject PRJNA248910 for Arachis monticola, but from a different research group. The correct accession(s) will be needed.

Level of Interest

Please indicate how interesting you found the manuscript: An article of importance in its field

Quality of Written English

Please indicate the quality of language in the manuscript: Needs some language corrections before being published

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