Reviewer's report

Title: Comparative analysis of oral treponeme bacteria associated with periodontal health and disease

Version: 2 Date: 19 February 2013

Reviewer: Floyd Dewhirst

Reviewer's report:

This is a well written manuscript comparing the oral treponeme present in periodontal health and disease. The authors use cloning and full length sequencing to separate into OTUs and taxonomically and phylogenetically place clones. This work is a significant advance from the earlier treponeme survey work of Dewhirst and Paster.

The question posed by the authors is well defined. The methods are appropriate and well described. The data appear sound. The manuscript adheres to the relevant standards for reporting and data deposition—the 16S rRNA sequences are already available. The discussion and conclusions are well balanced and adequately supported by the data. The limitations of the work are not really addressed. The authors could add discussion of the advantages and disadvantages of their approach compared to next gen sequencing. The authors clearly acknowledge earlier work upon which they are building. The title and abstract accurately convey what has been found. The writing is of high quality.

Discretionary Revisions:
The authors have done an excellent job of placing their 99% similarity OTUs in the context of previous published work and HOMD similarity for novel OTU's. So that all your OTUs can be related to the HOMD taxonomic scheme, I strongly urge you to combine supplementary Tables 1 & 2 so that there are columns for % similarity and Hit_HOMD_clone_name for all 110 of your OTUs.

For your readers who are interested in seeing the neighbor joining tree with branch lengths (rather than just topological ordering) I encourage you to include a tree (even as a supplementary Figure).

Minor Essential Revisions:
None noted.

Major Compulsory Revisions:
None noted.

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.

Declaration of competing interests:
I declare that I have no competing interests