Reviewer's report

Title: Exploring the oral microbiota of children at various developmental stages of their dentition in the relation to their oral health

Version: 1 Date: 23 December 2010

Reviewer: Vladimir Lazarevic

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The salivary microbiota composition was analyzed by pyrosequencing of the 16S V5-6 region as well as by using microarrays. The proportion of several taxa appeared to change with age. Increased counts of two species was associated with a health oral status.

MAJOR COMPULSORY REVISIONS

1. It should be stated somewhere whether the species (or alternatively 100%-ID phylotype) richness was affected by the age or oral status.

2. It may be useful to include a comparison of taxa abundance obtained using 454 pyrosequencing and microarrays (pooled to match the 12 groups analysed by sequencing).

3. Abstract
   The first sentence in “Conclusions” would better stand in the “Results” section of the abstract.

4. Background
   Page 3, Line 7
   “Studies have revealed that the various sites…”

and

Materials and Methods
   Page 12, two bottom lines
   “Unstimulated saliva, as a representation of an average of the whole oral ecosystem”

In a previous article (Zaura et al., BMC Microbiol. 9 (2009) 259) the authors suggested that the saliva samples were closer to communities obtained from mucosal than dental sites.

Mager et al. (J. Clin. Periodontol. 30 (2003) 644-654)) showed that salivary microbiota was most similar to that of the dorsal and lateral surfaces of the tongue.

5. Results, page 6, Line 7
Archaeal sequences were identified. Details about species found and what is known from the literature should be provided.

6. Results
Page 6, Line 23
Is the PCA2/3 separation of samples according to the health status statistically significant?

7. Microarray data
Normalized signal intensities for each sample should be given somewhere (e.g. Additional File 2).

MINOR ESSENTIAL REVISIONS
8. Throughout
Genera names should be italicized.

9. Background
Page 3, Line 24
Indicate that 16S amplicons were sequenced by 454.

10. Results
Page 4, Line 21
Indicate that EACH of the 4 dentition stage groups was divided into three groups according to their oral status.

11. Materials and Methods
Page 15
Abbreviate sodium dodecyl sulfate when first mentioned.

12. Results
Page 7, Line 15
In which group(s) of samples was P. gingivalis detected?
“This precludes … “ Do you refer to the low counts?

13. Figure 6
Indicate what the broken lines mean.

14. Discussion
Page 10, Lines 11-12
“ … has been associated with shallow pockets and healthy sites compared… “ Not clear.
**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.