Erratum to: Evaluating the Pollution of the Apies River in Pretoria South Africa

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1. The following statement should be removed from the abstract:

   however, the water should be boiled prior to use to inactivate the bacteria present in the water.

2. The last sentence in paragraph 1 of the Introduction section should be rewritten as follows:

   Three largest producers of waste water globally have been identified as agriculture, industry and municipalities; with agriculture producing 32%, industry producing 16% and municipalities producing 8% waste water [4], [5].

3. The second last sentence in the Introduction section should be rewritten as follows:

   Therefore it is important to study the pollution on the Apies River.

4. The last sentence of the second paragraph in the Literature Review Section should be rewritten as follows:

   NPS are the more prolific polluters as they are responsible for more than 60% of river water pollution.

5. The last sentence in paragraph 1 of the Methods section should be rewritten as follows:

   The water and sediment samples were then delivered to Meriux Nutriscences Laboratory (Midrand-South Africa), for 16s rRNA sequencing and Regen Waters Laboratory for chemical and microbiological analysis (results of the 16s rRNA sequencing not included).

6. Sentence 3 of paragraph 1 of the Results section should be rewritten as follows:

   A PI ratio of less than 1.5 means that concentrations are less than 50% higher at the downstream site compared to upstream.

7. Sentence 4 of paragraph 1 of the Results section should be rewritten as follows:

   A PI ratio of 1.5 to 5 means that concentrations are between 50 and 100% higher at the downstream site compared to upstream.

8. The first sentence below table 2 must be completely removed

9. Figure 2 must be replaced with below figure:

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10. The second sentence below figure 3 should be rewritten as follows:
Nitrates NO3- follow a similar trend as the COD with higher concentrations at the downstream and the highest concentrations from the Rooiwal WWTW effluent (Figure 4).

11. The last sentence below figure 4 should be rewritten as follows:
The physiochemical properties of Apies River water downstream of Rooiwal WWTW (AP2) does not comply with the SANS 241 drinking water standard due to the high concentrations of nitrates in the water which have been introduced by the effluent from Rooiwal WWTW (Figure 4).

12. The first sentence below Table 3 must be rewritten as follows:
The significant difference in microbiological pollution between the samples collected upstream of Rooiwal WWTW and downstream WWTW indicates that the WWTW has an adverse effect on the river.

13. The second sentence below Table 3 must be rewritten as follows:
However due to the present of a significant amount of microbiological agents in the Apies River upstream of the Rooiwal WWTW is not the only source of microbiological pollution of the Apies River, there must be other sources of microbiological agents upstream Rooiwal WWTW (Table 3).

14. The first sentence in the Discussion section should be rewritten as follows:
Table 2 indicates that the concentration of most pollutants downstream is more than 50% of the upstream concentration.

15. The second sentence in the Discussion section should be rewritten as follows:
The presence of E.coli upstream (AP1) shows that the E.coli pollution is not only contributed by the Rooiwal WWTW but other sources of E. coli pollution are also present in the area.

16. The last sentence in paragraph 1 of the Discussion section needs to be rewritten as follows:
The presence of E.coli serves as an indication of human and animal waste in the river [5], [16].

17. The first sentence in section 6.2 of the Discussion section needs to be rewritten as follows:
The average concentration of E.Coli at the downstream site is 2420 mg/L.

18. The third sentence in section 6.2 of the Discussion section need to be rewritten as follows:
Based on the full contact and intermediate contact guidelines of the South African Water Quality Guidelines for Recreational use, the downstream river water is not for swimming, canoeing or water skiing [16].

19. The fourth sentence of section 6.2 of the Discussion section need to be rewritten as follows:
The Orthophosphates PO43- concentration of the river downstream ranges between 1.28 and 2.51 mg/L.

20. The second last sentence of section 6.2 Discussion section needs to be rewritten as follows:
The Orthophosphates PO43- concentrations of the effluent ranges between 4.12 and 4.68 mg/L due to ineffective treatment at the Rooiwal WWTW
21. The last sentence of section 6.2 Discussion section needs to be rewritten as follows:
The nitrates levels in the effluent from the Rooiwal WWTW are also very high with an average concentration of 18.3 mg/L as a result of ineffective water treatment at the Rooiwal WWTW.

22. The first sentence of section 6.3 of the Discussion section needs to be rewritten as follows:
According to DWAF guidelines, the pH of irrigation water can be grouped into three classes: pH < 6.5, pH between 6.5 and 8.4 and pH > 8.4; with pH 6.5 to 8.4 being the water quality target [17].

23. The last 2 sentences of section 6.3 Discussion must be removed.

24. The first sentence of section 6.4 of the Discussion section must be rewritten as follows:
The results shows that physiochemical the Apies River upstream (AP1) of Rooiwal WWTW is relatively unpolluted and complies with the physiochemical limits set out in the SANS 241 Drinking Water Standard [18].

25. The second sentence of section 6.4 of the Discussion section must be rewritten as follows:
The introduction of high concentrations of nitrate by the Rooiwal WWTW results in the downstream portion of the river being non-compliant with the physiochemical limits of nitrates that are set in the SANS 241.

26. The following 2 sentences must be added to the end of section 6.4 of the Discussion section.
The isolation of bacteria E coli, Klebsiella pneumonia, Cronobacter sakazakii and Citrobacter freundii; in the river water and sediment demonstrated the microbiological contamination [3], [6], [7]. Therefore, there are higher chances of exposure to these pathogens, meaning that the use of Apies River water for domestic purposes should be avoided.

27. The following 2 references must be added to the end of the reference section: