



SDI FINAL EVALUATION FORM 1.1

PART 1:

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| Journal Name: | Current Journal of Applied Science and Technology |
| Manuscript Number: | Ms_CJAST_50132 |
| Title of the Manuscript: | MICROPELLET PARTICLES: A VECTOR OF HYDROPHOBIC ENDOCRINE DISRUPTING CHEMICALS IN LAGOS LAGOON |
| Type of Article: | Original Research Article |

PART 2:

| FINAL EVALUATOR'S comments on revised paper (if any) | Authors' response to final evaluator's comments |
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| <p>1. "2.Revised-ms_CJAST_50132_" is the revised version which I am supposed to review. Indeed it does contain some small differences as compared to the original document I have reviewed earlier. For example the map (figure 1) has been changed. I do not know why this has been done because I found the first version much more informative. Some other changes have been introduced and at least some of these are even marked in yellow. But my main concerns have not been addressed. Not even some of those concerns that are addressed by the authors specifically in their response to my review and where they assure me that they have corrected the text.</p> <p>2. The authors write that they now explain that figure 2 reports plastics in terms of mass. But indeed in the text I still see percentage without any specification: "Almost all of the plastic micropellet particles (91.6%) were round in shape, with only 8.4% non-cylindrical in shape; maximum occurrence in surface water (67%) and (33%) in sediment sampled (Figure. 2)."</p> <p>3. They have changed the percentages in the cited text so that the sums now add up to 100. They have changed the term "cylindrical" to "non-cylindrical" which is a strange reaction to my critique. I still do not know if "round" means "spherical" as opposed to "elongated" or "with rounded corners" as opposed to "with sharp corners". Originally I took "round" as "spherical" and "cylindrical" as "elongated" but I really do not know what to do with "non-cylindrical".</p> <p>4. They also confirm in the response that one asterisk indicates a significant difference between media at the 0.05 level and two asterisks at the 0.01 level. But in the footnotes to the figures they still write: "single asterisks (*) and double asterisks (**)" indicate a significant difference between matrices at the level of $p < 0.01$". Neither in the response nor in the paper do they explain the specific meaning of a, b, and c in these figures. They only state that the letters denote significant differences between the stations.</p> <p>5. The figure descriptions also state that "Means and standard deviations" are depicted but indeed no standard deviations are shown. On the other hand figure 4 shows something that might be standard deviations (or standard errors or confidence intervals, I still do not know) and it is not clear how these measures of variation have been calculated as to the best of my knowledge each bar is based on one single measurement only.</p> <p>6. Percentages still do not make any sense. At least in my understanding of the English language "percentage" comes from the Latin "<i>per centum</i>" (per hundred). It is a dimensionless measure. "1%" means "1 unit per 100 units". To ensure that percentages are meaningful one has to define what the unit is and to what whole the part is compared. Units could be volume (1 L per 100 L), mass (1 kg per 100 kg) or numbers (1 piece per 100 pieces). The whole (the 100 units) could be the water sampled (1 L of plastics in 100 L of water) or the sediment sampled (1 kg of plastics per 100 kg of sediment) or the total of all sampled plastics (1 piece of red plastic material in 100 pieces of plastic materials). But when I do not know the absolute number of water, sediment, or plastics, the percentages</p> | <p>1. The map has been corrected</p> <p>2. The percentage fraction was used to portray the quantities of micropellet particles in the environmental matrices (surface water and sediment) . Percentage fraction was often used to illustrate difference between different media in order to accommodate the difference in their unit.</p> <p>3. The word "round in shape" can actually be substituted for spherical. The word "non-cylindrical" mean that the pellet are not completely round and cannot be classified as cylindrical because the pellet particles are not as elongated as cylindrical shape.</p> <div data-bbox="1205 1014 1679 1507" data-label="Image"> </div> <p>4. The letter a-d signify the difference in the mean among sampling stations at the level of $p < 0.05$ according to one-way ANOVA and post-hoc Duncan multiple range test; single asterisks (*) indicates $p < 0.05$ and double asterisks (**) indicated $p < 0.01$ significant difference between sampling stations and environmental matrices at the level</p> <p>5. The mean values were used to plot the chart while the bars illustrate the standard deviation.</p> <p>6. The values plotted on the chart was based on mean values calculated from eight consecutive sampling within 2016-2017</p> |



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are not very informative. I do not know how much water or how much sediment was sampled. Maybe the authors themselves do not know. But then how can they report "Micropellets particles/L" even though the numbers provided in the text differ fundamentally from the numbers depicted in the y-axis of figure 4?

7. I do believe they sampled quite a large volume of water. They give the opening area of the manta net as "a circular opening of 15cm by 45cm wide" which indeed is an oxymoron as "circular" describes a geometric form (circle) that has one single radius. Maybe the opening is rectangular with rounded edges. This opening is drawn through a length of "500 to 2000 m". This is a very imprecise description of the length of the water column sampled. But just assuming a water volume of 1.5 x 4.5 X 5000 decimeter sampled we can calculate a water volume of 33,750 L. Having learned that in 1 L of water they found up to more than 4,000 pellets we can estimate that they had to assess 135 million particles per sample side regarding color, size and form. Nowhere in the methods section do they mention automated particle assessment. So I assume they only assessed a random sample of particles from each sample. Then I would want to see confidence intervals reported. (Maybe the whiskers in figure 4 are such confidence intervals?)

7. The figure 4; as been represent to shows the exact mean occurrence per sampling station per environmental matrices samples