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PART 1:

Journal Name:	American Chemical Science Journal
Manuscript Number:	**2013_ACSj_3913**
Title of the Manuscript:	**Persistent organochlorine compounds in the water and sediments from the Bosuntwi Lake in Ghana**

General guideline for Peer Review process is available in this link:
(http://www.sciencedomain.org/page.php?id=sdi-general-editorial-policy#Peer-Review-Guideline)

- This form has total 7 parts. Kindly note that you should use all the parts of this review form.

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PART 2: Review Comments

	Reviewer's comment	**Author's comment** *(if agreed with reviewer, correct the manuscript and highlight that part in the manuscript. It is mandatory that authors should write his/her feedback here)*
Compulsory REVISION comments	**EDITOR COMMENTS** Although it is not a very ambitious work from the analytical view point, it a very useful study because it allows us to know the levels of organochlorine compounds in a African country. Although the most of the European countries are banned the use and synthesis of these persistent substances, there some moratoriums on the use of pesticides for specific plagues in developing countries. The profile of PCBs found in these samples is different to the profile of the environmental samples studied to date. The manuscript is conducted relatively properly and the findings presented are very useful. However, it is necessary to revise the English style and grammar of the work and to complete the **Results and Discussion Section.** The some questions arise (compulsory revision), which should be answered prior to consider it for publication.	Please, this is so as the work with respect to PCBs focused only on profile of indicator PCBs (PCB # 28, 52, 101, 138, 153, 180). The study did not focused on the other PCB congeners. English style and grammar have been improved

GENERAL COMMENTS

In this paper, the authors report an interesting work about persistent organochlorine compounds levels in the water and sediments from Bosuntwi Lake in Ghana. I imagine that few studies about these compounds exit in this part of Africa.

The manuscript is conducted relatively properly and the findings presented are very useful. However, it is necessary to revise the English style and grammar of the work. The some questions arise, which should be answered prior to consider it for publication.

SPECIFIC COMMENTS

1. INTRODUCTION

It is necessary to revise the English grammar. Sometimes you do not understand.

In page 4, line 91. It would be interesting to introduce the biota, in addition to air, water bodies, rain…… As you are saying that these compounds are lipophilic and therefore they tend to be linked to the lipids of organisms and biomagnify. It is important to comment this idea.

	At the end of the Introduction section would be necessary to focus the most important objectives of the work. **2. METHODOLOGY** **2.2. Sampling and sample preparation** The sampling zones would be illustrated in a Figure (a map of the Bosuntwi Lake). **2.3. Extraction of organochlorine compounds (OCs) from samples** Is it necessary to remove organosulfur compounds contained in the extracts of the water samples?. I consider necessary the step of organosulfur compounds removal in soils or sediments samples but not in the water samples. **2.4. Clean up of extract** In the water analysis, I think that 1.5 mL of ethyl acetate of final extract is very high, mainly if the sample volume is so low (20 mL). Is the method sensitivity adequate? . **(We do not agree. Whether 0.5 or 1.0 or 1.5 ml of ethyl acetate is used to pick the final extract, that final volume of the extract was used to compute for the concentration of the OCs)** **i.e. Conc. = concentration in final extract x dilution factor /weight of sample analyzed**	

	2.5. Gas chromatography (GC) analysis It would be appreciated the use of another alternative technique (such as mass spectrometry) for the confirmation of these compounds in real samples or else the use of a supplementary capillary column of another phase. **(We agree but we do not have MS in our laboratory. We therefore run standard solutions and sample blanks in every batch of analysis. The GC-ECD method employed had been validated for analyzing OCs. These have been captured under Quality assurance/control subsection of methodology. The validated method will be published separately)** **3. RESULTS AND DISCUSSION** **3.1. Concentration of organochlorines compounds in the samples.** **Page 7. line 176.** Put *studied* instead of *detectable.* **Page 8, lines 190-193**. I would like you to comment more or you should say what your idea is about the high level of congener CB52 in these samples. When in the most environmental samples, CB52 is a minority congener. **(This study apart from organochlorine pesticides focused only on indicator PCBs.**	

	(PCB #28, 52, 101, 138, 153 180). PCB 52 was found to be the ubiquitous congener among the studied indicator PCBs. The other non indicator PCB congeners were not studied. May be if the other congeners were studied the story would have been different) **Page 8, lines 201-202.** This sentence must be in a **Quality Control subsection** in the **Methodology section.** It would be necessary to discuss the activities of the laboratory for the performance of the internal quality control. If you participate in an interlaboratory exercises, if you prepare analytical blanks, if you use the certificated reference materials, etc. **(We agree . This has been addressed**). **Page 8, the last paragraph**. Figure 1 is not appropriated because it is not convenient to add pesticides of several chemical natures. In the case of PCBs it is adequate. **(We agree. Figure 1 removed and ΣPCBs captured in Table 1)** **3.2. Variation of DDts in sediment.** It is better to speak of DDTs (pp´-DDT and op´-DDT) and their metabolites (pp´-DDD and	

	pp´-DDE). I do not know which the metabolites of op´-DDT are. It is necessary to explain this and well document in the literature, the processes of degradation of DDTs in the environmental at different ambient conditions (aerobic and anaerobic in the sediments), etc. **3.6. Variation of the PCBs congeners in the sediments** The PCBs profile found in these samples is quite different from so far found in the majority of the studied environmental samples. It would therefore be necessary to make comments and comparisons with other samples analyzed in other ecosystems in the world. Furthermore the authors would have to explain what can be the reason for these profiles. (**The other profile of PCBs was not investigated. The study was limited to only indicator PCBs. It would therefore not be interested comparing with others PCB congeners which were not studied).**	

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Minor REVISION comments		
Optional/General comments		