

# REVIEW OF THE PHD THESIS OF TEREZA SLÁMOVÁ

## INFO

**Thesis title:** Influence of Cambodian traditional smoking practices on the concentration of Polycyclic Aromatic Hydrocarbons (PAHs) in smoked fish processed in Tonlé Sap area, Cambodia

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**Oponent:** prof. Ing. Lukáš Kalous, Ph.D.

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## ANNOTATION

The dissertation thesis is focused on the traditional practice of making smoked fish from the Tonlé Sap lake area in Cambodia. It includes a literature review describing the locality, smoking procedure, Polycyclic Aromatic Hydrocarbons (PAHs), Lipids, health risk and some of the common fishes of the Mekong River. The Literature review is followed by defined objectives. The main objective of this thesis was to investigate in detail the traditional practices of smoke-curing fish in the Tonlé Sap lake area, Cambodia, and monitoring the concentrations of selected contaminants in the final product, particularly polycyclic aromatic hydrocarbons. There was an additional objective related to the development of an effective sample preparation methodology for PAHs determination. The methodology includes sampling, questioner survey, the new sample preparation development, PAHs quantitative determination and statistical analyses. Results and Discussion follow the structure of the methodological steps. The thesis ends with a Conclusion, References, Author's bibliography and two Appendices.

## FORMAL EVALUATION

After a long time, I received a dissertation for the review, which is not in the form of stitched scientific articles. I must say that it has its great advantage. The thesis gives the impression of integrity and reflects the story of the PhD process. On the other hand, there are much more pages for reading. I had no problem understanding the language and since I am not a native speaker I do not evaluate language quality deeply. Most of the photographs and other graphical components are self-explaining and well-chosen. But the presented pictures of described fishes are mostly uninformative and of very low quality, which unnecessarily reduces the overall impression from theses.

## FACTUAL EVALUATION

The collected data and analyses are worth to be published and it can be seen in the bibliography that most of the findings either have been or will be presented to the scientific community in a form of publications. But I have to express one important note. I am very happy to see that the work includes the identification of fishes, which were processed by smoking, this is very important to see the whole

picture. I understand the results with information of the species, from which the sample was collected but I do not understand the discussion in regards to fish species and PAHs content. I do not think that the fish species is the crucial factor for the PAHs concentrations in the tissue. Moreover, the number of samples from each species is so low and the fish processing is so variable that it is impossible to make any conclusion in regards to PAHs concentration in any of the analysed fish species. In other words, the given information in discussion and even in conclusion connected to the particular fish is misleading. Results are presented and discussed in the manner, that the species of fish has an impact on the concentration of PAHs. This is not true and although it is known to the author the way of the communication must be clear. Furthermore, the theses comprise many topics, which could be all studied and discussed more in-depth. Anyway, I appreciate the effort and ability to overcome the difficulties during the field data collections and bring important novel knowledge.

#### **COMMENTS AND QUESTIONS**

I have not found the methodology for fish identification. Please, could you explain the fish identification procedure employed in your work?

I was surprised by the values of SD in table 6. Please, could you explain why are the numbers so high? Is it possible that some of the fishes were treated differently when processing due to their value?

#### **CONCLUSIONS AND RECOMMENDATION**

Although I have some complaints regarding the data presentations in PhD thesis, I am convinced that Tereza fulfilled the objectives given in the thesis. She also proofed that she may collect the data, analyse them and prepare publication, which is accepted by the scientific community. In conclusion, I recommend the dissertation for defence and if successful, I recommend awarding Ing. Tereza Slámová by the academic title "Philosophiae doctor" in abbreviation PhD.

V Úněticích 21. 4. 2021



prof. Ing. Lukáš Kalous, Ph.D.