

Supervisor's opinion on the doctoral dissertation

Observation of fish schooling behaviour in open-water habitat of a man-made reservoir via visual census

by Mgr. Michaela Holubová

elaborated at the Department of Ecosystem Biology, Faculty of Science, University of South Bohemia in České Budějovice and the Biology Centre CAS, Institute of Hydrobiology:

The aim of the currently defended thesis was to broaden the knowledge on free-living adult fish schools and their behavioral patterns in a temperate freshwater reservoir. Because the behavior of fish in the pelagic zone of large inland waters is rather poorly studied, the focus was to describe the composition, size and character of fish schools; to determine the influence of biotic and abiotic factors on the formation of fish schools; and finally to reveal the causes of fish school formation i.e. whether predator-prey or trophic interactions are the key. All this with use of novel methodological approach, the visual census by remotely operated underwater video recordings. The focus of the thesis was chosen particularly with respect to deepening the basic scientific knowledge of fish biology and ecology in pelagic zones of large inland waters, but the results could have important implications to managerial needs oriented at maintaining high water quality of drinking water reservoirs.

The dissertation consists of four manuscripts, three of which have already been published in respected international journals, and the last being currently under review. As a supervisor, I have to clearly state that Michaela made significant contribution to all of these publications, from demanding data collection in the field, through their processing and statistical evaluation, and finally to the actual writing of the manuscripts. The use of the visual census as presented, proved to be a convenient tool for observation and assessment of behavior of freshwater fish and can obtain comparable or even more valuable results to standard ichthyological methods. At this moment, I have to highlight Michaela as really hardworking person, who have spent countless hours over the records, but it really paid off and her work is valuable and innovative scientific achievement, and I have no doubts that in the near future we will get even much more of really groundbreaking results as there is definitely great potential for it.

In conclusion, I can only say that the significance, scope, and contribution of Michaela's dissertation clearly exceeds the requirements for doctoral dissertations submitted at the Faculty of Science of the University of South Bohemia, so I highly recommend the work for acceptance and excellent evaluation.

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