

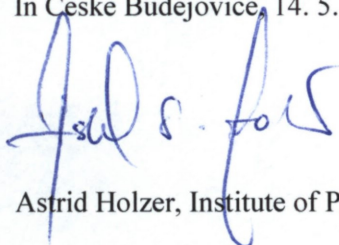
Evaluation of Bachelor thesis of Anna Tomanová by her supervisor:

Anna Tomanová approached me in 2016 as she wanted to work on host-parasite interaction and basic immunology in a fish-parasite system. Based on her well-planned 63 day infection experiment using an isolated infection model of the myxozoan *S. molnari* in specific pathogen-free carp and the related extensive sampling we have now continued this research and managed to establish a full immunology research line in the lab. The aim of her project was to obtain an idea of the cellular changes in the blood of common carp, in response to the infection with *S. molnari*, that forms motile proliferative stages in its host blood. Anna's planned the experiment herself, collected the infective stages of *S. molnari* and contributed to all but 1 of the 12 samplings. She did multiple cell counts on fresh blood and performed staining and differential blood cell counts on slides of 93 experimental and control fish. The practical work alone exceeds that required for a BSc theses, however, she furthermore analysed the data gained statistically and read a large amount of literature on myxozoans and fish immunology to describe the background in her thesis introduction and interpret her results.

From the beginning, I was quite surprised how quickly Anna picked up on the topic, which was new to her, how easy it was for her to understand the related literature and how fast she learned both, laboratory and computational techniques. She arranged independently for training in fish hematology with experts at FROV (Vodňany), spent 2 days there and prepared all buffers and solutions required for the related sampling herself. Hematological and immunological studies had not previously been done in our laboratory, and the samples collected during the experiment provided material for 3 other students, analysing parasite quantities and location over time, immunoglobulin M secretory and membrane-bound RNA expression over time, and cytokine expression over time. The resulting paper (The kinetics of cellular and humoral immune response mechanisms of common carp to presporogonic development of the myxozoan *Sphaerospora molnari*; in final stage before submission) is presently the most comprehensive study on the host response to myxozoan early infections and the development of specific immunity over time.

Anna worked with a high degree of independence. She organised the work of the sampling events with other lab members, independently inquired for help with statistical analyses and she wrote the thesis by herself, with little input on the structuring and very few language corrections. A single aspect of Anna's thesis has been out of the ordinary, which is the long break she took after the experiment / cell counts and before her actual thesis write-up. Anna (unfortunately) decided to change her career and to study economy in Prague, which resulted in some delays with the completion of the thesis. However, although she decided to give her professional life a different direction, she completed her biology BSc thesis, and it is written with intensive background reading, as visible from the introduction. The fact that the thesis required so little contribution from me as a supervisor makes it quite outstanding for a bachelors' student. I was impressed by the quality of her writing and the high level of her scientific English, and I am, overall, highly satisfied with her thesis and can only recommend it for defense. I believe Anna has a great potential as a scientist, though unfortunately she does not plan to continue in research. However, judging from her organisation, management and social skills she probably does well in all chosen aspects of her life.

In Ceske Budejovice, 14. 5. 2018



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