

Supervisor's opinion on Master thesis Tomáš Dvořák

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Tomáš Dvořák did the work for his Bachelor and Master thesis in the Laboratory of Fish Genetics in Liběchov. One of the groups of model organism that has been most intensely studied in the laboratory during the last 20 years is the superfamily Cobitoidea (loaches). While some working group focusses on their cytogenetics and some other group studies particularly the asexually reproducing forms in Europe, Vendula Šlechtová and I study for several years the diversity and evolutionary history of all loaches across Europe and Asia. The two topics studied by Tomáš are parts of this general research direction, and we were glad when Tomáš agreed to adopt them. For a student it is an advantage to join a running team because a good deal of methods is established and a lot of material is available.

However, the student who joins a running team has to accelerate fast, and that is what Tomáš did. He is able to pick up new information quickly, to learn new methods fast and to apply them soon. I also consider it as important that Tomáš is able to plan, organise and carry out his work on his own and that he has enough common sense during work to avoid e.g. sample mix-up, messing with chemicals or blowing up expensive machinery. On several occasions he demonstrated this common sense by stopping ongoing labwork when a mistake had occurred. His high level of motivation can be seen from the fact that all work for nearly five years he did in his spare time, coming to work three days per week without payment. Beside the work for his own topics, Tomáš helped us with labwork for other topics, also. He showed his abilities to prepare a presentation and present his results during an oral presentation on an international ichthyologic conference in Germany. I also appreciated that Tomáš accepted to carry out most communication during his work, the text of his thesis and his presentation in English language, an additional challenge for a young student. During his whole period in our institute Tomáš also had very good relations with the other members of the laboratory without delaying himself or others and is well accepted as member of the laboratory. In general, I evaluate Tomáš as very good co-worker in our research.

The weak point of Tomáš is that he is not accustomed to reading or writing of scientific texts. This handicap limits his overview about comparative studies or alternative techniques in labwork and data analysis. He also is not as familiar with specific scientific termini, elegant formulations or phrases as he could be if he read more scientific texts. The impact of this lack of training became evident to him in his Bachelor thesis, which was much criticised for its style. During his student times it still might be able to learn the necessary things from more experienced colleagues, but in his further scientific carrier this flaw might become an obstacle for him. However, I can already note that his abilities especially regarding the writing have significantly increased during the last years as can be seen from the present thesis.

Tomáš also has limitations when it comes to public talking. While talking concentrated and fluent in small circle, best in a relaxed atmosphere with a beer, in front of a bigger auditorium he appears nervous and lacking concentration. This feature is not rare among young students and I hope that it will disappear with more experience.

Further, Tomáš is sometimes too relaxed in his approach with estimating the necessary time to finish tasks. This broad him for example under serious time pressure when he had to finish this thesis.

In the thesis Tomáš is analysing the phylogeny and biogeography of two groups of loach fishes with the use of genetic, geologic and morphologic data. Since the studies were selected and designed by me and Vendula, there is nothing negative I would say about them. Tomáš understood the topics and their charm immediately and worked highly motivated, self-organised and efficient on the production of the datasets. The analyses of the dataset he carried out under the supervision of Vendula while I introduced him to the geological past of the region, the biology of loaches and the taxonomic aspects. Tomáš turned out to have naturally a good eye for fish identification and morphologic characters. The studies were originally designed as purely genetic analyses, but at the end Tomáš even managed to do a morphologic analysis of a rather large amount of specimen that supported the results of the genetic analyses. Although the analyses of the morphologic datasets and the biogeographic analyses were not finished, the most important steps and analyses were achieved in both studies and the conclusions are convincing to me. However, as involved person I anyhow would not speak negative about them. Linguistically, the thesis could be improved in many places.

In general, Tomáš has done a good job during the work for his thesis and the thesis shows that he is able to carry out all aspects of scientific work. I therefore evaluate the thesis as very good and suggest accepting Tomáš as master.

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