

Supervisor's evaluation of the PhD thesis of Mgr. David Zelený

Patterns of vegetation diversity in deep river valleys of the Bohemian Massif

PhD thesis of David Zelený extends the results of his MSc thesis, which dealt with vegetation of a section of the Vltava river valley in South Bohemia. This MSc thesis, supervised by Dr. Milan Štech, was defended in the Department of Botany, University of South Bohemia, in 2002. As David focused on a similar topic as I dealt with in my PhD thesis a couple of years ago, I was asked to become the supervisor of his PhD thesis, although I was based in Brno and David started his PhD studies in České Budějovice. I did not hesitate to accept this offer, because I anticipated that David's skills in botanical fieldwork and data analysis, coupled with his innovative and critical thinking and ability to formulate clearly his ideas both in Czech and English, were excellent prerequisites for a successful completion of a PhD thesis in plant ecology.

However, David's PhD studies were not as straightforward as I (and perhaps also he) hoped at the beginning. He was appointed in several research or survey projects, which did not have anything in common with his PhD topic (e.g., CLUE, VISTA, Natura 2000 and forest survey in New Zealand). As a consequence, the original (rather ambitious) plan of field sampling for his thesis had to be reduced. Also the lack of direct communication between us (i.e. between Brno and České Budějovice) hindered the progress of David's research work. This aspect was improved when David was appointed as a research assistant in Masaryk University and moved to Brno in 2005. At the same time, however, I involved David in the developing cooperation of my group with Taiwan vegetation survey team, and he spent several months either in Taiwan or with analysis of Taiwan data in Brno. Thus I am to be blamed for further delay in the completion of his thesis. In addition, some colleagues in the Department noticed David's extraordinary skills in vegetation data analysis and involved him in several other projects, which already resulted in some high-quality international papers with David's co-authorship (e.g. *Oikos*, *Journal of Biogeography*, *Journal of Vegetation Science*). He also started his own courses, namely *Data Visualization in Ecology* and *Field Course in Geobotany*, and became a supervisor of a bachelor's thesis.

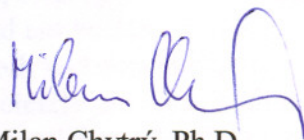
In spite of this workload, David finally managed to submit a high-quality thesis which consists of four papers of international importance, two of them already published/accepted in *Preslia* and *Journal of Ecology*. The other two, in my opinion, have a high chance to be accepted in good international journals. Two of these papers describe basic patterns of species composition and richness in the deep river valleys of the Bohemian Massif, the third paper focuses on more general relationships between vegetation diversity and landscape topographic heterogeneity, and the fourth paper describes a method used in the third paper. David is the first author of three of these papers and the only author of the fourth paper. Being a co-author of three of these papers, I stress that my contribution was really minor in all of them. David showed a high level of independence in developing the right research questions, designing adequate methods, putting the study in the context of current literature, and writing the papers. Over the whole period of our collaboration, I was especially impressed by his very critical thinking about any result he received and meticulous searching for any possible artefacts which might underlie his results. In addition to the papers included in the thesis, David presented selected results of his PhD research in respected international meetings, such

as international workshops European Vegetation Survey in Rome 2007 and Brno 2008, and his presentations were very positively received by the audience.

In summary, I am convinced that David Zelený's thesis follows international standards for awarding PhD degrees in botany or ecology. Taken together with all the research work David did beyond his thesis, I must conclude that he is one of the best PhD students I have ever had a chance to supervise. Besides his technical skills and ability to produce fresh ideas, I also greatly value his cooperative and unselfish nature; these make him a most desirable partner for research projects in plant ecology and excellent teacher or supervisor.

I recommend David Zelený's thesis for defence.

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